[Federal Register: November 20, 2008 (Volume 73, Number 225)]
[Rules and Regulations]
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From the Federal Register Online via GPO Access [wais.access.gpo.gov]
[DOCID:fr20no08-7]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2007-29045; Directorate Identifier 2007-NM-048-AD; Amendment 39-15736; AD 2008-23-15]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 767-200, -300, and -400ER Series Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain Boeing Model 767-200, -300, and -400ER series airplanes. This AD requires installing new relay(s), circuit breakers as applicable, and wiring to allow the flightcrew to turn off electrical power to the in-flight entertainment (IFE) systems and certain circuit breakers through a utility bus switch, and doing other specified actions. This AD results from an IFE systems review. We are issuing this AD to ensure that the flightcrew is able to turn off electrical power to IFE systems and other non-essential electrical systems through a switch in the flight compartment. The flightcrew's inability to turn off power to IFE systems and other non-essential electrical systems during a non-normal or emergency situation could result in the inability to control smoke or fumes in the airplane flight deck or cabin.

DATES: This AD is effective December 26, 2008.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of December 26, 2008.

ADDRESSES: For service information identified in this AD, contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207.

Examining the AD Docket

You may examine the AD docket on the Internet at http://www.regulations.gov; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The address for the Docket Office (telephone 800-647-5527) is the Document Management Facility, 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: Shohreh Safarian, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 917-6418; fax (425) 917-6590.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an airworthiness directive (AD) that would apply to certain Boeing Model 767-200, -300, and -400ER series airplanes. That NPRM was published in the Federal Register on August 24, 2007 (72 FR 48591). That NPRM proposed to require installing new relay(s) and wiring to allow the flightcrew to turn off electrical power to the in-flight entertainment (IFE) systems and certain circuit breakers through a utility bus switch, and doing other specified actions.

Explanation of Additional Requirement for Certain Airplanes

For certain Model 767-300 series airplanes identified in Boeing Service Bulletin 767-24-0151, dated September 14, 2006, paragraph (g) of this AD would require installing circuit breakers. We inadvertently omitted that action from the NPRM. Since none of these affected airplanes are on the U.S. registry, notice and opportunity for public comment before issuing this AD are unnecessary.

Comments

We gave the public the opportunity to participate in developing this AD. We considered the comments received from the three commenters.

Support for the NPRM

Inflight Canada (IFC) and Japan Airlines (JAL) strongly support the intent of the NPRM.

Request To Clarify Analysis and Background of the IFE System Review

JAL states that the technical analysis and engineering background of the IFE system should be clearly explained in the NPRM. JAL also states that the NPRM does not clearly address Transistor Transistor Logic (TTL) power consumption, location or quantity of the units, operation during flight, or system shutdown in the event of smoke. For example, JAL points out that the "Discussion" section of the NPRM states that the IFE review did not consider systems that provide only audio signals to each passenger seat or the passenger flight information system, and in-seat power supply (ISPS) systems that provide power to less than 20 percent of the total passenger seats. JAL states that the NPRM provides no engineering analysis as to why 40 seats with an ISPS system are a concern on a 150-seat airplane, while 60 seats with an ISPS system on a 350-seat airplane is not a concern. JAL also states that this kind of definition leads to confusion (including IFE development and configuration in the future). JAL also states that the technical definition and background on safety must be clear and properly understood by everyone.

We infer that JAL requests that we clarify the analysis and background of the IFE system review, and we agree to provide clarification. The "Discussion" section of the NPRM provides the background information that led to FAA regulatory actions requiring the removal of power from complex IFE system installations in the event of smoke or fire, without affecting other systems essential for safe flight and landing and without the use of circuit breakers for power removal. JAL's concerns related to TTL power consumption, etc., are immaterial to correcting the unsafe condition, which is the inability to disconnect power from the IFE system in the event of smoke or fire. The

FAA study focused on IFE installations that are complex in terms of electrical circuitry and power demands. This study excluded non-essential systems that are simple in design and demand low power for operation. Due to the large number of ISPS installations, we reviewed only those ISPS installations that provided power to more than 20 percent of the total passenger seats. However, the requirements of this AD apply to all airplanes that have any seats equipped with power supplies. The applicability of this AD is not limited only airplanes having more than 20 percent of the passenger seats equipped with power supplies. No change to the AD is necessary in this regard.

