

appropriate to protect the safety and soundness of the banking entity or the financial stability of the United States, address material conflicts of interest or other unsound banking practices, or otherwise further the purposes of section 13 of the Bank Holding Company Act (12 U.S.C. 1851) and this subpart.

(2) *Consultation.* In the case of a banking entity that is primarily supervised by another Federal banking agency, the Securities and Exchange Commission, or the Commodity Futures Trading Commission, the Board will consult with such agency prior to imposing conditions on the approval of a request by the banking entity for an extension under paragraph (a)(3) or (b)(1) of this section.

§ 225.182 Conformance Period for Nonbank Financial Companies Supervised by the Board Engaged in Proprietary Trading or Private Fund Activities.

(a) *Divestiture Requirement.* A nonbank financial company supervised by the Board shall come into compliance with all applicable requirements of section 13 of the Bank Holding Company Act (12 U.S.C. 1851) and this subpart, including any capital requirements or quantitative limitations adopted thereunder and applicable to the company, not later than 2 years after the date the company becomes a nonbank financial company supervised by the Board.

(b) *Extensions.* The Board may, by rule or order, extend the two-year period under paragraph (a) by not more than three separate one-year periods, if, in the judgment of the Board, each such one-year extension is consistent with the purposes of section 13 of the Bank Holding Company Act (12 U.S.C. 1851) and this subpart and would not be detrimental to the public interest.

(c) *Approval Required to Hold Interests in Excess of Time Limit.* A nonbank financial company supervised by the Board that seeks the Board's approval for an extension of the conformance period under paragraph (b) of this section must—

(1) Submit a request in writing to the Board at least 180 days prior to the expiration of the applicable time period;

(2) Provide the reasons why the nonbank financial company supervised by the Board believes the extension should be granted; and

(3) Provide a detailed explanation of the company's plan for conforming the activity or investment(s) to any applicable requirements established under section 13(a)(2) or (f)(4) of the Bank Holding Company Act (12 U.S.C. 1851(a)(2) and (f)(4)).

(d) *Factors governing Board determinations—(1) In general.* In reviewing any application for an extension under paragraph (b) of this section, the Board may consider all the facts and circumstances related to the nonbank financial company and the request including, to the extent determined relevant by the Board, the factors described in § 225.181(d)(1).

(2) *Timing.* The Board will seek to act on any request for an extension under paragraph (b) of this section no later than 90 calendar days after the receipt of a complete record with respect to such request.

(f) *Authority to impose restrictions on activities or investments during any extension period.* The Board may impose conditions on any extension approved under paragraph (b) of this section as the Board determines are necessary or appropriate to protect the safety and soundness of the nonbank financial company or the financial stability of the United States, address material conflicts of interest or other unsound practices, or otherwise further the purposes of section 13 of the Bank Holding Company Act (12 U.S.C. 1851) and this subpart.

Subpart L—Conditions to Orders

■ 4. Add subpart L with a heading as set forth above, and consisting of existing § 225.200.

By order of the Board of Governors of the Federal Reserve System, February 8, 2011.

Jennifer J. Johnson,
Secretary of the Board.

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No. NM443; Special Conditions No. 25-416-SC]

Special Conditions: Gulfstream Model GVI Airplane; Enhanced Flight Vision System

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final special conditions; request for comments.

SUMMARY: These special conditions are issued for the Gulfstream GVI airplane. This airplane will have a novel or unusual design feature associated with a head-up display (HUD) system modified to display forward-looking infrared (FLIR) imagery. The applicable

airworthiness regulations do not contain adequate or appropriate safety standards for this design feature. 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 3, 2011. We must receive your comments by March 31, 2011.

