

14 CFR part 34 and the noise certification requirements of 14 CFR part 36.

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 § 21.101.

### Novel or Unusual Design Features

The Airbus DS C-295 series airplane will incorporate the following novel or unusual design feature:

Airplane electronic systems and networks that allow access from external sources (e.g., wireless devices, internet connectivity) to the airplane's previously isolated, internal electronic components.

### Discussion

The Airbus DS C-295 series airplane architecture and network configuration may allow increased connectivity to, and access from, external network sources and airline operations and maintenance networks to the airplane control domain and airline information services domain. The airplane control domain and airline information services domain perform functions required for the safe operation and maintenance of the airplane. Previously, these domains had very limited connectivity with external network sources. The architecture and network configuration may allow the exploitation of network security vulnerabilities resulting in intentional or unintentional destruction, disruption, degradation, or exploitation of data, systems, and networks critical to the safety and maintenance of the airplane.

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

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 Airbus

DS C-295 series airplane. Should Airbus DS 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 a certain novel or unusual design feature on Airbus DS C-295 airplane. It is not a rule of general applicability.

### List of Subjects in 14 CFR Part 25

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

### Authority Citation

The authority citation for these special conditions is as follows:

**Authority:** 49 U.S.C. 106(f), 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 Airbus DS C-295 series airplane.

1. The applicant must ensure that the airplane electronic systems are protected from access by unauthorized sources external to the airplane, including those possibly caused by maintenance activity.

2. The applicant must ensure that electronic system-security threats are identified and assessed, and that effective electronic system-security protection strategies are implemented to protect the airplane from all adverse impacts on safety, functionality, and continued airworthiness.

3. 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 Des Moines, Washington, on January 17, 2020.

**James E. Wilborn,**

*Acting Manager, Transport Standards Branch, Policy and Innovation Division, Aircraft Certification Service.*

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## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 25

[Docket No. FAA-2020-0033; Special Conditions No. 25-766-SC]

### Special Conditions: Airbus Defense and Space Model C-295 Series 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 Airbus Defense and Space (Airbus DS) C-295 series airplane. This airplane will have novel or unusual design features when compared to the state of technology envisioned in the airworthiness standards for transport category airplanes. This design feature is airplane electronic systems and networks that allow access, from airplane internal sources (e.g., wireless devices, internet connectivity), to the airplane's previously isolated, internal electronic components. 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:** This action is effective on Airbus DS on February 4, 2020. Send comments on or before March 20, 2020.

**ADDRESSES:** Send comments identified by Docket No. FAA-2020-0033 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 website, 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).

**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 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:** Thuan Nguyen, Airplane and Flight Crew Interface Section, AIR–671, Transport Standards Branch, Policy and Innovation Division, Aircraft Certification Service, Federal Aviation Administration, 2200 South 216th Street, Des Moines, Washington 98198; telephone and fax 206–231–3365; email [Thuan.T.Nguyen@faa.gov](mailto:Thuan.T.Nguyen@faa.gov).

**SUPPLEMENTARY INFORMATION:** The substance of these special conditions has been published in the **Federal Register** for public comment in several prior instances with no substantive comments received. Therefore, the FAA has determined that prior public notice and comment are unnecessary, and finds that, for the same reason, good cause exists for adopting these special conditions upon publication in the **Federal Register**.

#### Comments Invited

The FAA invites 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.

The FAA will consider all comments received by the closing date for comments. The FAA may change these special conditions based on the comments received.

#### Background

On August 2, 2018, Airbus DS applied for a change to Type Certificate No. A21NM to update the Avionics System Rockwell Collins Proline II to the Avionics System based on Proline Fusion in the Airbus DS C–295 series airplane. The Airbus DS C–295 series

airplane, currently approved under Type Certificate No. A21NM, is a twin-engine, transport category airplane configured for freighter use, with a maximum takeoff weight of 46,300 pounds.

#### Type Certification Basis

Under the provisions of title 14, Code of Federal Regulations (14 CFR) 21.101, Airbus DS must show that the C–295 series airplane, as changed, meets the applicable provisions of the regulations listed in Type Certificate No. A21NM, or the applicable regulations in effect on the date of application for the change, except for earlier amendments as agreed upon by the FAA.

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 Airbus DS C–295 series airplane 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 novel or unusual design feature, or should any other model already included on the same type certificate be modified to incorporate the same novel or unusual design feature, these special conditions would also apply to the other model under § 21.101.

In addition to the applicable airworthiness regulations and special conditions, the Airbus DS C–295 series airplane 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 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 § 21.101.

#### Novel or Unusual Design Features

The Airbus DS C–295 series airplane will incorporate the following novel or unusual design feature:

Airplane electronic systems and networks that allow access, from airplane internal sources (*e.g.*, wireless devices, internet connectivity), to the airplane's previously isolated, internal electronic components.

