

special conditions are adopted as proposed.

Applicability

As discussed above, these special conditions are applicable to the Model BD-500-1A10 and BD-500-1A11 series airplanes. Should Bombardier Aerospace apply at a later date for a change to the type certificate to include another model incorporating the same novel or unusual design feature, the special conditions would apply to that model as well.

Conclusion

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

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 Bombardier Aerospace Models BD-500-1A10 and BD-500-1A11 (CSeries) airplanes.

Automatic Speed Protection for Design Dive Speed

1. In lieu of compliance with § 25.335(b)(1), if the flight control system includes functions that act automatically to initiate recovery before the end of the 20-second period specified in § 25.335(b)(1), V_D/M_D must be determined from the greater of the speeds resulting from conditions (a) and (b) below. The speed increase occurring in these maneuvers may be calculated, if reliable or conservative aerodynamic data are used.

(a) From an initial condition of stabilized flight at V_C/M_C , the airplane is upset so as to take up a new flight path 7.5 degrees below the initial path. Control application, up to full authority, is made to try and maintain this new flight path. Twenty seconds after initiating the upset, manual recovery is made at a load factor of 1.5g (0.5g acceleration increment), or such greater load factor that is automatically applied by the system with the pilot's pitch control neutral. Power, as specified in § 25.175(b)(1)(iv), is assumed until recovery is initiated, at which time power reduction and the use of pilot-controlled drag devices may be used.

(b) From a speed below V_C/M_C , with power to maintain stabilized level flight at this speed, the airplane is upset so as to accelerate through V_C/M_C at a flight path 15 degrees below the initial path (or at the steepest nose down attitude that the system will permit with full control authority if less than 15 degrees). The pilot's controls may be in the neutral position after reaching V_C/M_C and before recovery is initiated. Recovery may be initiated three seconds after operation of the high-speed warning system by application of a load of 1.5g (0.5g acceleration increment), or such greater load factor that is automatically applied by the system with the pilot's pitch control neutral. Power may be reduced simultaneously. All other means of decelerating the airplane, the use of which is authorized up to the highest speed reached in the maneuver, may be used. The interval between successive pilot actions must not be less than one second.

2. The applicant must also demonstrate that the speed margin, established as above, will not be exceeded in inadvertent or gust-induced upsets resulting in initiation of the dive from non-symmetric attitudes, unless the airplane is protected by the flight control laws from getting into non-symmetric upset conditions. The upset maneuvers described in Advisory Circular 25-7C, *Flight Test Guide for Certification of Transport Category Airplanes*, section 8, paragraph 32, subparagraphs c(3)(a) and (b) may be used to comply with this requirement.

3. The probability of any failure of the high-speed protection system that would result in an airspeed exceeding those determined by paragraphs 1 and 2 must be less than 10^{-5} per flight hour.

4. Failures of the system must be announced to the pilots. Flight manual instructions must be provided that reduce the maximum operating speeds, V_{MO}/M_{MO} . With the system failed, the operating speed must be reduced to a value that maintains a speed margin between V_{MO}/M_{MO} and V_D/M_D that is consistent with showing compliance with § 25.335(b) without the benefit of the high-speed protection system.

5. Dispatch of the airplane with the high-speed protection system inoperative could be allowed under an approved minimum equipment list that would require flight manual instructions to indicate reduced maximum operating speeds, as described in paragraph (4). In addition, the flight deck display of the reduced operating speeds, as well as the overspeed warning for exceeding those speeds, must be equivalent to that of the normal airplane with the high-speed

protection system operative. Also, it must be shown that no additional hazards are introduced with the high-speed protection system inoperative.

Issued in Renton, Washington, on September 3, 2014.

Michael Kaszycki,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No. FAA-2014-0666; Notice No. 25-566-SC]

Special Conditions: Bombardier Aerospace, Models BD-500-1A10 and BD-500-1A11 Series Airplanes; Isolation or Airplane Electronic System Security Protection From Unauthorized Internal Access

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final special conditions; request for comments.