ADDRESSES: You must mail two copies of your comments to: Federal Aviation Administration, Transport Airplane Directorate, Attn: Rules Docket (ANM-113), Docket No. NM443, 1601 Lind Avenue, SW., Renton, Washington, 98057-3356. You may deliver two copies to the Transport Airplane Directorate at the above address. You must mark your comments: Docket No. NM443. 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: Dale Dunford, FAA, Airplane and Flight Crew Interface Branch, ANM-111, Transport Standards Staff, Transport Airplane Directorate, Aircraft Certification Service, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 227-2239; facsimile (425) 227-1320.

SUPPLEMENTARY INFORMATION: The FAA has determined that 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.

Comments Invited

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 about these special conditions. You can 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 by the closing date for comments. We may change these special conditions based on the comments we receive.

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

Background

On March 29, 2005, Gulfstream Aerospace Corporation (hereafter referred to as "Gulfstream") applied for an FAA type certificate for its new Gulfstream Model GVI passenger airplane. Gulfstream later applied for, and was granted, an extension of time for the type certificate, which changed the effective application date to September 28, 2006. The Gulfstream Model GVI airplane will be an all-new, two-engine jet transport airplane with an executive cabin interior. The maximum takeoff weight will be 99,600 pounds, with a maximum passenger count of 19 passengers.

Type Certification Basis

Under provisions of Title 14 Code of Federal Regulations (14 CFR) 21.17, Gulfstream must show that the Gulfstream Model GVI airplane (hereafter referred to as "the GVI") meets the applicable provisions of 14 CFR part 25, as amended by Amendments 25-1 through 25-119, 25-122 and 25-124. If the Administrator finds that the applicable airworthiness regulations (*i.e.*, 14 CFR part 25) do not contain adequate or appropriate safety standards for the GVI because of a novel or unusual design feature, special conditions are prescribed under the provisions of § 21.16.

In addition to complying with the applicable airworthiness regulations and special conditions, the GVI 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. The FAA must also issue a finding of regulatory adequacy pursuant to section 611 of Public Law 92-574, the "Noise Control Act of 1972."

The FAA issues special conditions, as defined in 14 CFR 11.19, in accordance with § 11.38, and they become part of the type certification basis under § 21.17(a)(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 features, the special conditions would also apply to the other model under provisions of § 21.101.

Novel or Unusual Design Features

The enhanced flight vision system (EFVS) is a novel or unusual design feature because it projects a video image derived from a forward-looking infrared (FLIR) camera through the head-up display (HUD). The EFVS image is projected in the center of the "pilot compartment view," which is governed by § 25.773. The image is displayed with HUD symbology and overlays the forward outside view. Therefore, § 25.773 does not contain appropriate safety standards for the EFVS display.

Operationally, during an instrument approach, the EFVS image is intended to enhance the pilot's ability to detect and identify "visual references for the intended runway" (*see* § 91.175(l)(3)) to continue the approach below decision height or minimum descent altitude. Depending on atmospheric conditions and the strength of infrared energy emitted and/or reflected from the scene, the pilot can see these visual references in the image better than he or she can see them through the window without EFVS.

Scene contrast detected by infrared sensors can be much different from that detected by natural pilot vision. On a dark night, thermal differences of objects which are not detectable by the naked eye will be easily detected by many imaging infrared systems. On the other hand, contrasting colors in visual wavelengths may be distinguished by the naked eye but not by an imaging infrared system. Where thermal contrast in the scene is sufficiently detectable, the pilot can recognize shapes and patterns of certain visual references in the infrared image. However, depending on conditions, those shapes and patterns in the infrared image can appear significantly different than they would with normal vision. Considering these factors, the EFVS image needs to be evaluated to determine that it can be accurately interpreted by the pilot.

The image may improve the pilot's ability to detect and identify items of interest. However, the EFVS needs to be evaluated to determine that the imagery allows the pilot to perform the normal duties of the flight crew and adequately see outside the window through the image, consistent with the safety intent of § 25.773(a)(2).

