



*** The engine and ATTCS failed time interval must be no shorter than the time interval from the point of simultaneous engine and ATTCS failure to a height of 400 feet used to comply with I25.2(b) for ATTCS use during takeoff.**

BILLING CODE 4910-13-C

Issued in Renton, Washington, on February 3, 1995.

Darrell M. Pederson,
Assistant Manager, Transport Airplane
Directorate, Aircraft Certification Service,
NAM-101.

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14 CFR Part 25

[Docket No. NM-108; Special Conditions
No. 25-ANM-96]

**Special Conditions: Modified
Gulfstream American Corporation
Model G-IV Airplane; High Intensity
Radiated Fields (HIRF)**

AGENCY: Federal Aviation
Administration, DOT.

ACTION: Final special conditions; request
for comments.

SUMMARY: These special conditions are
issued for the Gulfstream American
Corporation (GAC) Model G-IV airplane
modified by Duncan Aviation, Inc., of

Lincoln, Nebraska. This airplane will be
equipped with a Flight Visions
Corporation, FV-2000 Head-Up Display
System (HUD) that will perform critical
functions. The applicable regulations do
not contain adequate or appropriate
safety standards for the protection of the
HUD from the effects of high-intensity
radiated fields (HIRF). These special
conditions provide the additional safety
standards that the Administrator
considers necessary to ensure that the
critical functions performed by this
system are maintained when the
airplane is exposed to HIRF.

DATES: The effective date of these
special conditions is February 13, 1995.
Comments must be received on or
before April 13, 1995.

ADDRESSES: Comments on these final
special conditions, request for
comments, may be mailed in duplicate
to: Federal Aviation Administration,
Office of the Assistant Chief Counsel,
Attn: Rules Docket (ANM-7), Docket
No. NM-108, 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-108." 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:
Mark Quam, FAA, Standardization
Branch, Transport Airplane Directorate,
Aircraft Certification Service, 1601 Lind
Avenue SW., Renton, Washington,
98055-4056; telephone (206) 227-2145.

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 and special conditions
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 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 request must submit with those comments a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket No. NM-108." The postcard will be date stamped and returned to the commenter.

Background

On August 16, 1994, Duncan Aviation, Inc., of Lincoln, Nebraska, applied for a supplemental type certificate to modify the Gulfstream American Corporation (GAC) Model G-IV airplane. The GAC Model G-IV airplane is a business jet with two aft-mounted turbofan engines. The airplane can carry two pilots and 19 passengers, depending on the exit and interior configuration, and is capable of operating to an altitude of 45,000 feet. The proposed modification incorporates the installation of a digital avionics system that will present critical functions on the Head-up Display System (HUD), which is potentially vulnerable to high-intensity radiated fields (HIRF) external to the airplane.

Supplemental Type Certification Basis

Under the provisions of § 21.101 of the Federal Aviation Regulations (FAR), Duncan Aviation, Inc., must show that the altered GAC Model G-IV airplane continues to meet the applicable provisions of the regulations incorporated by reference in Type Certificate No. A12EU, 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 incorporated by reference in Type Certificate No. A12EU include the following for the GAC Model G-IV airplanes: § 21.29 of 14 CFR part 21 and 14 CFR part 25, dated February 1, 1965, as amended by Amendments 25-1 through 25-26. In addition, under § 21.101(b)(1), the following sections of the FAR apply to the HUD installation: § 25.1322, as amended by Amendment 25-38; and §§ 25.1309, 25.1321(a)(b) (d), and (e), 25.1331, 25.1333, and 25.1335, as amended by Amendment 25-41. These special conditions will form an

additional part of the supplemental 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 GAC Model G-IV airplane 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 § 21.101(b)(2).

Special conditions are initially applicable to the model for which they are issued. Should the applicant apply 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, the special conditions would also apply to the other model under the provisions of § 21.101(a)(1).

Discussion

There is no specific regulation that addresses protection requirements for electrical and electronic systems from high-intensity radiated fields (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 modified GAC Model G-IV airplanes that would require that the HUD be designed and installed to preclude component damage and interruption of function due to the 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 digital avionics systems, such as the HUD, to HIRF must be established.

