

(5) Designing, constructing, fabricating, operating, or maintaining research reactors, test reactors or subcritical assemblies capable of continuous operation above five megawatts thermal.

(6) Training in the activities of paragraphs (c)(1) through (5) of this section.

7. Section 810.10 (a) is revised to read as follows:

§ 810.10 Grant of specific authorization.

(a) Any person proposing to provide assistance for which § 810.8 indicates specific authorization is required may apply for the authorization to the U.S. Department of Energy, National Nuclear Security Administration, Washington, DC 20585, Attention: Director, Nuclear Transfer and Supplier Policy Division, NN-43, Office of Arms Control and Nonproliferation.

* * * * *

8. Section 810.13(g) is revised to read as follows:

§ 810.13 Reports.

* * * * *

(g) All reports should be sent to: U.S. Department of Energy, National Nuclear Security Administration, Washington, DC 20585, Attention: Director, Nuclear Transfer and Supplier Policy Division, NN-43, Office of Arms Control and Nonproliferation.

9. Section 810.16 is revised as follows:

§ 810.16 Effective date and savings clause.

Except for actions that may be taken by DOE pursuant to § 810.11, the regulations in this part do not affect the validity or terms of any specific authorizations granted under regulations in effect before April 26, 2000 (and contained in the 10 CFR, part 500 to end, edition revised as of January 1, 2000) or generally authorized activities under those regulations for which the contracts, purchase orders, or licensing arrangements were already in effect. Persons engaging in activities that were generally authorized under regulations in effect before April 26, 2000, but that require specific authorization under the regulations in this part, must request specific authorization by July 25, 2000 but may continue their activities until DOE acts on the request.

[FR Doc. 00-7181 Filed 3-24-00; 8:45 am]

BILLING CODE 6450-01-P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No. NM165, Special Conditions No. 25-158-SC]

Special Conditions: McDonnell Douglas DC-9-30 Series Airplanes; High Intensity Radiated Fields (HIRF)

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final special conditions.

SUMMARY: These special conditions are issued for McDonnell Douglas DC-9-30 series airplanes modified by Lockheed Martin Aircraft Center. These airplanes will have novel and unusual design features when compared to the state of technology envisioned in the airworthiness standards for transport category airplanes. These airplanes will utilize electronic systems that perform critical functions. The applicable type certification regulations do not contain adequate or appropriate safety standards for the protection of these systems from the effects of high-intensity radiated fields (HIRF). These special conditions provide the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that provided by the existing airworthiness standards.

EFFECTIVE DATE: March 13, 2000.

FOR FURTHER INFORMATION CONTACT: Connie Beane, FAA, Standardization Branch, ANM-113, Transport Airplane Directorate, Aircraft Certification Service, 1601 Lind Avenue SW., Renton, Washington, 98055-4056; telephone (425) 227-2796; facsimile (425) 227-1149.

SUPPLEMENTARY INFORMATION:

Background

On April 20, 1998, Lockheed Martin Aircraft Center, Inc. (LMAC), 244 Terminal Road, Greenville, NC 29605, applied for a supplemental type certificate (STC) to modify McDonnell Douglas DC-9-30 series airplanes listed on Type Certificate A6WE. The modification incorporates the installation of a Rockwell-Collins FDS-255 Electronic Flight Instrument System, consisting of an electronic attitude display, an electronic horizontal situation indicator, and a display controller for each pilot. This advanced system uses electronics to a far greater extent than the original mechanical attitude displays and may be more susceptible to electrical and magnetic interference. This disruption

of signals could result in loss of attitude display or present misleading attitude information to the pilot.

In addition, on August 18, 1998, LMAC applied for an additional STC to modify McDonnell Douglas DC-9-30 series airplanes listed on Type Certificate A6WE. The modification incorporates the installation of an Innovative Solution & Support electronic air data instrument system, which consists of an electronic airspeed display, an electronic altimeter, and a digital air data computer for each pilot. This advanced system uses electronics to a far greater extent than the original pneumatic pitot-static instruments and may be more susceptible to electrical and magnetic interference. This disruption of signals could result in loss of air data display or present misleading air data information to the pilot.