Compared to a HUD displaying the EFVS image and symbology, a HUD that displays only stroke-written symbols is easier to see through. Stroke symbology illuminates a small fraction of the total

display area of the HUD, leaving much of that area free of reflected light that could interfere with the pilot's view out the window through the display. However, unlike stroke symbology, the video image illuminates most of the total display area of the HUD (approximately 30 degrees horizontally and 25 degrees vertically) which is a significant fraction of the pilot compartment view. The pilot cannot see around the larger illuminated portions of the video image but must see the outside scene through it.

Unlike the pilot's external view, the EFVS image is a monochrome, two-dimensional display. Many, but not all, of the depth cues found in the natural view are also found in the image. The quality of the EFVS image and the level of EFVS infrared sensor performance could depend significantly on conditions of the atmospheric and external light sources. The pilot needs adequate control of sensor gain and image brightness, which can significantly affect image quality and transparency (*i.e.*, the ability to see the outside view through the image). Certain system characteristics could create distracting and confusing display artifacts. Finally, because this is a sensor-based system that is intended to provide a conformal perspective corresponding with the outside scene, the system must be able to ensure accurate alignment.

Hence, safety standards are needed for each of the following factors:

- An acceptable degree of image transparency;
- Image alignment;
- Lack of significant distortion; and
- The potential for pilot confusion or misleading information.

Section 25.773, "Pilot Compartment View," specifies that "Each pilot compartment must be free of glare and reflection that could interfere with the normal duties of the minimum flight crew. * * *" In issuing § 25.773, the FAA did not anticipate the development of EFVSs and does not consider § 25.773 to be adequate to address the specific issues related to such a system. Therefore, the FAA has determined that special conditions are needed to address the specific issues particular to the installation and use of an EFVS.

Discussion

The EFVS is intended to function by presenting an enhanced view during the approach. This enhanced view would help the pilot to see and recognize external visual references, as required by § 91.175(l), and to visually monitor the integrity of the approach, as

described in FAA Order 6750.24D ("Instrument Landing System and Ancillary Electronic Component Configuration and Performance Requirements," dated March 1, 2000).

Based on this functionality, users would seek to obtain operational approval to conduct approaches, including approaches to Type I runways, when the runway visual range is as low as 1,200 feet.

The purpose of these special conditions is to ensure that the EFVS to be installed can perform the following functions:

- Present an enhanced view that would aid the pilot during the approach.
- Provide enhanced flight visibility to the pilot that is no less than the visibility prescribed in the standard instrument approach procedure.
- Display an image that the pilot can use to detect and identify the "visual references for the intended runway" required by § 91.175(l)(3) to continue the approach with vertical guidance to 100 feet height above the touchdown zone elevation.

Depending on the atmospheric conditions and the particular visual references that happen to be distinctly visible and detectable in the EFVS image, these functions would support its use by the pilot to visually monitor the integrity of the approach path.

Compliance with these special conditions does not affect the applicability of any of the requirements of the operating regulations (*i.e.*, 14 CFR parts 91, 121, and 135). Furthermore, use of the EFVS does not change the approach minima prescribed in the standard instrument approach procedure being used; published minima still apply.

The FAA certification of this EFVS is limited as follows:

- The infrared-based EFVS image will not be certified as a means to satisfy the requirements for descent below 100 feet height above touchdown (HAT).
- The EFVS may be used as a supplemental device to enhance the pilot's situational awareness during any phase of flight or operation in which its safe use has been established.

An EFVS image may provide an enhanced image of the scene that may compensate for any reduction in the clear outside view of the visual field framed by the HUD combiner. The pilot must be able to use this combination of information seen in the image and the natural view of the outside scene seen through the image as safely and effectively as the pilot would use a

§ 25.773 compliant pilot compartment view without an EVS image. This is the fundamental objective of the special conditions.

The FAA will also apply additional certification criteria, not as special conditions, for compliance with related regulatory requirements, such as §§ 25.1301 and 25.1309. These additional criteria address certain image characteristics, installation, demonstration, and system safety.

