

Proposed Rules

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This section of the FEDERAL REGISTER contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No. NM-123; Notice No. SC-96-2-NM]

Special Conditions: Embraer (Brazil) Aircraft Corporation Model EMB-145 Airplane; High-Intensity Radiated Fields

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed special conditions.

SUMMARY: This document proposes special conditions for the Embraer Model EMB-145 airplane. This new airplane will utilize new avionics/electronic systems that provide critical data to the flightcrew. 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. These proposed special conditions contain 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: Comments must be received on or before May 20, 1996.

ADDRESSES: Comments on this proposal may be mailed in duplicate to: Federal Aviation Administration, Office of the Assistant Chief Counsel, Attn: Rules Docket (ANM-7), Docket No. NM-123, 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-123. 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:

Gerry Lakin, FAA, Standardization Branch, ANM-113, Transport Airplane Directorate, Aircraft Certification

Service, 1601 Lind Avenue SW., Renton, Washington, 98055-4056; telephone (206) 227-1187; facsimile (206) 227-1149.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested persons are invited to participate in the making of these proposed special conditions by submitting such written data, views, or arguments as they may desire. Communications should identify the regulatory docket or notice 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 before further rulemaking action is taken on these proposals. The proposals contained in this notice may be changed in light of 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 notice must submit with those comments a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket No. NM-123." The postcard will be date stamped and returned to the commenter.

Background

On August 30, 1989, Embraer Aircraft Corporation, Caixa Postal 343, 12227-901 Sao Jose dos Campos, Sao Paulo SP Brasil, applied for a new type certificate in the transport airplane category for the Model EMB-145 airplane. The EMB-145 is a T-tail, low swept wing, small transport airplane powered by two Allison GMA-3007A turbofan engines mounted on pylons extending from the aft fuselage. Each engine will be capable of delivering 7,040 pounds thrust. The flight controls will be powered and capable of manual reversion. The airplane has a seating capacity of up to 50 passengers, and a maximum takeoff weight of 42,328 pounds.

Type Certification Basis

Under the provisions of § 21.17 of the FAR, Embraer must show, except as provided in § 25.2, that the Model EMB-

145 meets the applicable provisions of part 25, effective February 1, 1965, as amended by Amendments 25-1 through 25-75. In addition, the proposed certificate basis for the Model EMB-145 includes part 34, effective September 10, 1990, plus any amendments in effect at the time of certification; and part 36, effective December 1, 1969, as amended by Amendment 36-1 through the amendment in effect at the time of certification. No exemptions are anticipated. The special conditions that may be developed as a result of this notice will form an additional part of the type of certification basis. In addition, the certification basis may include other special conditions that are not relevant to these proposed special conditions.

If the Administrator finds that the applicable airworthiness regulations (i.e., part 25, as amended) do not contain adequate or appropriate safety standards for the Embraer Model EMB-145 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 § 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 § 21.17(a)(2).

Special conditions are initially applicable to the model for which they are issued. Should the type certificate for that model be amended later to include any other model that incorporates 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 Model EMB-145 incorporates new avionic/electronic installations, including a digital Electronic Flight Instrument System (EFIS), Air Data System, Attitude and Heading Reference System (AHRS), Navigation and Communication System, Autopilot System, and a Full Authority Digital Engine Control (FADEC) system that controls critical engine parameters. These systems may be vulnerable to high-intensity radiated fields (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, special conditions are proposed for the Embraer Model EMB-145, which would require that new technology electrical and electronic systems, such as the EFIS, FADEC, AHRS, etc., be designed and installed to preclude component damage and interruption of function due to both the direct and indirect effects of 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 10KHz to 18GHz.

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–2000 KHz	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–1000 MHz	1,700	170

Frequency	Peak (V/M)	Average (V/M)
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, the proposed special conditions would be applicable initially to the Embraer Model EMB-145. Should Embraer apply at a later date for a change to the type certificate to include another model incorporating the same novel or unusual design feature, the special conditions 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 Embraer Model EMB-145 airplane. It is not a rule of general applicability and affects only the manufacturer who applied to the FAA for approval of these features on the airplane.

List of Subjects in 14 CFR Part 25

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

The authority citation for these special conditions is as follows:

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

The Proposed Special Conditions

Accordingly, the Federal Aviation Administration (FAA) proposes the following special conditions as part of the type certification basis for the Embraer Model EMB-145 series airplanes.

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 these special conditions, 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 March 25, 1996.

Darrell M. Pederson,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 96-8037 Filed 4-2-96; 8:45 am]

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FEDERAL TRADE COMMISSION

16 CFR Part 254

Request for Comments Concerning Guides for Private Vocational Schools

AGENCY: Federal Trade Commission.

ACTION: Request for public comments.

SUMMARY: The Federal Trade Commission (the "Commission") is requesting public comments on its Guide for Private Vocational Schools. The Commission is also requesting comments about the overall costs and benefits of the guides and their overall regulatory and economic impact as part of its systematic review of all current Commission regulations and guides.

DATES: Written comments will be accepted until May 3, 1996.

ADDRESSES: Comments should be directed to: Secretary, Federal Trade Commission, Room H-159, Sixth and Pennsylvania Ave., N.W., Washington, D.C. 20580. Comments about the Guides for Private Vocational Schools should be identified as "16 CFR Part 254—Comment."

FOR FURTHER INFORMATION CONTACT: Joseph J. Koman, Jr., Federal Trade Commission, Bureau of Consumer Protection, Division of Enforcement, Room S-4302, 601 Pennsylvania Ave., N.W., Washington, D.C. 20580, (202) 326-3014, or Walter Gross III, Federal Trade Commission, Bureau of Consumer Protection, Division of Service Industry Practices, Room H-200, Sixth Street and Pennsylvania Ave., N.W., Washington, D.C. 20580, (202) 326-3319.

SUPPLEMENTARY INFORMATION: The Commission has determined, as part of its oversight responsibilities, to review rules and guides periodically. These reviews seek information about the costs and benefits of the Commission's rules and guides and their regulatory and economic impact. The information obtained assists the Commission in identifying rules and guides that warrant modification or rescission.

At this time, the Commission solicits written public comments concerning the Commission's Guides for Private Vocational Schools, 16 CFR Part 254. These guides, like the other industry guides issued by the Commission, "are