[Federal Register Volume 84, Number 239 (Thursday, December 12, 2019)]
[Rules and Regulations]
[Pages 67854-67858]
From the Federal Register Online via the Government Publishing Office [www.gpo.gov]
[FR Doc No: 2019-26708]

---

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2019-0188; Product Identifier 2018-NM-174-AD; Amendment 39-19781; AD 2019-22-02]**

**RIN 2120-AA64**

**Airworthiness Directives: The Boeing Company Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

---

**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for all The Boeing Company Model 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747-400D, 747-400F, 747-8F, and 747-8 series airplanes. This AD was prompted by reports of uncommanded fore and aft movement of the Captain's and First Officer's seats. This AD requires, for the Captain's and First Officer's seats, repetitive horizontal actuator identifications, repetitive checks of the horizontal movement system (HMS), a detailed inspection of the HMS for certain airplanes, and applicable on-condition actions. This AD also requires an inspection to determine the part number and, if applicable, the serial number of the Captain's and First Officer's seats, and applicable on-condition actions. This AD also provides an optional terminating action for the repetitive actions for certain seats. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective January 16, 2020.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of January 16, 2020.

**ADDRESSES:** For service information identified in this final rule, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminster Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; internet https://www.myboeingfleet.com. You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available on the internet at https://www.regulations.gov by searching for and locating Docket No. FAA-2019-0188.

## Examining the AD Docket

You may examine the AD docket on the internet at https://www.regulations.gov by searching for and locating Docket No. FAA-2019-0188; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the regulatory evaluation, any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Brandon Lucero, Aerospace Engineer, Cabin Safety and Environmental Systems Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3569; email: Brandon.Lucero@faa.gov.

## SUPPLEMENTARY INFORMATION:

### Discussion

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to all The Boeing Company Model 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747-400D, 747-400F, 747-8F, and 747-8 series airplanes. The NPRM published in the Federal Register on April 8, 2019 (84 FR 13840). The NPRM was prompted by reports of uncommanded fore and aft movement of the Captain's and First Officer's seats. The NPRM proposed to require, for the Captain's and First Officer's seats, repetitive horizontal actuator identifications, repetitive checks of the HMS, a detailed inspection of the HMS for certain airplanes, and applicable on-condition actions. The NPRM also proposed to require an inspection to determine the part number and, if applicable, the serial number of the Captain's and First Officer's seats and applicable on-condition actions. The NPRM also proposed to provide an optional terminating action for the repetitive actions for certain seats.

The FAA is issuing this AD to address uncommanded fore and aft movement of the Captain's and First Officer's seats. An uncommanded fore or aft seat movement during a critical part of a flight, such as takeoff or landing, could cause a flight control obstruction or unintended flight control input, which could result in the loss of the ability to control the airplane.

### Comments

The FAA gave the public the opportunity to participate in developing this final rule. The following presents the comments received on the NPRM and the FAA's response to each comment.

### Supportive Comments

Virgin Atlantic Airways and commenters Zhangyi Ye and Sunita Kavthekar expressed their support for the NPRM.

### Request To Clarify Maintenance Log Review Requirement

Lufthansa Airlines (Lufthansa) stated that it is not possible for its mechanics to do a maintenance log review on wing using the procedures specified in Part A.1.c. of Ipeco Service Bulletin 258-25-14, Issue 4, dated January 29, 2018.

The FAA infers that the commenter is referring to the concurrent requirements specified in Boeing Special Attention Service Bulletin 747-25-3653, Revision 1, dated October 19, 2018, as required by paragraph (g) of this AD.

The FAA offers the following clarification: The concurrent requirement in Ipeco Service Bulletin 258-25-14, Issue 4, dated January 29, 2018, contains Note 4, which specifies: “Part A–Inspection for

the limit switch and the actuator assembly inspections can be accomplished on the aircraft or on a test fixture." Part A–Inspection requires checks of maintenance logs. Maintenance log reviews are completed off-wing, typically where maintenance logs are kept. The on-aircraft, or on-test fixture activity described in Note 4, refers to the physical inspection of parts, which might be required, for example, to determine a part number, a serial number, or a condition. Therefore, the AD has not been changed in this regard.

