Dated: November 5, 2013.

Rex A. Barnes,

Associate Administrator, Agricultural Marketing Service.

[FR Doc. 2013–27533 Filed 11–15–13; 8:45 am]

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No. FAA–2013–0958; Special Conditions No. 25–503–SC]

Special Conditions: Boeing Model 777–200, –300, and –300ER Series Airplanes; Aircraft Electronic System Security Protection From Unauthorized Internal Access

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final special conditions.

SUMMARY: These special conditions are issued for the Boeing Model 777–200, –300, and –300ER series airplanes. These airplanes, as modified by the Boeing Company, will have novel or unusual design features associated with the architecture and connectivity of the passenger service computer network systems to the airplane critical systems and data networks. This onboard network system will be composed of a network file server, a network extension device, and additional interfaces configured by customer option. 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: *Effective Date:* The effective date of these special conditions is November 18, 2013.

FOR FURTHER INFORMATION CONTACT: Varun Khanna, FAA, Airplane and Flight Crew Interface Branch, 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:

Background

On August 21, 2012, The Boeing Company applied for a change to Type Certificate No. T00001SE Rev. 30 dated June 6, 2012 for installation of an onboard network system, associated line replaceable units (LRUs) and additional software functionality in the Boeing Model 777–200, –300, and –300ER Series Airplanes. The Boeing Model 777–200 airplanes are long-range, wide-body, twin-engine jet airplanes with a maximum capacity of 440 passengers. The Boeing Model 777–300 and 777–300ER series airplanes have a maximum capacity of 550 passengers. The Model 777–200, –300, and –300ER series airplanes have fly-by-wire controls, software-configurable avionics, and fiber-optic avionics networks.

The proposed architecture is novel or unusual for commercial transport airplanes by enabling connection to previously isolated data networks connected to systems that perform functions required for the safe operation of the airplane. This proposed data network and design 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 this type of system architecture or electronic access to aircraft systems. Furthermore, regulations and current system safety assessment policy and techniques do not address potential security vulnerabilities, which could be caused by unauthorized access to aircraft data buses and servers.

Type Certification Basis

Under Title 14, Code of Federal Regulations (14 CFR) 21.17, The Boeing Company must show that the Model 777–200, –300, and –300ER series airplanes meet the applicable provisions of 14 CFR part 25, as amended by Amendments 25–1 through 25–128.

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 Boeing Model 777–200, –300, and –300ER series airplanes because of a novel or unusual design feature, special conditions are prescribed under § 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 novel or unusual design feature, the proposed special conditions would also apply to the other model under § 21.101.

In addition to the applicable airworthiness regulations and proposed special conditions, the Boeing Model 777–200, –300, and –300ER series 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 § 611 of Public Law 92–574, the ''Noise Control Act of 1972.''

The FAA issues special conditions, as defined in 14 CFR 11.19, under § 11.38, and they become part of the type-certification basis under § 21.17(a)(2).

Novel or Unusual Design Features

The Boeing Model 777–200, –300, –300ER series airplanes will incorporate the following novel or unusual design features: An onboard computer network system, and a network extension device. The network extension device will improve domain separation between the airplane information services domain and the aircraft control domain. The proposed architecture and network configuration may be used for, or interfaced with, a diverse set of functions, including:

1. Flight-safety related control and navigation systems,
2. Operator business and administrative support (operator information services),
3. Passenger information systems, and,
4. Access by systems internal to the airplane.

Discussion

The integrated network configurations in the Boeing Model 777–200, –300, and –300ER series airplanes may enable increased connectivity with external network sources and will have more interconnected networks and systems, such as passenger entertainment and information services than previous airplane models. This may enable the exploitation of network security vulnerabilities and increased risks potentially resulting in unsafe conditions for the airplanes and occupants. This potential exploitation of security vulnerabilities may result in intentional or unintentional destruction, disruption, degradation, or exploitation 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. Furthermore, 14 CFR regulations and current system safety assessment policy and techniques do not address potential security vulnerabilities which could be exploited by unauthorized access to airplane networks and servers. Therefore, these special conditions are being issued to ensure that the security (i.e., confidentiality, integrity, and availability) of airplane systems is not compromised by unauthorized wired or

wireless electronic connections between the airplane information services domain, aircraft control domain, and the passenger entertainment services.

For the reasons discussed above, 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.

Applicability

As discussed above, these special conditions are applicable to the Boeing Model 777–200, –300, –300ER series airplanes. Should The Boeing Company apply at a later date for a change to the type certificate to include another model on the same type certificate 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 Boeing Model 777–200, –300, –300ER series 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, the FAA has determined that prior public notice and comment are unnecessary, and good cause exists for adopting these special conditions upon publication in the **Federal Register**.

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 Boeing Model 777–200, –300, –300ER series airplanes modified by The Boeing Company.

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 enable the operator to ensure that continued airworthiness of the aircraft is maintained, including all post STC modifications that may have an impact on the approved electronic system security safeguards.

Jeffrey E. Duven,

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–2013–0959; Special Conditions No. 25–504]

Special Conditions: Boeing Model 777–200, –300, and –300ER Series Airplanes; Aircraft Electronic System Security Protection From Unauthorized External Access

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final special conditions.

SUMMARY: These special conditions are issued for the Boeing Model 777–200, –300, and –300ER series airplanes. These airplanes, as modified by The Boeing Company, will have novel or unusual design features associated with the architecture and connectivity capabilities of the airplane's onboard network computer systems, which may allow access to or by external computer systems and networks. This onboard network system will be composed of a network file server, a network extension device, and additional interfaces configured by customer option. Connectivity to, or access by, external systems and networks may result in security vulnerabilities to the airplane's onboard network system. 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: *Effective Date:* The effective date of these special conditions is November 18, 2013.

FOR FURTHER INFORMATION CONTACT: Varun Khanna, FAA, Airplane and Flight Crew Interface Branch, 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:

Background

On August 21, 2012, The Boeing Company applied for a change to Type Certificate No. T00001SE Rev. 30 dated June 6, 2012 for installation of an onboard network system, associated line replaceable units (LRUs) and additional software functionality in the Boeing Model 777–200, –300, and –300ER Series Airplanes. The Boeing Model 777–200 airplanes are long-range, wide-body, twin-engine jet airplanes with a maximum capacity of 440 passengers. The Boeing Model 777–300 and 777–300ER series airplanes have a maximum capacity of 550 passengers. The Model 777–200, –300, and –300ER series airplanes have fly-by-wire controls, software-configurable avionics, and fiber-optic avionics networks.

The proposed architecture is novel or unusual for commercial transport airplanes by enabling connection to previously isolated data networks connected to systems that perform functions required for the safe operation of the airplane. This proposed data network and design 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 this type of system architecture or electronic access to aircraft systems. Furthermore, regulations and current system safety assessment policy and techniques do not address potential security vulnerabilities, which could be caused by unauthorized access to aircraft data buses and servers.

Type Certification Basis

Under Title 14, Code of Federal Regulations (14 CFR) 21.17, The Boeing Company must show that the Boeing Model 777–200, –300, and –300ER series airplanes meet the applicable provisions of 14 CFR part 25, as amended by Amendments 25–1 through 25–128.

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 Boeing Model 777–200, –300, and –300ER series airplanes because of a novel or unusual design feature, special conditions are prescribed under § 21.16.