#### Discussion

The Airbus DS C–295 series airplane electronic network system architecture is novel or unusual for commercial

transport airplanes because it allows connection to previously isolated data networks connected to systems that perform functions required for the safe operation of the airplane. This 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 airplane systems. Furthermore, 14 CFR regulations and the 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 to ensure that the security of airplane systems and networks is not compromised by unauthorized wired or wireless internal access.

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 Airbus DS C–295 series airplane. Should Airbus DS 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 a certain novel or unusual design feature on Airbus DS C–295 series airplane. It is not a rule of general applicability.

#### List of Subjects in 14 CFR Part 25

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

#### Authority Citation

The authority citation for these special conditions is as follows:

**Authority:** 49 U.S.C. 106(f), 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 Airbus DS C–295 series airplane.

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 Des Moines, Washington, on January 17, 2020.

**James E. Wilborn,**

*Acting Manager, Transport Standards Branch, Policy and Innovation Division, Aircraft Certification Service.*

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**BILLING CODE 4910-13-P**

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 25

[Docket No. FAA-2019-0632; Special Conditions No. 25-762-SC]

#### Special Conditions: The Boeing Company Model 747-8 Series Airplane; Certification of Cooktops

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final special conditions.

**SUMMARY:** These special conditions are issued for The Boeing Company (Boeing) Model 747-8 series airplane. This airplane, as modified by Boeing, will have a novel or unusual design feature when compared to the state of technology envisioned in the airworthiness standards for transport category airplanes. This design feature is associated with the installation of advanced technology induction coil cooktops in the main deck galleys on a Boeing Model 747-8 series airplane. 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 March 5, 2020.

**FOR FURTHER INFORMATION CONTACT:** Alan Sinclair, FAA, Airframe/Cabin Safety Branch, AIR-675, Transport

Standards Branch, Policy and Innovation Division, Aircraft Certification Service, Federal Aviation Administration, 2200 South 216th Street, Des Moines, Washington 98198; telephone and fax 206-231-3215; email [alan.sinclair@faa.gov](mailto:alan.sinclair@faa.gov).

#### SUPPLEMENTARY INFORMATION:

##### Background

On July 2, 2018, Boeing applied for a supplemental type certificate for the modification of the Boeing Model 747-8 series airplane. The Boeing Model 747-8 currently approved under Type Certificate No. A20WE, is an extended range passenger version of the Boeing Model 747-400 series airplane with four General Electric engines having changes to increase its strength and fuel capacity.

The modification incorporates the installation of an electrically heated surface, called a cooktop. Cooktops introduce high heat, smoke, and the possibility of fire into the passenger cabin environment. These potential hazards to the airplane and its occupants must be satisfactorily addressed. Since existing airworthiness regulations do not contain safety standards addressing cooktops, special conditions are needed.

##### Type Certification Basis

Under the provisions of title 14, Code of Federal Regulations (14 CFR) 21.101, Boeing must show that the Model 747-8 series airplane, as changed, continues to meet the applicable provisions of the regulations listed in Type Certificate No. A20WE or the applicable regulations in effect on the date of application for the change, except for earlier amendments as agreed upon by the FAA.

If the Administrator finds that the applicable airworthiness regulations (e.g., 14 CFR part 25) do not contain adequate or appropriate safety standards for the Boeing Model 747-8 airplane 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 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, these special conditions would also apply to the other model under § 21.101.

In addition to the applicable airworthiness regulations and special conditions, the Boeing Model 747-8 airplane 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 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 § 21.101.

##### Novel or Unusual Design Features

The modification of the Boeing Model 747-8 series airplane will incorporate a novel or unusual design feature, which is the installation of cooktops in the passenger cabin. Cooktops introduce high heat, smoke, and the possibility of fire into the passenger cabin environment. The current airworthiness standards of part 25 do not contain adequate or appropriate safety standards to protect the airplane and its occupants from these potential hazards.

##### Discussion

Currently, ovens are the prevailing means of heating food on airplanes. Ovens are characterized by an enclosure that contains both the heat source and the food being heated. The hazards represented by ovens are thus inherently limited, and are well understood through years of service experience. Cooktops, on the other hand, are characterized by exposed heat sources and the presence of relatively unrestrained hot cookware and heated food, which may represent unprecedented hazards to both occupants and the airplane. Cooktops could have serious passenger and airplane safety implications if appropriate requirements are not established for their installation and use. These special conditions apply to cooktops with electrically powered burners. The use of an open flame cooktop (for example, natural gas) is beyond the scope of these special conditions and would require separate rulemaking action. The requirements identified in these special conditions are in addition to those considerations identified in Advisory Circular (AC) 20-168, *Certification Guidance for Installation of Non-Essential, Non-Required Aircraft Cabin Systems & Equipment (CS&E)*, dated July 22, 2010, and those in AC 25-17A, *Transport Airplane Cabin Interiors Crashworthiness Handbook*, Change 1, dated May 24, 2016. The intent of these special conditions is to provide a level of safety that is consistent with that on similar airplanes without cooktops.

The 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.