**Request To Clarify Certain Corrective Actions**

Lufthansa stated that Boeing Special Attention Service Bulletin 747-25-3653, Revision 1, dated October 19, 2018, identified as a source of service information for performing certain actions in the proposed AD, does not provide a permanent and acceptable level of safety by including a redesign of the horizontal actuator (including the shaft), which is required to withstand and limit maximum loads to the horizontal output shaft to prevent failure at any phase of seat operation.

Lufthansa added that this could be achieved by decoupling the shaft when the maximum force is exceeded, or by a shutdown of the electronics when the voltage is too high. Lufthansa added that further inspections at the intervals specified in the service information are not considered effective, and conditions leading to horizontal actuator shaft failures can occur at any time in between these inspections. Therefore, a more effective solution would be a crew procedure. Lufthansa concluded that it expected a terminating action for modified/compliant airplanes (e.g., mandatory maintenance documentation amendments).

The FAA offers the following clarification. The FAA has identified the unsafe condition in this final rule as an uncommanded fore or aft seat movement during a critical phase of flight, such as takeoff or landing, that could cause a flight control obstruction or unintended flight control input, which could result in the loss of the ability to control the airplane.

The FAA does not concur with the commenter's statement that inspections at intervals are not effective. The FAA considered the safety implications in defining the actions required by this AD and determined the actions address the unsafe condition for all of the airplanes identified in this AD.

In addition, the terminating action for certain seats (those having part number series 3A258) is identified in paragraph (j) of this AD, which specifies the installation of a serviceable Captain's or First Officer's seat as specified in, and in accordance with, the Accomplishment Instructions of Boeing Special Attention Service Bulletin 747-25-3653, Revision 1, dated October 19, 2018. A serviceable Captain's or First Officer's seat is defined in paragraph 3.A. of the referenced service information (i.e., certain seat part numbers that have an horizontal actuator with Artus part number (P/N) AD8650503 at 'Amendment C' or later, which is the redesigned horizontal actuator that is designed to withstand the limit loads that contribute to the unsafe condition).

Additionally, as specified in the referenced service information, if the horizontal actuator is not P/N AD8650503 'Amendment C' or later, the operator has the option to install a power-deactivated seat as specified in the appropriate airplane maintenance manual (AMM) procedure (AMM procedure 25-11-01-01), in lieu of the terminating action or until the horizontal actuator can be serviced in accordance with the appropriate service information. This provision removes the unsafe condition in the time between the inspections.

For seats on which a terminating action is not yet available, the FAA has determined that repetitive checks of the HMS and the option to install a power-deactivated seat adequately address the unsafe condition. Thus, a crew procedure is not needed. However, if the FAA obtains and analyzes additional data that indicates the unsafe condition is not addressed by this AD, The FAA might consider further rulemaking to mandate a terminating action for all seats. The AD has not been changed in this regard.

**Request To Change Applicability to Affected Components**

United Parcel Service Co. (UPS) asked that paragraph (g) of the proposed AD be changed to mandate accomplishment of the required actions by using certain Ipeco service bulletins. UPS stated that paragraph (g) would require accomplishment of the actions using Boeing Special Attention Service Bulletin 747-25-3653, Revision 1, dated October 19, 2018. UPS noted that for the 3A258-004X and 3A090-00XX seats, other than simple foreign object debris (FOD) inspections, the referenced Boeing service information effectively specifies accomplishment of the inspections and modifications per Ipeco Service Bulletin 258-25-14, Issue 4, dated January 29, 2018; and inspections per Ipeco Service Bulletin 258-25-13, Issue 3, dated November 27, 2017, or per Ipeco Service Bulletin 211-25-06, Issue 2, dated March 21, 2018; and inspections per Ipeco Service Bulletin 211-25-05, Issue 2, dated March 21, 2018.

UPS recommends that paragraph (g) mandate the accomplishment of the applicable Ipeco service bulletin, depending on which seat is installed.