Request To Clarify That Instructions Are for Airplanes Modified After Delivery

Boeing requests that we clarify, in the "Relevant Service Information" section of the NPRM, that the instructions in the referenced Boeing service bulletins are based upon the delivered product configuration. Boeing states that it is not obvious to operators that post-production modifications to the IFE system might require an alternative method of compliance (AMOC) to comply with the requirements of the AD.

We agree that operators might not be able to accomplish the requirements of this AD on airplanes that have been modified or altered after airplane delivery. Section 39.17 of the Federal Aviation Regulations (14 CFR 39.17) specifically addresses this situation. If a change in a product affects one's ability to accomplish the actions required by an AD, then a request for FAA approval of an AMOC addressing that configuration must be submitted. The request should include the specific actions that address the unsafe condition, unless one can show that the change eliminated the unsafe condition. No change to the AD is necessary in this regard.

Recommendation To Locate Primary Switch in the Passenger Cabin

IFC recommends that the primary switch to isolate any cabin system be located in the cabin, rather than in the cockpit. IFC states that, in most cases, the cabin crew will be the first to notice a problem, and that the additional time needed to notify the flightcrew will allow the problem to worsen if not immediately addressed by the trained cabin crew. Further, IFC states that the intercom system between the cabin crew and flightcrew could be damaged by the same event, and that any attempt to gain access via the fortified and locked flight deck door would only aggravate the situation.

We partially agree. It is acceptable to install a secondary, redundant switch in the passenger cabin, in addition to installing the primary switch in the flight deck. The emergency IFE power removal switch must be located as close to the power source as possible, as required by FAA Policy Memorandum PS-ANM100-2000-00105, "Interim Policy Guidance for Certification of In-Flight Entertainment Systems on Title 14 CFR Part 25 Aircraft," dated September 18, 2000; and FAA Policy Memorandum ANM-01-111-165, "Policy Statement on Certification of Power Supply Systems for Portable Electronic Devices on Part 25 Airplanes," dated March 18, 2005. This switch must also be accessible to the flightcrew, so that they can remove power from the IFE system in the event of smoke or fire in either the flight deck or passenger cabin. However, operators have the option of installing a secondary switch that is accessible to the cabin crew. It is not necessary to submit a request for an alternative method of compliance to install a secondary switch because the installation of a primary switch in the flight deck satisfies the requirements of this AD. We have not changed the AD in this regard.

Recommendation To Eliminate Power to All Components in the Cabin

IFC recommends that the requirement to remove power from cabin systems, which are controlled by the passengers, be expanded to include systems such as electrically-controlled seats and ISPS systems, in addition to IFE systems. IFC states that, in most cases, the ISPS and seat adjustment systems carry much higher power loads than do the IFE components.

We agree that the ISPS and electrically-controlled seat systems must also be addressed by this AD. We referred to these systems as "other non-essential electrical systems" in the NPRM. However, we disagree that this AD must be expanded because those systems are already addressed by the applicable service bulletins referenced in this AD. The ISPS and electrically-controlled seat systems are treated as non-essential loads, which the service bulletin specifies to rewire so that they will be de-powered in the same way as the IFE systems. No change to the AD is necessary in this regard.

Request To Remove Certain Airplanes From the Applicability

JAL states that the NPRM does not include IFE systems that provide only audio signals to each passenger seat, or IFE systems that have only a video monitor on the forward bulkhead(s) or projection system for providing basic airplane and flight information to passengers. JAL also states that the effectivity of the referenced Boeing service bulletins does not identify Model 767 airplanes with traditional audio/video systems (for example, variable number (V/N) VB371 through VB373, VK001 through VK016, VK021, VK022, and VR441). JAL, therefore, asserts that airplanes having V/N VK181, VK186, and VR461 should be treated the same as those airplanes because the only difference in configuration is four additional bulkhead monitors, with the same power distribution design, to provide passengers in front row seats with a better angle for viewing video.

