

Conclusion

OFHEO has identified and highlighted many of the significant issues that must be addressed in connection with development of the stress test and the associated risk-based capital regulation. OFHEO seeks comment on these and any additional issues that may be identified.

The development of the stress test and the risk-based capital regulation is one of the critical statutory responsibilities of OFHEO. In carrying out this responsibility, OFHEO is committed to a regulatory process that will provide the broadest possible range of opinions from the widest array of information sources for consideration during the regulatory process. The development of the stress test and the implementation of the risk-based capital regulation will provide regulatory and analytical standards and tools that will safeguard the financial safety and soundness of the Enterprises and in turn will ensure that the Enterprises continue to accomplish their public missions. Given the significance of this undertaking, OFHEO encourages all interested parties to analyze the issues raised in this ANPR and submit comments on the specific questions. OFHEO will thoroughly analyze and carefully consider all comments during the course of the development of the stress test and risk-based capital regulation.

Dated: February 2, 1995.

Aida Alvarez,

*Director, Office of Federal Housing,
Enterprise, Oversight.*

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No. ANM-106; Notice No. SC-95-2-NM]

Special Conditions: Raytheon Corporate Jets, Inc., Model Hawker 800 Airplanes, High-Intensity Radiated Fields

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed special conditions.

SUMMARY: This notice proposes special conditions for the Raytheon Corporate Jets, Inc., Model Hawker 800 airplanes equipped with modifications that install Garrett TFE731-5BR-1H engines and a mach trim system. The configuration of

these airplanes will utilize new and revised electronic systems that perform functions critical to the safety of the airplane. 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 March 27, 1995.

ADDRESSES: Comments on this proposal may be mailed in duplicate to: Federal Aviation Administration, Transport Airplane Directorate (ANM-100), Attn: Docket No. NM-106, 1601 Lind Avenue SW., Renton, Washington, 98055-4056; or delivered in duplicate to the Transport Airplane Directorate at the above address. Comments must be marked: Docket No. NM-106. 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: William Schroeder, FAA, Standardization Branch, ANM-113, Transport Airplane Directorate, Aircraft Certification Service, 1601 Lind Avenue SW., Renton, Washington, 98055-4056.

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-106.”
The postcard will be date stamped and returned to the commenter.

Background

On February 7, 1994, Raytheon Corporate Jets, Inc., 3 Bishop Square, St. Albans Road West, Hatfield, Hertfordshire AL10 9NE, England, applied for a revision to type certificate number A3EU to add new engines and a mach trim system to the model Hawker 800 series airplanes currently included on that TC. This revised model Hawker 800 is a crucifix tail, low wing, 15 passenger business jet powered by two Garrett TFE 731-5BR-1H turbofan engines mounted on pylons extending from the aft fuselage. The engines will be capable of delivering 4,634 lbs. of max continuous thrust each and 4750 pounds of thrust on the operating engine for up to 5 minutes at automatic power reserve (APR) power.

Type Certification Basis

Under the provisions of § 21.29 of the FAR, Raytheon must show, except as provided in § 25.2, that the revised Model Hawker 800 complies with the certification basis of record shown on TC Data Sheet A3EU for model Hawker 800 airplanes plus, for the engine and mach trim system installations, § 25.1316 as amended by Amendment 25-80, § 25.933 as amended by Amendment 25-40, § 25.934 as amended through Amendment 25-23, § 25.1309 as amended through Amendment 25-23, parts 34 and 36 of the FAR as amended through the latest amendment in effect at the time of certification of this revision to the TC and any additional equivalent safety findings made for this revision of the TC. The special conditions that may be developed as a result of this notice will form an additional part of the type certification basis.

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 model Hawker 800 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 § 21.29(a)(1)(ii) and § 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, or should any other model already included on the same type certificate be modified 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 Model Hawker 800 airplanes with TFE731-5BR-1H engines incorporate a revised engine electronic control system and an electronic controlled mach trim system. These systems perform critical to safety of flight functions and may be vulnerable to high-intensity radiated fields 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 model Hawker 800 with TFE731-5BR-1H engines and a mach trim system. These special conditions require that electrical and electronic components that perform critical functions and are embodied in the mach trim system or TFE731-5BR-1H engine electronic control system be designed and installed to ensure that operation and operational capabilities of these systems to perform critical functions are not adversely affected when the airplane is exposed to 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 electronic 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-2000 KHz	70	70
2 MHz-30 MHz	200	200
30 MHz-70 MHz	30	30
70 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
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 certain components on Hawker 800 airplanes with TFE731-5BR engines and a mach trim system. Should Raytheon Corporate Jets, Inc. apply at a later date for a change to the type certificate to add or revise electrical or electronic equipment that performs critical functions or to include another model incorporating the same novel or unusual design feature, these 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 Hawker 800 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, Federal Aviation Administration, Reporting and recordkeeping requirements.

The authority citation for these proposed special conditions is as follows:

Authority: 49 U.S.C. app. 1344, 1348(c), 1352, 1354(a), 1355, 1421 through 1431, 1502, 1651(b)(2), 42 U.S.C. 1857f-10, 4321 et seq.; E.O. 11514; and 49 U.S.C. 106(g).

The Proposed Special Conditions

Accordingly, the Federal Aviation Administration (FAA) proposes the following special conditions as part of the type certification basis for Raytheon Hawker 800 series airplanes equipped with Garrett TFE731-5BR-1H turbo fan engines and electronically controlled mach trim system. These special conditions would apply only to electrical and electronic components that perform critical functions and are embodied in the mach trim system or TFE731-5BR-1H engine electronic control system.

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, Wash., on January 31, 1995.

Darrell M. Pederson,

Assistant Manager, Transport Airplane Directorate, Aircraft Certification Service, ANM-101.

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14 CFR Part 39

[Docket No. 94-NM-240-AD]

Airworthiness Directives; Lockheed Model 382 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This document proposes the superseding of an existing airworthiness directive (AD), applicable to certain Lockheed Model 382 series airplanes, that currently requires a revision to the Airplane Flight Manual to require takeoff operation in accordance with revised performance data. This action would require installation of certain valve housings for the propeller