Type Certification Basis

Under the provisions of 14 CFR 21.101, LMAC must show that the McDonnell Douglas DC-9-30 series airplanes, as changed, continue to meet the applicable provisions of the regulations incorporated by reference in Type Certificate No. A6WE, 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 certification basis for the modified McDonnell Douglas DC-9-30 series airplanes includes CAR 4b, dated December 31, 1953, with Amendments 4b-1 through 4b-16, as amended by Type Certificate Data Sheet (TCDS) A6WE.

If the Administrator finds that the applicable airworthiness regulations (*i.e.*, CAR 4b, as amended) do not contain adequate or appropriate safety standards for the McDonnell Douglas DC-9-30 series airplanes because of novel or unusual design features, special conditions are prescribed under the provisions of § 21.16.

In addition to the applicable airworthiness regulations and special conditions, the Model DC-9-30 must comply with the fuel vent and exhaust emission requirements of 14 CFR part 34 and the noise certification requirements of 14 CFR part 36.

Special conditions, as appropriate, are issued in accordance with 14 CFR 11.49, 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 LMAC apply at a later date for design change approval to modify any other model already

included on the same type certificate to incorporate the same novel or unusual design feature, these special conditions would also apply to the other model under the provisions of § 21.101(a)(1).

Novel or Unusual Design Features

The modified McDonnell Douglas DC-9-30 series airplanes will incorporate an electronic attitude display system and an electronic air data system, which were not available at the time of certification of these airplanes, both of which 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, special conditions are needed for the McDonnell Douglas DC-9-30 series airplanes. These special conditions require that new electrical and electronic systems, such as the electronic attitude and air data display 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

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 paragraph 1, OR 2 below:

1. A minimum threat of 100 volts rms per meter 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	Field Strength (volts per meter)	
	Peak	Average
10 kHz-100 kHz ...	50	50
100 kHz-500 kHz	50	50
500 kHz-2 MHz	50	50
2 MHz-30 MHz	100	100
30 MHz-70 MHz ...	50	50
70 MHz-100 MHz	50	50
100 MHz-200 MHz	100	100
200 MHz-400 MHz	100	100
400 MHz-700 MHz	700	50
700 MHz-1 GHz ...	700	100
1 GHz-2 GHz	2000	200
2 GHz-4 GHz	3000	200
4 GHz-6 GHz	3000	200
6 GHz-8 GHz	1000	200
8 GHz-12 GHz	3000	300
12 GHz-18 GHz ...	2000	200
18 GHz-40 GHz ...	600	200

The field strengths are expressed in terms of peak of the root-mean-square (rms) over the complete modulation period.

The threat levels identified above are the result of an FAA review of existing studies on the subject of HIRF in light of the ongoing work of the Electromagnetic Effects Harmonization Working Group of the Aviation Rulemaking Advisory Committee.

Applicability

As discussed above, these special conditions are applicable initially to the McDonnell Douglas DC-9-30 series airplanes modified by LMAC. Should LMAC apply at a later date 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, these special conditions would apply to that model as well under the provisions of § 21.101(a)(1).

Discussion of Comments

Notice of proposed special conditions No. 25-99-09-SC was published in the **Federal Register** on December 3, 1999 (64 FR 67804). One commenter responded, expressing support for the special conditions. The special conditions are therefore adopted as proposed.

Conclusion

This action affects only certain novel or unusual design features on the

McDonnell Douglas DC-9-30 series airplanes modified by LMAC. It is not a rule of general applicability and it affects only the applicant 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 Special Conditions

Accordingly, pursuant to the authority delegated to me by the Administrator, the following special conditions are issued as part of the type certification basis for McDonnell Douglas DC-9-30 series airplanes modified by Lockheed Martin Aircraft Center.

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 13, 2000.

Donald L. Riggan,

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

[FR Doc. 00-7495 Filed 3-24-00; 8:45 am]

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 99-NM-311-AD; Amendment 39-11649; AD 95-19-04 R1]

RIN 2120-AA64

Airworthiness Directives; Learjet Model 35, 35A, 36, 36A, 55, 55B, and 55C Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule; rescission.