

Dated: March 5, 1997.

Floyd Fithian,

Secretary, Farm Credit Administration Board.

[FR Doc. 97-5967 Filed 3-10-97; 8:45 am]

BILLING CODE 6705-01-P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No. NM-137; Special Condition No. 25-ANM-123]

Special Condition: Boeing Model 747-200B, High-Intensity Radiated Fields

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final special condition; request for comments.

SUMMARY: This special condition is issued for the Boeing Model 747-200B airplanes. This airplane, as modified by ARINC Incorporated, utilizes new avionics/electronic systems, such as the electronic flight information systems (EFIS), which perform critical functions. The applicable regulations do not contain adequate or appropriate safety standards for the protection of these systems from the effects of high-intensity radiated fields (HIRF). This special condition contains the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

DATES: The effective date of this special condition is February 12, 1997.

Comments must be received on or before April 25, 1997.

ADDRESSES: Comments on this special condition may be mailed in duplicate to: Federal Aviation Administration, Office of the Assistant Chief Counsel, Attn: Rules Docket (ANM-7), Docket No. NM-137, 1601 Lind Avenue SW., Renton, Washington 98055-4056; or delivered in duplicate to the Office of the Assistant Chief Counsel at the above address. Comments must be marked: Docket No. NM-137. Comments may be inspected in the Rules Docket weekdays, except Federal holidays, between 7:30 a.m. and 4:00 p.m.

FOR FURTHER INFORMATION CONTACT: Mark Quam, FAA, Standardization Branch, ANM-113, Transport Airplane Directorate, Aircraft Certification Service, 1601 Lind Avenue SW., Renton, Washington, 98055-4056; telephone (206) 227-2145; facsimile (206) 227-1149.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA has determined that good cause exists for making this special condition effective upon issuance; however, interested persons are invited to submit such written data, views, or arguments as they may desire. Communications should identify the regulatory docket and special condition number and be submitted in duplicate to the address specified above. All communications received on or before the closing date for comments will be considered by the Administrator. This special condition may be changed in light of the comments received. All comments submitted will be available in the Rules Docket for examination by interested persons, both before and after the closing date for comments. A report summarizing each substantive public contact with FAA personnel concerning this rulemaking will be filed in the docket. Persons wishing the FAA to acknowledge receipt of their comments submitted in response to this request must submit with those comments a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket No. NM-137." The postcard will be date stamped and returned to the commenter.

Background

On January 26, 1995, ARINC Incorporated of Annapolis, Maryland, applied for a Supplemental Type Certificate (STC) to incorporate the installation of an Allied-Signal (Bendix King) EFIS-10 Electronic Flight Instrument System (EFIS) on a Boeing Model 747-200B airplane. The installation may be vulnerable to high-intensity radiated fields (HIRF) external to the airplane.

Boeing Model 747-200B series airplanes are listed on Type Certificate (TC) A20WE. The airplanes are pressurized, large transport type airplanes powered by four wing-mounted turbofan engines.

Type Certification Basis

Under the provisions of § 21.101 of 14 CFR part 21, ARINC Incorporated must show that the modified Boeing Model 747-200B continues to meet the applicable provisions of the regulations incorporated by reference in TC A20WE, or the applicable regulations in effect on the date of application for the change. The regulations incorporated by reference in the type certificate are commonly referred to as the "original type certification basis." The regulations incorporated by reference in TC A20WE include the following for the Boeing

Model 747-200B series airplanes: 14 CFR part 25, dated February 1, 1965, as amended by Amendments 25-1 through 25-8, plus Amendments 25-15, 25-17, 25-18, 25-20, and 25-39. In addition, under § 21.101(b)(1), the following regulations apply to the EFIS installation: §§ 25.1303(b) and 25.1322, as amended by Amendment 25-38; §§ 25.1309, 25.1321(a)(b) (d) and (e), 25.1331, 25.1333, and 25.1355 as amended by Amendment 25-41; and § 25.1316 as amended by Amendment 25-80. This special condition will form an additional part of the type certification basis.

If the Administrator finds that the applicable airworthiness regulations (i.e., CAR 4b or Part 25, as amended) do not contain adequate or appropriate safety standards for the Boeing Model 747-200B series airplanes because of a novel or unusual design feature, special conditions are prescribed under the provisions of § 21.16 to establish a level of safety equivalent to that established in the regulations.

Special conditions, as appropriate, are issued in accordance with 14 CFR part 11, § 11.49, of the FAR after public notice, as required by §§ 11.28 and 11.29, and become part of the type certification basis in accordance with § 21.101(b)(2).

Special conditions are initially applicable to the model for which they are issued. Should the applicant apply for a supplemental type certificate to modify any other model included on the same type certificate to incorporate the same novel or unusual design feature, the special conditions would also apply to the other model under the provisions of § 21.101(a)(1).

Novel or Unusual Design Features

The Boeing Model 747-200B incorporates new avionics/electronic systems, such as the electronic flight instrument system (EFIS), that perform critical functions. These systems may be vulnerable to HIRF external to the airplane.

Discussion

There is no specific regulation that addresses protection requirements for electrical and electronic systems from HIRF. Increased power levels from ground-based radio transmitters and the growing use of sensitive electrical and electronic systems to command and control airplanes have made it necessary to provide adequate protection.

To ensure that a level of safety is achieved equivalent to that intended by the regulations incorporated by reference, a special condition is needed for the Boeing Model 747-200B, as

modified by ARINC Incorporated, which requires that new electrical and electronic systems that perform critical functions be designed and installed to preclude component damage and interruption of function due to both the direct and indirect effects of HIRF.

