

factor test weight, or specify "organic" as defined by 7 CFR part 205. This definition expires July 31, 2010.

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■ 3. Section 800.18 is amended by revising paragraph (b)(8) to read as follows:

**§ 800.18 Waivers of the official inspection and Class X weighing requirements.**

\* \* \* \* \*

(b) \* \* \*

(8) High Quality Specialty Grain Shipped in Containers. Official inspection and weighing requirements do not apply to high quality specialty grain exported in containers. Records generated during the normal course of business that pertain to these shipments shall be made available to the Service upon request, for review or copying. These records shall be maintained for a period of 3 years. This waiver expires July 31, 2010.

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**James E. Link,**

*Administrator, Grain Inspection, Packers and Stockyards Administration.*

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**BILLING CODE 3410-EN-P**

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**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 25**

[Docket No. NM336; Special Conditions No. 25-309-SC]

**Special Conditions: Sabreliner Model NA-265-60 Airplanes; High-Intensity Radiated Fields (HIRF).**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final special conditions; request for comments.

**SUMMARY:** These special conditions are issued for Sabreliner Model NA-265-60 airplanes modified by Flight Research, Inc. These modified airplanes will have a novel or unusual design feature when compared to the state of technology envisioned in the airworthiness standards for transport category airplanes. The modification incorporates the installation of altimeter/air data display units manufactured by Innovative Solutions and Support, Inc. These display units perform critical functions. The applicable airworthiness 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 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:** The effective date of these special conditions is December 5, 2005. We must receive your comments by January 12, 2006.

**ADDRESSES:** You must mail two copies of your comments to: Federal Aviation Administration, Transport Airplane Directorate, Attention: Rules Docket (ANM-113), Docket No. NM336, 1601 Lind Avenue, SW., Renton, Washington 98055-4056. You may deliver two copies to the Transport Airplane Directorate at the above address. You must mark your comments: Docket No. NM336. You can inspect comments in the Rules Docket weekdays, except Federal Holidays, between 7:30 a.m. and 4 p.m.

**FOR FURTHER INFORMATION CONTACT:** Greg Dunn, FAA, Airplane and Flight Crew Interface Branch, ANM-111, Transport Airplane Directorate, Aircraft Certification Service, 1601 Lind Avenue SW., Renton, Washington 98055-4056; telephone (425) 227-2799; facsimile (425) 227-1320.

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

The FAA has determined that notice and opportunity for prior public comment is impracticable because these procedures would significantly delay certification of the airplane and thus delivery of the affected aircraft. In addition, the substance of these special conditions has been subject to the public comment process in several prior instances with no substantive comments received. The FAA therefore finds that good cause exists for making these special conditions effective upon issuance; however, we invite interested people to take part in this rulemaking by sending written comments, data, or views. The most helpful comments reference a specific portion of the special conditions, explain the reason for any recommended change, and include supporting data. We ask that you send us two copies of written comments.

We will file in the docket all comments we receive, as well as a report summarizing each substantive public contact with FAA personnel concerning these special conditions. You may inspect the docket before and after the comment closing date. If you wish to review the docket in person, go to the address in the **ADDRESSES** section of this preamble between 7:30 a.m. and

4 p.m., Monday through Friday, except Federal holidays.

We will consider all comments we receive on or before the closing date for comments. We will consider comments filed late if it is possible to do so without incurring expense or delay. We may change these special conditions based on the comments we receive.

If you want the FAA to acknowledge receipt of your comments on these special conditions, include with your comments a pre-addressed, stamped postcard on which the docket number appears. We will stamp the date on the postcard and mail it back to you.

**Background**

On May 6, 2005, Flight Research, Inc., 1062 Flight Line, Hangar 161, Mojave, California 93501, applied for a Supplemental Type Certificate (STC) to modify Sabreliner Model NA-265-60 airplanes. These models are currently approved under Type Certificate No. A2WE. The Sabreliner Model NA-265-60 is a transport category airplane powered by two Pratt and Whitney Turbo Wasp JT12A-8 engines. The maximum takeoff weight is 20,172 pounds. These airplanes operate with a 2-person crew and can seat up to 10 passengers. The modification incorporates the installation of altimeter/air data display units manufactured by Innovative Solutions and Support, Inc. The avionics/electronics and electrical systems installed in this airplane have the potential to be vulnerable to high-intensity radiated fields (HIRF) external to the airplane.

**Type Certification Basis**

Under the provisions of 14 CFR 21.101, Flight Research, Inc. must show that the Sabreliner Model NA-265-60, as changed, continues to meet the applicable provisions of the regulations incorporated by reference in Type Certificate No. A2WE, 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 Sabreliner Model NA-265-60 airplanes includes Civil Aeronautics Manual 4b, as amended by Amendment 4b-1 through Amendment 4b-9, Special Civil Air Regulation No. SR 422B Item 2, the Special Conditions set forth in Attachment "A" of FAA letter to NAA [North American Aviation] dated October 8, 1959, and FAA letter to NAA dated January 30, 1962.

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 Sabreliner Model NA-265-60 airplanes because of a novel or unusual design feature, special conditions are prescribed under § 21.16.

In addition to the applicable airworthiness regulations and special conditions, the Sabreliner Model NA-265-60 airplanes 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 defined in 14 CFR 11.19, are issued under § 11.38 and become part of the type certification basis under § 21.101.

Special conditions are initially applicable to the model for which they are issued. Should Flight Research, Inc. apply at a later date for a supplemental type certificate to modify any other model included on Type Certificate No. A2WE to incorporate the same or similar novel or unusual design feature, these special conditions would also apply to the other model under § 21.101.

