

# Rules and Regulations

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## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 25

[Docket No. NM183; Special Conditions No. 25-173-SC]

#### Special Conditions: Gulfstream G-1159; 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 Gulfstream Aerospace Corporation G-1159 airplanes modified by DaimlerChrysler Aviation, 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 dual Electronic Primary Flight Display systems that 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 February 16, 2001. Comments must be received on or before April 2, 2001.

**ADDRESSES:** Comments on these special conditions may be mailed in duplicate to: Federal Aviation Administration, Transport Airplane Directorate, Attention: Rules Docket (ANM-114), Docket No. NM183, 1601 Lind Avenue SW., Renton, Washington 98055-4056;

or delivered in duplicate to the Transport Airplane Directorate at the above address. All comments must be marked: *Docket No. NM183*. Comments may be inspected in the Rules Docket weekdays, except Federal holidays, between 7:30 a.m. and 4 p.m.

#### FOR FURTHER INFORMATION CONTACT:

Meghan Gordon, FAA, Standardization Branch, ANM-113, Transport Airplane Directorate, Aircraft Certification Service, 1601 Lind Avenue SW., Renton, Washington 98055-4056; telephone (425) 227-2138; facsimile (425) 227-1149.

#### SUPPLEMENTARY INFORMATION:

##### Comments Invited

The FAA has determined that good cause exists for making these special conditions effective upon issuance; however, interested persons are invited to submit such written data, views, or arguments, as they may desire. Communications should identify the regulatory docket 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. These special conditions may be changed in light of the comments received. All comments received 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. Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to these special conditions must include a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket No. NM183." The postcard will be date stamped and returned to the commenter.

##### Background

On April 3, 2000, DaimlerChrysler Aviation, Inc., 7002 Highland Rd., Waterford, MI, applied for a Supplemental Type Certificate (STC) to modify Gulfstream Aerospace Corporation G-1159 airplanes. The G-1159 is a small transport category airplane. The G-1159 airplanes are powered by two Rolls Royce Spey RB (163) 511-8 turbofans with a maximum takeoff weight of 57,500 pounds. This

aircraft operates with a 2-pilot crew and can hold up to 19 passengers. The modification incorporates the installation of a Honeywell Primus Epic Control Display System for Retrofit applications (CDS-R). The CDS-R is a replacement for the existing Analog Flight Instrumentation, while also providing additional functional capability and redundancy in the system. 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, DaimlerChrysler Aviation Inc. must show that the Gulfstream Aerospace Corporation G-1159 airplanes, as changed, continue to meet the applicable provisions of the regulations incorporated by reference Type Certificate No. A12EA, 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 regulations included in the certification basis for the Gulfstream Aerospace Corporation G-1159 airplanes include CAR 4b dated December 31, 1953, including Amendments 4b-1 thru 4b-14, Special Regulations SR422B and SR450A, and Special Conditions in Attachment A of FAA letter to Grumman dated September 27, 1965, plus 14 CFR 25.1325 (effective February 1, 1965); 25.175 (effective March 1, 1965) in lieu of 4b.155(b), plus additional requirements listed in the type certificate data sheet that are not relevant to these special conditions.

If the Administrator finds that the applicable airworthiness regulations (*i.e.*, CAR 4b and part 25, as amended) do not contain adequate or appropriate safety standards for the Gulfstream Aerospace Corporation G-1159 airplanes modified by DaimlerChrysler Aviation Inc. because of a novel or unusual design feature, special conditions are prescribed under the provisions of § 21.16.

In addition to the applicable airworthiness regulations and special conditions, these Gulfstream Aerospace Corporation G-1159 airplanes must comply with the fuel vent and exhaust

emission requirements of part 34 and the noise certification requirements of part 36.

Special conditions, as defined in § 11.19, are issued in accordance with § 11.38 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 DaimlerChrysler Aviation Inc. 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 also apply to the other model under the provisions of § 21.101(a)(1).

#### Novel or Unusual Design Features

As noted earlier, the Gulfstream Aerospace Corporation G-1159 airplanes modified by DaimlerChrysler Aviation Inc. will incorporate dual Electronic Primary Flight Display systems that will perform critical functions. This system 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, this system is 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 that is equivalent to that intended by the regulations incorporated by reference, special conditions are needed for the Gulfstream Aerospace Corporation G-1159 airplanes modified by DaimlerChrysler Aviation 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, plus 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 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. 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
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
4GHz–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 Gulfstream Aerospace Corporation G-1159 airplanes modified by DaimlerChrysler Aviation Inc. Should DaimlerChrysler Aviation Inc. 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).