We infer that JAL requests that we remove airplanes having V/N VK181, VK186, and VR461 from the applicability of this AD. We disagree with revising the applicability. The delivered configuration of the IFE systems installed on airplanes having V/Ns VK001 through VK016 do not meet the IFE complexity criteria for regulatory action at this time. Further, airplanes having V/N VB371 through VB373, VK021, and VK022 were not included in the effectivity of the referenced Boeing service bulletins because those airplanes were delivered prior to 1992, and IFE systems installed prior to 1992 are not as complex as IFE systems installed later. Although the airplane having V/N VR441 was delivered after 1992, the delivered configuration of that airplane also did not meet our criteria for a complex system. That airplane was delivered with two monitors and three projectors, but our criteria for a complex system required a combination of seven or more components. We are continuing to evaluate such less-complex systems and might consider further rulemaking in the future. We have not changed the AD in this regard.

Conclusion

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting the AD with the change described previously. We also determined that the change will not increase the economic burden on any operator or increase the scope of the AD.

Costs of Compliance

There are about 316 airplanes of the affected design in the worldwide fleet. The following table provides the estimated costs, at an average labor rate of $80 per hour, for U.S. operators to comply with this AD.

Estimated Costs

Model	Boeing Service Bulletin	Work hours	Parts	Cost per airplane	Number of U.S.-registered airplanes	U.S. fleet cost
767-400ER series airplanes	767-24-0147	10	$995	$1,795	2	$3,590

767-300 series airplanes	767-24-0148	Up to 59	Up to $5,079	Up to $9,799	0	$0
767-300 series airplanes	767-24-0149	49	$4,077	$7,997	7	$55,979
767-300 series airplanes	767-24-0150	42	$5,812	$9,172	1	$9,172
767-300 series airplanes	767-24-0151	Up to 42	Up to $10,047	Up to $13,407	0	$0
767-200 and -300 series airplanes	767-24-0152	42	$12,280	$15,640	86	$1,345,040
767-200 and -300 series airplanes	767-24-0153	42	$7,751	$11,111	5	$55,555
767-200 and -300 series airplanes	767-24-0154	9	$1,257	$1,977	10	$19,770

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.

We are 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.

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) Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979), 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.

You can find our regulatory evaluation and the estimated costs of compliance in the AD Docket.

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 AD:

2008-23-15 Boeing: Amendment 39-15736. Docket No. FAA-2007-29045; Directorate Identifier 2007-NM-048-AD.

Effective Date

(a) This airworthiness directive (AD) is effective December 26, 2008.

Affected ADs

(b) None.

Applicability

(c) This AD applies to the airplanes identified in paragraphs (c)(1), (c)(2), and (c)(3) of this AD, certificated in any category.

(1) Boeing Model 767-200 and -300 series airplanes, as identified in Boeing Service Bulletin 767-24-0152, dated September 29, 2006; Boeing Service Bulletin 767-24-0153, dated September 29, 2006; and Boeing Service Bulletin 767-24-0154, dated September 26, 2002.

(2) Boeing Model 767-300 series airplanes, as identified in Boeing Service Bulletin 767-24-0148, dated September 14, 2006; Boeing Service Bulletin 767-24-0149, dated September 14, 2006; Boeing Service Bulletin 767-24-0150, dated September 21, 2006; and Boeing Service Bulletin 767-24-0151, dated September 14, 2006.

(3) Boeing Model 767-400ER series airplanes, as identified in Boeing Service Bulletin 767-24-0147, dated February 20, 2003.

Unsafe Condition

(d) This AD results from an in-flight entertainment (IFE) systems review. We are issuing this AD to ensure that the flightcrew is able to turn off electrical power to IFE systems and other non-essential electrical systems through a switch in the flight compartment. The flightcrew's inability to turn off power to IFE systems and other non-essential electrical systems during a non-normal or emergency situation could result in the inability to control smoke or fumes in the airplane flight deck or cabin.