Image characteristics criteria include the following:

- Resolution,
- Luminance,
- Luminance uniformity,
- Low level luminance,
- Contrast variation,
- Display quality,
- Display dynamics (*e.g.*, jitter, flicker, update rate, and lag), and
- Brightness controls.

Installation criteria address visibility and access to EFVS controls and integration of EFVS in the cockpit.

The EFVS demonstration criteria address the flight and environmental conditions that need to be covered.

The FAA also intends to apply certification criteria relevant to high intensity radiated fields (HIRF) and lightning protection.

Applicability

As discussed above, these special conditions are applicable to the GVI. Should Gulfstream apply at a later date for a change to the type certificate to include another model incorporating the same novel or unusual design feature, these special conditions would apply to that model as well.

Conclusion

This action affects only certain novel or unusual design features on one model of airplane. It is not a rule of general applicability.

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 comment would result in a significant change from the substance contained herein. Therefore, the FAA has determined that prior public notice and comment are unnecessary, 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 type certification basis for Gulfstream GVI airplanes.

1. Enhanced flight vision system (EFVS) imagery on the head-up display (HUD) must not degrade the safety of flight or interfere with the effective use of outside visual references for required pilot tasks during any phase of flight in which it is to be used.

2. To avoid unacceptable interference with the safe and effective use of the pilot compartment view, the EFVS device must meet the following requirements:

(a) The EFVS design must minimize unacceptable display characteristics or artifacts (*e.g.* noise, "burlap" overlay, running water droplets, etc.) that obscure the desired image of the scene, impair the pilot's ability to detect and identify visual references, mask flight hazards, distract the pilot, or otherwise degrade task performance or safety.

(b) Control of EFVS display brightness must be sufficiently effective, in dynamically changing background (ambient) lighting conditions, to prevent full or partial blooming of the display that would distract the pilot, impair the pilot's ability to detect and identify visual references, mask flight hazards, or otherwise degrade task performance or safety. If automatic control for image brightness is not provided, it must be shown that a single manual setting is satisfactory for the range of lighting conditions encountered during a time-critical, high workload phase of flight (*e.g.*, low visibility instrument approach).

(c) A readily accessible control must be provided that permits the pilot to immediately deactivate and reactivate display of the EFVS image on demand without removing the pilot's hands from the primary flight controls (yoke or equivalent) or thrust control.

(d) The EFVS image on the HUD must not impair the pilot's use of guidance information or degrade the presentation and pilot awareness of essential flight information displayed on the HUD, such as alerts, airspeed, attitude, altitude and direction, approach guidance, wind shear guidance, TCAS resolution

advisories, unusual attitude recovery cues, etc.

(e) The EFVS image and the HUD symbols (which are spatially referenced to the pitch scale, outside view, and image), must be scaled and aligned (*i.e.*, conformal) to the external scene. Also, when considered singly or in combination, the EFVS image and HUD symbols must not be misleading, cause pilot confusion, or increase workload. It should be noted that there may be airplane attitudes or cross-wind conditions which cause certain symbols, such as the zero-pitch line or flight path vector, to reach field of view limits such that they cannot be positioned conformally with the image and external scene. In such cases these symbols may be displayed, but with an altered appearance which makes the pilot aware that they are no longer displayed conformally (*e.g.*, “ghosting”).

(f) A HUD system used to display EFVS images must, if previously certified, continue to meet all of the requirements of the original approval.

3. The safety and performance of the pilot tasks associated with the pilot compartment view must be not be degraded by the display of the EFVS image. Pilot tasks which must not be degraded by the EFVS image include:

(a) Detection, accurate identification and maneuvering, as necessary, to avoid traffic, terrain, obstacles, and other hazards of flight.

(b) Accurate identification and utilization of visual references required for every task relevant to the phase of flight.

4. Appropriate limitations must be stated in the operating limitations section of the airplane flight manual to prohibit the use of the EFVS for functions that have not been found to be acceptable.