SUMMARY: These special conditions are issued for the Bombardier Aerospace Models BD-500-1A10 and BD-500-1A11 series airplanes. These airplanes will have novel or unusual design features, specifically, digital systems architecture composed of several connected data networks that will have the capability to allow connectivity of the passenger service computer systems to the airplane critical systems and data networks. 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 September 12, 2014. We must receive your comments by October 27, 2014.

ADDRESSES: Send comments identified by docket number FAA-2014-0666 using any of the following methods:

- *Federal eRegulations Portal:* Go to <http://www.regulations.gov/> and follow the online instructions for sending your comments electronically.

- *Mail:* Send comments to Docket Operations, M-30, U.S. Department of Transportation (DOT), 1200 New Jersey Avenue SE., Room W12-140, West

Building Ground Floor, Washington, DC, 20590-0001.

• *Hand Delivery or Courier:* Take comments to Docket Operations in Room W12-140 of the West Building Ground Floor at 1200 New Jersey Avenue SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except federal holidays.

• *Fax:* Fax comments to Docket Operations at 202-493-2251.

Privacy: The FAA will post all comments it receives, without change, to <http://www.regulations.gov/>, including any personal information the commenter provides. Using the search function of the docket Web site, anyone can find and read the electronic form of all comments received into any FAA docket, including the name of the individual sending the comment (or signing the comment for an association, business, labor union, etc.). DOT's complete Privacy Act Statement can be found in the **Federal Register** published on April 11, 2000 (65 FR 19477-19478), as well as at <http://DocketsInfo.dot.gov/>.

Docket: Background documents or comments received may be read at <http://www.regulations.gov/> at any time. Follow the online instructions for accessing the docket or go to the Docket Operations in Room W12-140 of the West Building Ground Floor at 1200 New Jersey Avenue SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except federal holidays.

FOR FURTHER INFORMATION CONTACT: Varun Khanna, FAA, Airplane and Flight Crew Interface, ANM-111, Transport Airplane Directorate, Aircraft Certification Service, 1601 Lind Avenue SW., Renton, Washington, 98057-3356; telephone 425-227-1298; facsimile 425-227-1149.

SUPPLEMENTARY INFORMATION: The FAA has determined that notice of, and opportunity for prior public comment on, these special conditions is impracticable because these procedures would significantly delay issuance of the design approval 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 publication in the **Federal Register**.

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 will consider all comments we receive by the closing date for comments. We may change these special conditions based on the comments we receive.

Background

On December 10, 2009, Bombardier Aerospace applied for a type certificate for their new Models BD-500-1A10 and BD-500-1A11 series airplanes (hereafter collectively referred to as "CSeries"). The CSeries airplanes are swept-wing monoplanes with an aluminum alloy fuselage sized for 5-abreast seating. Passenger capacity is designated as 110 for the Model BD-500-1A10 and 125 for the Model BD-500-1A11. Maximum takeoff weight is 131,000 pounds for the Model BD-500-1A10 and 144,000 pounds for the Model BD-500-1A11.

Type Certification Basis

Under the provisions of Title 14, Code of Federal Regulations (14 CFR) 21.17, Bombardier Aerospace must show that the CSeries airplanes meet the applicable provisions of 14 CFR part 25 as amended by Amendments 25-1 through 25-129.

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 CSeries airplanes because of a novel or unusual design feature, special conditions are prescribed under the provisions of § 21.16.

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 or similar novel or unusual design feature, the special conditions would also apply to the other model.

In addition to the applicable airworthiness regulations and special conditions, the CSeries 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, and the FAA must issue a finding of regulatory adequacy under 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).

Novel or Unusual Design Features

The CSeries will incorporate the following novel or unusual design features: Digital systems architecture composed of several connected data networks. This network architecture and configuration may be used for or interfaced with a diverse set of functions, including:

- Flight safety related control, communication, and navigation systems (aircraft control domain);
- Operation and administrative support (operator information services domain); and
- Passenger information and entertainment systems (passenger entertainment domain), and will have the capability to allow access to or by external network sources.