Compliance

(e) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

Installing New Relays on Certain Model 767-200 and -300 Series Airplanes

(f) For the airplanes identified in paragraph (c)(1) of this AD: Within 60 months after the effective date of this AD, install new relays and wiring to allow the flightcrew to turn off electrical power to the IFE system and certain circuit breakers through the right utility bus switch and do all other specified actions, by accomplishing all of the applicable actions specified in the Accomplishment Instructions of Boeing Service Bulletin 767-24-0152, dated September 29, 2006;

Boeing Service Bulletin 767-24-0153, dated September 29, 2006; and Boeing Service Bulletin 767-24-0154, dated September 26, 2002; as applicable. The other specified actions must be done before further flight after installing the new relays and wiring.

Installing New Relays on Certain Model 767-300 Series Airplanes

(g) For the airplanes identified in paragraph (c)(2) of this AD: Within 60 months after the effective date of this AD, install new relay(s), circuit breakers as applicable, and wiring to allow the flightcrew to turn off electrical power to the IFE system and the IFE video and audio circuit breakers through the right utility bus switch and do all other specified actions as applicable, by accomplishing all of the applicable actions specified in the Accomplishment Instructions of Boeing Service Bulletin 767-24-0148, dated September 14, 2006; Boeing Service Bulletin 767-24-0149, dated September 14, 2006; Boeing Service Bulletin 767-24-0150, dated September 21, 2006; and Boeing Service Bulletin 767-24-0151, dated September 14, 2006; as applicable. The other specified actions must be done before further flight after installing the new relay(s) and wiring.

Installing New Relays on Certain Model 767-400ER Series Airplanes

(h) For the airplanes identified in paragraph (c)(3) of this AD: Within 60 months after the effective date of this AD, install a new relay and wiring to allow the flightcrew to turn off electrical power to some of the IFE systems and certain circuit breakers through the left utility bus switch and do all other specified actions, by accomplishing all of the actions specified in the Accomplishment Instructions of Boeing Service Bulletin 767-24-0147, dated February 20, 2003. The other specified actions must be done before further flight after installing the new relay and wiring.

Alternative Methods of Compliance (AMOCs)

(i)(1) The Manager, Seattle Aircraft Certification Office, FAA, ATTN: Shohreh Safarian, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle ACO, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 917-6418; fax (425) 917-6590; has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19.

(2) To request a different method of compliance or a different compliance time for this AD, follow the procedures in 14 CFR 39.19. Before using any approved AMOC on any airplane to which the AMOC applies, notify your appropriate principal inspector (PI) in the FAA Flight Standards District Office (FSDO), or lacking a PI, your local FSDO.

Material Incorporated by Reference

(j) You must use the service information contained in Table 1 of this AD, as applicable, to do the actions required by this AD, unless the AD specifies otherwise.

Table 1 – Material Incorporated by Reference

Service Information	Date
Boeing Service Bulletin 767-24-0147	February 20, 2003
Boeing Service Bulletin 767-24-0148	September 14, 2006
Boeing Service Bulletin 767-24-0149	September 14, 2006
Boeing Service Bulletin 767-24-0150	September 21, 2006

Boeing Service Bulletin 767-24-0151	September 14, 2006
Boeing Service Bulletin 767-24-0152	September 29, 2006
Boeing Service Bulletin 767-24-0153	September 29, 2006
Boeing Service Bulletin 767-24-0154	September 26, 2002

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

(2) For service information identified in this AD, contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207; telephone 206-544-9990; fax 206-766-5682; e-mail DDCS@boeing.com; Internet https://www.myboeingfleet.com.

(3) You may review copies of the service information that is incorporated by reference at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

Issued in Renton, Washington, on November 4, 2008.
Stephen P. Boyd,
Assistant Manager, Transport Airplane Directorate,
Aircraft Certification Service.