UPS also stated that there are NPRMs that mandate the same Ipeco service information via fleet-specific Boeing service information on Model 757 and 767 airplanes. UPS asked that the proposed AD be applicable to the seats using Ipeco service information for compliance, instead of applicable to the airplanes using Boeing service information for compliance.

UPS added that since the seats are interchangeable across several fleets, mandating ADs against those fleets could result in, for example, a specific seat being installed on a Model 747 airplane with records identifying compliance with a Model 767 airplane AD. UPS noted that this could lead to confusion and questions regarding compliance, when there is no notable difference between the two ADs, and the AD mandating a component service bulletin using a fleet service bulletin leaves a compliance trap for the operators. UPS recommends there be two separate ADs for this unsafe condition; one mandating the Ipeco service information, and one mandating the Boeing service information for the on-aircraft checks. UPS added that this would allow operators currently using the Ipeco service information at a shop or during a C-check to take credit for those actions at a component level in lieu of an airplane level.

The FAA infers that the commenter is asking that the agency use the Ipeco service information instead of the Boeing service information; the FAA does not agree. The Ipeco service information would necessitate a component AD, and a component AD would require operators of all airplanes on which an Ipeco seat is installed to inspect their airplanes for the affected part number.

However, the potential unsafe condition has been identified for only those airplanes that are specified in the Boeing service information. An unsafe condition has not been identified for the Ipeco seats identified in this AD that are installed on other aircraft types. Therefore, the FAA has determined that a component AD is not appropriate, which is why this AD addresses Model 747 series airplanes and other AD actions require similar actions on other Boeing airplanes for which the unsafe condition exists. Each AD addresses the unsafe condition that might exist on the airplanes identified in the applicability of each AD. If a seat has been removed from a Model 767 airplane and installed on a Model 747 airplane, the actions required by this AD would still be applicable to that seat even if that seat had previously been shown to be in compliance with a Model 767 airplane AD.

In addition, changing this airplane AD to a component AD would also require an additional public comment period and would unnecessarily delay issuance of this final rule. Therefore, the AD has not been changed in this regard.

**Request To Expand Applicability**

One commenter, Arjun C, stated that movement of the Captain's and First Officer's seats during flight could potentially impair the ability to effectively fly the airplane and keep all passengers safe. The commenter pointed out that it might be worth expanding the applicability in the proposed AD to all civilian airplanes flying in U.S. airspace, and noted that simply calling out a single company might

be a bit myopic in scope. The commenter concluded that, overall, the proposed AD should be effective if executed properly.

The FAA does not agree with the request. The unsafe condition defined in this AD affects only airplanes with the seats having Ipeco part numbers identified in the referenced Boeing service information. Expanding the applicability as requested would cause an undue burden on operators with airplanes not subject to the unsafe condition. Therefore, the AD has not been changed in this regard.

**Request To Revise Costs of Compliance Section**

Boeing asked that the “Costs of Compliance” section in the NPRM be changed to reflect the “actual cost” of all the actions. Boeing stated that the seat identification, inspection, and checks involve only labor and should not include the cost of the actuator. Boeing also noted that the “Cost on U.S. Operators” for the inspection should be changed from “$8,075 per seat” to “$85 per seat,” and for the checks the cost should be changed from “$16,150 per seat, per check cycle” to “$170 per seat, per check cycle.”

The FAA agrees that the costs of the seat identification, inspection, and checks do not include a cost for parts. In addition, the FAA has revised the figures for these actions in the “Cost on U.S. Operators” column by providing only the estimated fleet cost without reference to cost per seat.

Boeing asked that the actuator cost for the overhaul or replacement be increased from “Up to $6,400 per seat” to “Up to $16,091 per seat,” based on information received from the parts manufacturer with the increased parts cost.

The FAA agrees with the commenter's request to change the parts cost, for the reason provided. The FAA has changed the parts cost for the overhaul or replacement specified in the “Costs of Compliance” section accordingly.