#### Conclusion

This action affects only certain novel or unusual design features on the Gulfstream Aerospace Corporation G-1159 airplanes modified by

DaimlerChrysler Aviation 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 period in several prior instances and has been derived without substantive change from those previously issued. It is unlikely that prior public comments would result in a significant change from the substance contained herein. For this reason, and 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 Gulfstream Aerospace Corporation G-1159 airplanes modified by DaimlerChrysler Aviation 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 applied: *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 February 16, 2001.

**Donald L. Riggin,**

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

[FR Doc. 01-4675 Filed 2-28-01; 8:45 am]

**BILLING CODE 4910-13-M**

## DEPARTMENT OF COMMERCE

### Bureau of Export Administration

#### 15 CFR Parts 738, 740, 744, and 746

[Docket No. 010208031-1031-01]

**RIN 0694-AC36**

#### Exports to the Federal Republic of Yugoslavia; Revision of Foreign Policy Controls

**AGENCY:** Bureau of Export Administration, Commerce.

**ACTION:** Final rule.

**SUMMARY:** This final rule amends the Export Administration Regulations (EAR) by removing the additional license requirements imposed on Serbia in May 1999. However, a license is required for all exports and reexports by U.S. persons of any item subject to the EAR to persons listed pursuant to Executive Order 13088, as amended by Executive Order 13192 of January 17, 2001. The persons subject to sanctions under amended Executive Order 13088 include Slobodan Milosevic, his family, his close associates, and those indicted for war crimes. These sanctioned persons are identified on the list of specially designated nationals and blocked persons maintained by the Department of the Treasury's Office of Foreign Assets Control and identified by the bracketed suffix initials [FRYM]. Controls are maintained under the EAR on arms and related materiel to the Federal Republic of Yugoslavia (Serbia and Montenegro) consistent with United Nations Security Council Resolution 1160 of March 3, 1998.

**DATES:** This rule is effective March 1, 2001.

**FOR FURTHER INFORMATION CONTACT:** Brian Nilsson, Office of Strategic Trade and Foreign Policy Controls, Telephone: (202) 482-4196.

#### SUPPLEMENTARY INFORMATION:

##### Background

Executive Order 13088 of June 9, 1998, as amended by Executive Order 13121 on April 30, 1999, imposed, among other measures, comprehensive U.S. export and reexport prohibitions on the Federal Republic of Yugoslavia

(Serbia and Montenegro). On May 4, 1999, the Bureau of Export Administration (BXA) issued a final rule imposing a license requirement for exports and reexports to Serbia of all items subject to the EAR and a case-by-case review of applications with a presumption of denial for other than humanitarian items. These measures were intended to deter Serbia's human rights offenses against ethnic Albanians in Kosovo and to prevent the expansion of the ethnic conflict. BXA's May 4, 1999 rule did not impose similar comprehensive controls on exports or reexports to Montenegro.

Effective January 19, 2001, Executive Order 13192 amended Executive Order 13088 to revoke previously imposed prohibitions, including those on exports and reexports. BXA is taking action under its export control authorities consistent with amended Executive Order 13088. Specifically, this rule removes the additional license requirements imposed under the EAR by the May 4, 1999, rule on exports and reexports to Serbia, and thus restores Serbia to the export control status it had prior to May 4, 1999. However, persons listed in the Annex to Executive Order 13192, as well as persons designated by the Secretary of the Treasury, in consultation with the Secretary of State pursuant to that order, are subject to sanctions administered by the Department of the Treasury's Office of Foreign Assets Control. Exports and reexports of any item subject to the EAR by a U.S. person to a person designated pursuant to amended Executive Order 13088 are subject to a license requirement and a licensing policy of denial. These sanctioned persons are included on a list of specially designated nationals and blocked persons (SDNs) maintained by the Department of the Treasury, Office of Foreign Assets Control (OFAC) and identified by the bracketed suffix initials [FRYM]. To obtain additional information regarding the list of SDNs, contact OFAC at telephone number 202/622-2520. BXA provisions regarding these sanctioned persons are included in new section 744.16 of the EAR.

This rule eliminates the distinctions previously applicable to Serbia, Kosovo and Montenegro, which had been established by the final rule of November 5, 1999, for export control purposes. With the publication of this rule, Serbia (including the province of Kosovo) and Montenegro will be listed together as the Federal Republic of Yugoslavia (Serbia and Montenegro) for License Exception eligibility purposes, as members of "Country Group B" (see Supplement No. 1 to part 740),