Discussion

The CSeries digital systems network architecture is different from existing production (and retrofitted) airplanes as it allows new kinds of user access to previously isolated data networks connected to systems that perform functions required for the safe operation of the airplane. This proposed data network design and integration may result in security vulnerabilities from intentional or unintentional corruption of data and systems critical to the safety and maintenance of the airplane.

The existing regulations and guidance material did not anticipate these types of system architectures or access to airplane systems. Furthermore, 14 CFR regulations and current system safety assessment policy and techniques do not address potential security vulnerabilities that could be caused by unauthorized access to airplane data buses and servers. Therefore, these special conditions are issued to ensure that the security, integrity, and availability of airplane systems are not compromised by certain wired or wireless electronic connections between airplane data buses and networks.

Applicability

As discussed above, these special conditions are applicable to the Model No. BD-500-1A10 and BD-500-1A11. Should Bombardier Aerospace apply at a later date for a change to the type certificate to include another model incorporating the same novel or unusual design feature, the special conditions would apply to that model as well.

Conclusion

This action affects only certain novel or unusual design features on two model series of airplanes. 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, 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 type certification basis for Bombardier BD-500-1A10 and BD-500-1A1 series airplanes.

Isolation or Airplane Electronic System Security Protection From Unauthorized Internal Access

1. The applicant must ensure that the design provides isolation from, or airplane electronic system security protection against, access by unauthorized sources internal to the airplane. The design must prevent inadvertent and malicious changes to, and all adverse impacts upon, airplane equipment, systems, networks, or other assets required for safe flight and operations.

2. The applicant must establish appropriate procedures to allow the operator to ensure that continued airworthiness of the airplane is maintained, including all post type certification modifications that may have an impact on the approved electronic system security safeguards.

Issued in Renton, Washington, on September 3, 2014.

Michael Kaszycki,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No. FAA-2014-0698; Notice No. 25-567-SC]

Special Conditions: Bombardier Aerospace, Models BD-500-1A10 and BD-500-1A11 Series Airplanes; Airplane Electronic System Security Protection From Unauthorized External Access

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final special conditions; request for comments.

SUMMARY: These special conditions are issued for the Bombardier Aerospace Models BD-500-1A10 and BD-500-1A11 series airplanes. These airplanes will have novel or unusual design features, specifically, digital systems architecture composed of several connected networks that may allow access to or by external computer systems and networks and may result in security vulnerabilities to the airplanes' systems. The applicable airworthiness regulations do not contain adequate or appropriate safety standards for these design features. 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 September 12, 2014. We must receive your comments by October 27, 2014.

ADDRESSES: Send comments identified by docket number FAA-2014-0698 using any of the following methods:

- *Federal eRegulations Portal:* Go to <http://www.regulations.gov/> and follow the online instructions for sending your comments electronically.

- *Mail:* Send comments to Docket Operations, M-30, U.S. Department of Transportation (DOT), 1200 New Jersey Avenue SE., Room W12-140, West Building Ground Floor, Washington, DC, 20590-0001.

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Varun Khanna, FAA, Airplane and Flight Crew Interface, ANM-111, Transport Airplane Directorate, Aircraft Certification Service, 1601 Lind Avenue SW., Renton, Washington 98057-3356; telephone 425-227-1298; facsimile 425-227-1149.

SUPPLEMENTARY INFORMATION: The FAA has determined that notice of, and opportunity for prior public comment on, these special conditions is impracticable because these procedures would significantly delay issuance of the design approval 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 publication in the **Federal Register**.

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 will consider all comments we receive by the closing date for comments. We may change these special conditions based on the comments we receive.

Background

On December 10, 2009, Bombardier Aerospace applied for a type certificate for their new Models BD-500-1A10 and