High-Intensity Radiated Fields (HIRF)

With the trend toward increased power levels from ground-based transmitters, plus the advent of space and satellite communications, coupled with electronic command and control of the airplane, the immunity of critical digital avionics systems to HIRF must be established.

It is not possible to precisely define the HIRF to which the airplane will be exposed in service. There is also uncertainty concerning the effectiveness of airframe shielding for HIRF.

Furthermore, coupling of electromagnetic energy to cockpit-installed equipment through the cockpit window apertures is undefined. Based on surveys and analysis of existing HIRF emitters, an adequate level of protection exists when compliance with the HIRF protection special condition is shown with either paragraphs 1, OR 2 below:

1. A minimum threat of 100 volts per meter peak electric field strength from 10 KHz to 18 GHz.

a. The threat must be applied to the system elements and their associated wiring harnesses without the benefit of airframe shielding.

b. Demonstration of this level of protection is established through system tests and analysis.

2. A threat external to the airframe of the following field strengths for the frequency ranges indicated.

Frequency	Peak (V/M)	Average (V/M)
10 KHz–100 KHz	50	50
100 KHz–500 KHz	60	60
500 KHz–2 MHz	70	70
2 MHz–30 MHz	200	200
30 MHz–100 MHz	30	30
100 MHz–200 MHz	150	33
200 MHz–400 MHz	70	70
400 MHz–700 MHz	4,020	935
700 MHz–1 GHz	1,700	170
1 GHz–2 GHz	5,000	990
2 GHz–4 GHz	6,680	840
4 GHz–6 GHz	6,850	310
6 GHz–8 GHz	3,600	670
8 GHz–12 GHz	3,500	1,270
12 GHz–18 GHz	3,500	360
18 GHz–40 GHz	2,100	750

As discussed above, this special condition is applicable to the Boeing Model 747–200B airplanes, as modified by ARINC Incorporated. Should ARINC Incorporated apply at a later date for a supplemental type certificate to modify

any other model included on Type Certificate No. A20WE to incorporate the same novel or unusual design feature, this special condition would apply to that model as well, under the provisions of § 21.101(a)(1).

Conclusion

This action affects only certain design features on the Boeing Model 747–200B airplanes. It is not a rule of general applicability and affects only the applicant who applied to the FAA for approval of these features on the airplane.

The substance of the special condition for this airplane has been subjected to the notice and comment procedure in several prior instances and has been derived without substantive change from those previously issued. It is unlikely that prior public comment would result in a significant change from the substance contained herein. For this reason, and because a delay would significantly affect the certification of the airplane, which is imminent, the FAA has determined that prior public notice and comment are unnecessary and impracticable, and good cause exists for adopting this special condition immediately. Therefore, this special condition is being made effective upon issuance. The FAA is requesting comments to allow interested persons to submit views that may not have been submitted in response to the prior opportunities for comment described above.

List of Subjects in 14 CFR Part 25

Aircraft, aviation safety, Reporting and recordkeeping requirements.

The authority citation for this special condition is as follows:

Authority: 49 U.S.C. 106(f), 40113, 44701, 44702, 44704.

The Special Condition

Accordingly, pursuant to the authority delegated to me by the Administrator, the following special condition is issued as part of the type certification basis for the Boeing Model 747–200B airplane, as modified by ARINC Incorporated.

1. *Protection from Unwanted Effects of High-Intensity Radiated Fields (HIRF).* Each electrical and electronic system that performs critical functions must be designed and installed to ensure that the operation and operational capability of these systems to perform critical functions are not adversely affected when the airplane is exposed to high intensity radiated fields.

2. For the purpose of this special condition, the following definition

applies: *Critical Functions.* Functions whose failure would contribute to or cause a failure condition that would prevent the continued safe flight and landing of the airplane.

Issued in Renton, Washington, on February 12, 1997.

Darrell M. Pederson,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service, ANM–100.

[FR Doc. 97–5900 Filed 3–10–97; 8:45 am]

BILLING CODE 4910–13–M

14 CFR Part 71

[Airspace Docket No. 96–ASO–39]

Amendment to Class D, E2 and E4 Airspace; Gainesville, FL

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: This amendment modifies Class D, E2 and E4 surface area airspace at Gainesville, FL. GPS RWY 6 and GPS RWY 24 Standard Instrument Approach Procedures (SIAPs) have been developed for the Gainesville Regional Airport. Additional controlled airspace extending upward from the surface is needed to accommodate these SIAPs.

EFFECTIVE DATE: 0901 UTC, May 22, 1997.

FOR FURTHER INFORMATION CONTACT: Benny L. McGlamery, System Management Branch, Air Traffic Division, Federal Aviation Administration, P.O. Box 20636, Atlanta, Georgia 30320; telephone (404) 305–5570.

SUPPLEMENTARY INFORMATION:

History

On January 13, 1997, the FAA proposed to amend Part 71 of the Federal Aviation Regulations (14 CFR Part 71) by modifying Class D, E2 and E4 airspace at Gainesville, FL. (62 FR 1699). This action would provide adequate Class D, E2 and E4 airspace for IFR operations at the Gainesville Regional Airport. Interested parties were invited to participate in this rulemaking proceeding by submitting written comments on the proposal to the FAA. No comments objecting to the proposal were received. Class D, E2 and E4 airspace designations are published in Paragraphs 5000, 6002 and 6004, respectively, of FAA Order 7400.9D, dated September 4, 1996, and effective September 16, 1996, which is incorporated by reference in 14 CFR 71.1. The Class D, E2 and E4 airspace