It is not possible to precisely define the HIRF to which the airplanes 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, these special conditions are applicable to the GAC Model G-IV airplane, modified by Duncan Aviation. Should Duncan Aviation apply at a later date for a supplemental type certificate to modify any other model included on Type Certificate No. A12EU to incorporate 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 only certain unusual or novel design features on GAC Model G-IV airplanes modified by Duncan Aviation. It is not a rule of general applicability and affects only the applicant who applied to the FAA for approval of this feature on this 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. It is unlikely that prior public comment

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 immediately. Therefore, these special conditions are being made effective 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. 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 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 GAC Model G-IV airplane, as modified by Duncan Aviation:

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 external to the airplane.

2. The following definition applies with respect to this special condition: *Critical Function*. 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 13, 1995.

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

[FR Doc. 95-4773 Filed 2-24-95; 8:45 am]

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14 CFR Part 71

[Airspace Docket No. 94-AGL-31]

Modification of Class D Airspace; Cleveland, OH

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: This action modifies Class D airspace at Cleveland, Burke Lakefront, OH by adjusting the lower vertical limits of the Class D area up to but not including the base altitude of the overlying Class B airspace area. Associated with airspace reclassification, guidelines have been established for depicting Class D airspace areas that underlie Class B airspace areas. The intent of this action is to eliminate confusion to pilots by appropriately identifying controlled airspace areas at Cleveland, Burke Lakefront, OH.

EFFECTIVE DATE: 0901 UTC, May 25, 1995.

FOR FURTHER INFORMATION CONTACT: Nancy Cibic, Air Traffic Division, System Management Branch, AGL-530, Federal Aviation Administration, 2300 East Devon Avenue, Des Plaines, Illinois 60018, telephone (708) 294-7573.

SUPPLEMENTARY INFORMATION:

History

On December 23, 1994, the FAA proposed to amend part 71 of the Federal Aviation Regulations (14 CFR part 71) to modify the Class D airspace area at Cleveland, Burke Lakefront, OH (59 FR 246).

Airspace Reclassification, effective September 16, 1993, discontinued the use of the term "control zone" and replaced it with the designation "Class D" airspace. Subsequent to and associated with airspace reclassification, new guidelines have been established for depicting Class D airspace areas that underlie Class B airspace areas. The base altitude of the higher class airspace, in this case Class B airspace, supersedes the vertical limits of the Class D airspace area. Therefore, this action adjusts the lower vertical limits of the Class D area up to but not including the base of the overlying Class B airspace area. The intent of this action is to eliminate confusion to pilots by appropriately identifying the controlled airspace areas at Cleveland, Burke Lakefront Airport, OH. Interested parties were invited to participate in this rulemaking proceeding by submitting written comments on the proposal to the FAA. No comments objecting to the proposal were received.

The coordinates for this airspace docket are based on North American Datum 83. Class D airspace designations are published in Paragraph 5000 of FAA Order 7400.9B dated July 18, 1994, and effective September 16, 1994, which is incorporated by reference in 14 CFR 71.1. The Class D airspace designation listed in this document will be published subsequently in the Order.

The Rule

This amendment to part 71 of the Federal Aviation Regulations modifies Class D airspace at Cleveland, Burke Lakefront Airport, OH to coincide with the guidelines for depicting Class D airspace areas.

The FAA has determined that this regulation only involves an established body of technical regulations for which frequent and routine amendments are necessary to keep them operationally current. It, therefore—(1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979); and (3) does not warrant preparation of a regulatory evaluation as the anticipated impact is so minimal. Since this is a routine matter that will only affect air traffic procedures and air navigation, it is certified that this rule will not have a significant economic impact on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 71

Airspace, Incorporation by reference, Navigation (air).

Adoption of the Amendment

In consideration of the foregoing, the Federal Aviation Administration amends 14 CFR part 71 as follows:

PART 71—[AMENDED]

1. The authority citation for 14 CFR part 71 continues to read as follows:

Authority: 49 U.S.C. app. 1348(a), 1354(a), 1510; E.O. 10854, 24 FR 9565, 3 CFR, 1959-1963 Comp., p. 389; 49 U.S.C. 106(g); 14 CFR 11.69.

§ 71.1 [Amended]

2. The incorporation by reference in 14 CFR 71.1 of the Federal Aviation Administration Order 7400.9B, Airspace Designations and Reporting Points, dated July 18, 1994, and effective September 16, 1994, is amended as follows:

Paragraph 5000 General

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