**Novel or Unusual Design Features**

As noted earlier, the Sabreliner Model NA-265-60 airplanes modified by Flight Research, Inc. will incorporate altimeter/air data display units that will perform critical functions. These display units may be vulnerable to high-intensity radiated fields external to the

airplane. The current airworthiness standards of part 25 do not contain adequate or appropriate safety standards for the protection of this equipment from the adverse effects of HIRF.

Accordingly, these systems are considered to be a novel or unusual design feature.

**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 avionics/electronics and electrical 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 Sabreliner Model NA-265-60 airplanes modified by Flight Research, Inc. These special conditions require that new avionics/electronics and electrical 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, and the advent of space and satellite communications coupled with electronic command and control of the airplane, the immunity of critical avionics/electronics and electrical 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 (root-mean-square) 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 field strengths identified in the table below for the frequency ranges indicated. Both peak and average field strength components from the table are to be demonstrated.

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
100MHz-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 to Sabreliner Model NA-265-60 airplanes modified by Flight Research, Inc. Should Flight Research, Inc. apply at a later date for

a supplemental type certificate to modify any other model included on Type Certificate No. A2WE to incorporate the same or similar novel or unusual design feature, these special conditions would apply to that model as well under provisions of § 21.101.

## Conclusion

This action affects only certain novel or unusual design features on Sabreliner Model NA-265-60 airplanes modified by Flight Research, Inc. 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 these special conditions has been subjected to the notice and comment procedure in several prior instances and has been derived without substantive change from those previously issued. 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 these special conditions 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 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 supplemental type certification basis for the Sabreliner Model NA-265-60 airplanes modified by Flight Research, Inc.

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 December 5, 2005.

**Kevin M. Mullin,**

*Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.*

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## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 25

**[Docket No NM309; Special Conditions No. 25-308-SC]**

#### **Special Conditions: Boeing Model 737-200/200C/300/400/500/600/700/700C/800/900 Series Airplanes; Flammability Reduction Means (Fuel Tank Inerting)**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final special conditions.

**SUMMARY:** These special conditions are issued for the Boeing Model 737-200/200C/300/400/500/600/700/700C/800/900 series airplanes. These airplanes, as modified by Boeing Commercial Airplanes, include a new flammability reduction means that uses a nitrogen generation system to reduce the oxygen content in the center wing fuel tank so that exposure to a combustible mixture of fuel and air is substantially minimized. This system is intended to reduce the average flammability exposure of the fleet of airplanes with the system installed to a level equivalent to 3 percent of the airplane operating time. The applicable airworthiness regulations do not contain adequate or appropriate safety standards for the design and installation of this system. These special conditions contain the additional safety standards the Administrator considers necessary to ensure an acceptable level of safety for the installation of the system and to define performance objectives the system must achieve to be considered an acceptable means for minimizing development of flammable vapors in the fuel tank installation.

**DATES:** The effective date of these special conditions is December 5, 2005.

#### **FOR FURTHER INFORMATION CONTACT:**

Mike Dostert, Propulsion and Mechanical Systems Branch, FAA, ANM-112, Transport Airplane Directorate, Aircraft Certification Service, 1601 Lind Avenue, SW., Renton, Washington, 98055-4056; telephone (425) 227-2132, facsimile (425) 227-1320, e-mail [mike.dostert@faa.gov](mailto:mike.dostert@faa.gov).

#### **SUPPLEMENTARY INFORMATION:**

## Background

Boeing Commercial Airplanes intends to modify the Model 737 series airplanes to incorporate a new flammability reduction means (FRM) that will inert the center fuel tanks with nitrogen-enriched air (NEA). Though the provisions of § 25.981, as amended by Amendment 25-102, will apply to this design change, these special conditions address novel design features. These special conditions are similar to those published in the **Federal Register** [Docket No. NM270; Special Conditions No. 25-285-SC] for incorporation of an FRM on Boeing Model 747-100/200B/200F/200C/SR/SP/100B/300/100B SUD/400/400D/400F series airplanes (70 FR 7800, January 24, 2005).

Regulations used as the standard for certification of transport category airplanes prior to Amendment 25-102, effective June 6, 2001, were intended to prevent fuel tank explosions by eliminating possible ignition sources from inside the fuel tanks. Service experience of airplanes certificated to the earlier standards shows that ignition source prevention alone has not been totally effective at preventing accidents. Commercial transport airplane fuel tank safety requirements have remained relatively unchanged throughout the evolution of piston-powered airplanes and later into the jet age. The fundamental premise for precluding fuel tank explosions has involved establishing that the design does not result in a condition that would cause an ignition source within the fuel tank ullage (the space in the tank occupied by fuel vapor and air). A basic assumption in this approach has been that the fuel tank could contain flammable vapors under a wide range of airplane operating conditions, even though there were periods of time in which the vapor space would not support combustion.

### Fuel Properties

Jet fuel vapors are flammable in certain temperature and pressure ranges. The flammability temperature range of jet engine fuel vapors varies with the type and properties of the fuel, the ambient pressure in the tank, and the amount of dissolved oxygen released from the fuel into the tank. The amount of dissolved oxygen in a tank will also vary depending on the amount of vibration and sloshing of the fuel that occurs within the tank.

Jet A fuel is the most commonly used commercial jet fuel in the United States. Jet A-1 fuel is commonly used in other parts of the world. At sea level and with no sloshing or vibration present, these