**Conclusion**

The FAA has reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this final rule with the changes described previously and minor editorial changes. The FAA has determined that these minor changes:

Are consistent with the intent that was proposed in the NPRM for addressing the unsafe condition; and

Do not add any additional burden upon the public than was already proposed in the NPRM.

The FAA also determined that these changes will not increase the economic burden on any operator or increase the scope of this final rule.

**Related Service Information Under 1 CFR Part 51**

The FAA reviewed Boeing Special Attention Service Bulletin 747-25-3644, Revision 1, dated July 17, 2018. This service information describes procedures for an inspection to determine the part number, and, if applicable, the serial number of the Captain's and First Officer's seats and applicable on-condition actions. On-condition actions include an inspection of each seat's fore/aft and vertical manual control levers for looseness; moving the adjustment nut, tightening the lock nut, readjusting the control lever, and doing a functional test; and installing a serviceable seat.

The FAA also reviewed Boeing Special Attention Service Bulletin 747-25-3653, Revision 1, dated October 19, 2018. This service information describes procedures for repetitive horizontal actuator identifications, repetitive checks of the HMS, a detailed inspection of the HMS, and applicable on-condition actions. On-condition actions include clearing the seat tracks of FOD, an overhaul of the HMS, and checks of the HMS. The service information also describes procedures for an optional terminating action for the repetitive checks by installing a serviceable Captain's or First Officer's seat.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

**Costs of Compliance**

The FAA estimates that this AD affects 95 airplanes of U.S. registry. The FAA estimates the following costs to comply with this AD:

**Estimated Costs for Required Actions**

| Action | Labor cost | Parts cost | Cost per product | Cost on U.S. operators |
|---|---|---|---|---|
| Horizontal actuator identification | 1 work-hour × $85 per hour = $85, per seat, per identification cycle | $0 | $85, per seat, per identification cycle | Up to $16,150, per identification cycle |
| Detailed inspection, horizontal movement system | 1 work-hour × 85 per hour = 85, per seat | 0 | 85, per seat | Up to 16,150 |
| Checks, horizontal movement system | 2 work-hour × 85 per hour = 170, per seat, per check cycle | 0 | 170, per seat, per check cycle | Up to 32,300, per check cycle |
| Seat inspection (part and serial number) | 1 work-hour × 85 per hour = 85, per seat | 0 | 85, per seat | 16,150 |

The FAA estimates the following costs to do any necessary on-condition actions that will be required. The FAA has no way of determining the number of aircraft that might need these on-condition actions:

**Estimated Costs of On-Condition Actions ***

| Action | Labor cost | Parts cost | Cost per product |
|---|---|---|---|
| Overhaul or replacement, horizontal movement system | Up to 15 work-hours × $85 per hour = Up to $1,275, per seat | Up to $16,091, per seat | Up to $17,366, per seat |
| Inspection of each seat's fore/aft and vertical manual control levers | 1 work-hour × 85 per hour = 85, per seat | 0 | 85, per seat |
| Installation of serviceable seats | 1 work-hour × 85 per hour = 85, per seat | 0 | 85, per seat |
| Clearing FOD | 1 work-hour × 85 per hour = 85, per seat | 0 | 85, per seat |
| Functional test, adjusted control lever cable | 1 work-hour × 85 per hour = 85, per seat | 0 | 85, per seat |

* The estimated cost for tooling to align an affected seat for adjustment of the control lever cable is up to $46,064.

The FAA has received no definitive data that would enable the agency to provide cost estimates for the optional terminating action for the on-condition repetitive checks specified in this AD.

## Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: “General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

This AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to transport category airplanes and associated appliances to the Director of the System Oversight Division.

## Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

(1) Is not a “significant regulatory action” under Executive Order 12866,

(2) Will not affect intrastate aviation in Alaska, and

(3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

## List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

## PART 39–AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

### § 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

**2019-22-02 The Boeing Company:** Amendment 39-19781; Docket No. FAA-2019-0188; Product Identifier 2018-NM-174-AD.

**(a) Effective Date**

This AD is effective January 16, 2020.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to all The Boeing Company Model 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747-400D, 747-400F, 747-8F, and 747-8 series airplanes, certificated in any category.

