

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-128; Notice No. SC-96-3-NM]

Special Conditions: deHavilland DHC-8-400 Airplane; High-Intensity Radiated Fields

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed special conditions.

SUMMARY: This notice proposes special conditions for the deHavilland DHC-8-400 airplane. This 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 September 5, 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-128, 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-128. 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: Phil Forde, FAA, Standardization Branch, ANM-113, Transport Airplane Directorate, Aircraft Certification Service, 1601 Lind Avenue SW.,

Renton, Washington, 98055-4056, telephone (206) 227-2146 or 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 on this proposal is taken. The proposals contained in this notice may be changed in light of the comments received. All comments received will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested parties. A report summarizing each substantive public contact with FAA personnel concerning this rulemaking will be filed in the docket. Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must include a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket No. NM-128." The postcard will be dated stamped and returned to the commenter.

Background

On January 31, 1995, the de Havilland Aircraft Company of Canada, Garratt Boulevard, Downsview, Ontario M3K1Y5, applied for an amendment to their Type Certificate No. A13NM to include their new model Dash 8 Series 400 (DHC-8-400), Model 401/402 airplane, which is a derivative of the DHC-8-300. The DHC-8-400 is a high wing, T-tail, twin engine, turbopropeller powered regional transport. Each engine will be capable of delivering 4830 shaft horsepower. The flight controls are manual, except for the tandem rudder which will be hydraulically powered. The airplane has a seating capacity of up to 78, and a maximum takeoff weight of 62,500 pounds.

Type Certification Basis

Under the provisions of 14 CFR § 21.101, deHavilland must show that the DHC-8-400 meets the applicable

provisions of the regulations incorporated by reference in Type Certificate No. A13NM, or the applicable regulations in effect on the date of application for the change to the Model 300. 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 Type Certificate No. A13NM include part 25, as amended by Amendments 25-1 through 25-83. In addition to the applicable airworthiness regulations and special conditions, the DHC-8-400 must comply with the fuel vent and exhaust emission requirements of part 34, effective September 10, 1990, plus any amendments in effect at the time of certification; and the noise certification requirements of 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 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 DHC-8-400 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(b), 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 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 DHC-8-400 airplane avionics enhancement will utilize electronic systems that perform critical functions,

including a digital Electronic Flight Instrument System (EFIS), attitude and heading reference systems (AHRS), and air data systems (ADS). 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 needed for the DHC-8-400, which require that new technology electrical and electronic systems, such as the EFIS, AHRS and ADS, 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 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–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, these special conditions would be applicable initially to the DHC-8-400 airplane. Should de Havilland apply at a later date for a change to the type certificate to include another 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 certain design features only on the modified DHC-8-400 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 record keeping requirements.

The authority citation for these proposed 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 deHavilland DHC-8-400 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 capacity 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 July 9, 1996.

Darrell M. Pederson,

Acting Manager, Transport Airplane

Directorate, Aircraft Certification Service.

[FR Doc. 96-18548 Filed 7-19-96; 8:45 am]

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DEPARTMENT OF COMMERCE

International Trade Administration

15 CFR Part 303

DEPARTMENT OF THE INTERIOR

Office of Territorial and International Affairs

[Docket No. 960508126-6126-01]

RIN 0625-AA46

Proposed Changes in Procedures for Insular Possessions Watch Program

AGENCIES: Import Administration, International Trade Administration, Department of Commerce; Office of Territorial and International Affairs, Department of the Interior.

ACTION: Proposed rule and request for comments.

SUMMARY: This action invites public comment on a proposal to amend the ITA regulations, which govern duty-exemption allocations and duty-refund entitlements for watch producers in the United States' insular possessions (the Virgin Islands, Guam and American Samoa) and the Northern Mariana Islands. The proposed amendments would modify procedures for completion and use of the "Permit to Enter Watches and Watch Movements into the Customs Territory of the United States" (Form ITA-340); make the technical changes required by the passage of the Uruguay Round Agreements Act in 1994; eliminate the mid-year report (Form ITA-321P); change the percentage creditable towards the duty-refund of wages for non-9½ watch and watch movement repairs and raise one of the percentages in the formula for calculating the duty-refund; revise the total quantity and respective territorial shares of insular watches and watch movements which would be allowed to enter the United States free of duty; remove reference to watches and watch movements which are only ineligible for duty-free