Issued in Renton, Washington, on February 3, 2011.

Jeffrey E. Duven,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 71

[Docket No. FAA-2009-0514; Airspace Docket No. 07-AWA-1]

RIN 2120-AA66

Amendment to Class B Airspace; Cleveland, OH

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: This action modifies the Cleveland, OH, Class B airspace area by expanding the existing airspace area to ensure containment of all published instrument procedures and the aircraft flying those instrument procedures within Class B airspace, and segregation of Instrument Flight Rules (IFR) aircraft arriving/departing Cleveland-Hopkins International Airport (CLE) and non-participating Visual Flight Rules (VFR) aircraft operating in the vicinity of the Cleveland Class B airspace area. The additional Class B airspace will support simultaneous arrival and departure operations under VFR conditions and simultaneous IFR approaches during marginal VFR conditions using Precision Runway Monitor/Simultaneous Offset Instrument Approaches (PRM/SOIA). Geographic coordinates listed in the description are also updated to reflect current aeronautical database information. This action enhances safety, improves the flow of air traffic, and reduces the potential for midair collision in the Cleveland terminal area.

DATES: *Effective Date:* 0901 UTC, April 7, 2011. The Director of the Federal Register approves this incorporation by reference action under 1 CFR part 51, subject to the annual revision of FAA Order 7400.9 and publication of conforming amendments.

FOR FURTHER INFORMATION CONTACT: Colby Abbott, Airspace, Regulations, and ATC Procedures Group, Office of Airspace Services, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, DC 20591; *telephone:* (202) 267-8783.

SUPPLEMENTARY INFORMATION:

History

On April 20, 2010, the FAA published in the **Federal Register** a notice of proposed rulemaking (NPRM) to modify the Cleveland, OH, Class B airspace area (75 FR 20528). The FAA proposed this action to ensure containment of turbo-jet IFR aircraft conducting instrument

approaches to CLE within the confines of Class B airspace and better segregate IFR aircraft arriving/departing CLE and non-participating VFR aircraft operating in the vicinity of the Cleveland Class B airspace area.

Interested parties were invited to participate in this rulemaking effort by submitting written comments on the proposal. In response to the NPRM, the FAA received 14 written comment submissions, including comments from Aircraft Owners and Pilots Association (AOPA) and the Soaring Society of America (SSA). Two comments received were duplicate documents submitted by two different commenters. Many of the commenters identified themselves as pilots who operate within, or through, the local area. All comments received were considered before making a determination on the final rule. An analysis of the comments received and the FAA's responses are contained in the “Discussion of Comments” section below.

Subsequent to the NPRM publication, typographical errors were identified for two geographic coordinates proposed in the Area E description published in the regulatory text. The geographic coordinates that were published as “lat. 42°47'20" N., long. 81°27'36" W.” in the NPRM should have been “lat. 41°47'20" N., long. 81°27'36" W.”, and the geographic coordinates that were published as “lat. 42°40'43" N., long. 81°38'13" W.” should have been “lat. 41°40'43" N., long. 81°38'13" W.”. The geographic coordinate errors are corrected in this action.

Discussion of Comments

The AOPA cited the work of the FAA in developing this rule. They support the proposed modifications and appreciate the common sense approach the FAA adopted to include only that airspace required for the containment of arrivals and departures at CLE. Further, AOPA applauded the FAA's efforts to address and mitigate concerns raised by general aviation pilots regarding access to the airports affected by the redesign.

Seven commenters objected to proposed Areas F and G. They argued the FAA proposed these areas significantly larger than required or presented previously. Six of the commenters wanted the lateral dimensions of the areas reduced to only five nautical mile (NM) extensions in length by five NM in width. One commenter argued that federal airways are established with four NM lateral widths from a radial of a navigation aid and that the FAA should reduce the widths of the areas to four NM also. Three commenters wanted Areas F and