**(d) Subject**

Air Transport Association (ATA) of America Code 25, Equipment/furnishings.

**(e) Unsafe Condition**

This AD was prompted by reports of uncommanded fore and aft movement of the Captain's and First Officer's seats. The FAA is issuing this AD to address uncommanded fore and aft movement of the Captain's and First Officer's seats. An uncommanded fore or aft seat movement during a critical part of a flight, such as takeoff or landing, could cause a flight control obstruction or unintended flight control input, which could result in the loss of the ability to control the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Repetitive Horizontal Actuator Identifications, Detailed Inspection, and Repetitive Checks of Horizontal Movement System and On-Condition Actions**

Except as specified in paragraph (i) of this AD: At the applicable times specified in paragraph 1.E., “Compliance,” of Boeing Special Attention Service Bulletin 747-25-3653, Revision 1, dated October 19, 2018, do all applicable actions identified as “RC” (required for compliance) in, and in accordance with, the Accomplishment Instructions of Boeing Special Attention Service Bulletin 747-25-3653, Revision 1, dated October 19, 2018.

**(h) Seat Identification and On-Condition Actions**

Within 36 months after the effective date of this AD, do an inspection of the nameplate on the Captain's and First Officer's seats for the part number, and serial number as applicable, and do all applicable on-condition actions, in accordance with the Accomplishment Instructions of Boeing Special Attention Service Bulletin 747-25-3644, Revision 1, dated July 17, 2018. A review of the airplane maintenance records may be used for the seat inspection if the part number and serial number can be conclusively determined from that review.

**(i) Exception to Service Information Specifications**

For purposes of determining compliance with the requirements of this AD: Where Boeing Special Attention Service Bulletin 747-25-3653, Revision 1, dated October 19, 2018, uses the phrase "the original issue date of this service bulletin," this AD requires using "the effective date of this AD."

**(j) Terminating Action for Repetitive Actions for Certain Seats**

Installation of a serviceable Captain's or First Officer's seat as specified in, and in accordance with, the Accomplishment Instructions of Boeing Special Attention Service Bulletin 747-25-3653, Revision 1, dated October 19, 2018, terminates the repetitive actions required by paragraph (g) of this AD, for that seat only.

**(k) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Seattle ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (l) of this AD. Information may be emailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair, modification, or alteration required by this AD if it is approved by The Boeing Company Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO Branch, FAA, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(4) Except as required by paragraph (i) of this AD: For service information that contains steps that are labeled as Required for Compliance (RC), the provisions of paragraphs (k)(4)(i) and (ii) of this AD apply.

(i) The steps labeled as RC, including substeps under an RC step and any figures identified in an RC step, must be done to comply with the AD. If a step or substep is labeled "RC Exempt," then the RC requirement is removed from that step or substep. An AMOC is required for any deviations to RC steps, including substeps and identified figures.

(ii) Steps not labeled as RC may be deviated from using accepted methods in accordance with the operator's maintenance or inspection program without obtaining approval of an AMOC, provided the RC steps, including substeps and identified figures, can still be done as specified, and the airplane can be put back in an airworthy condition.

**(l) Related Information**

For more information about this AD, contact Brandon Lucero, Aerospace Engineer, Cabin Safety and Environmental Systems Section, FAA, Seattle ACO Branch, 2200 South 216th St., Des Moines, WA 98198; phone and fax: 206-231-3569; email: Brandon.Lucero@faa.gov.

**(m) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Boeing Special Attention Service Bulletin 747-25-3644, Revision 1, dated July 17, 2018.

(ii) Boeing Special Attention Service Bulletin 747-25-3653, Revision 1, dated October 19, 2018.

(3) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminster Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; internet https://www.myboeingfleet.com.

(4) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email fedreg.legal@nara.gov, or go to: https://www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued in Des Moines, Washington, on November 20, 2019.
Dorr Anderson,
Acting Director, System Oversight Division,
Aircraft Certification Service.