8. Annual Energy Consumption

8.1. *Input Value.* The annual energy consumption (AEC) of the TV shall be calculated using on mode, standby mode, and off mode power consumption values as measured pursuant to section 7.1, 7.3, and 7.4 respectively.

8.2. *Rounding.* Calculate the AEC of the TV using the equation below. The calculated AEC value shall be rounded as follows:

If the calculated AEC value is 100 kWh or less, the rated value shall be rounded to the nearest tenth of a kWh;

If the calculated AEC value is greater than 100 kWh, the rated value shall be rounded to the nearest kWh.

8.3. *Calculations.* Express the AEC in kWh per year, according to the following:

$$AEC = 365 * (P_{on} * H_{on} + P_{standby\text{-}active,\ low} * H_{standby\text{-}active,\ low} + P_{standby\text{-}passive} * H_{standby\text{-}passive} + P_{off} * H_{off})/1000$$

Where:

P_m = power measured in a given mode m (in Watts)

H_m = hours per day spent in mode m

365 = conversion factor from daily to yearly

1000 = conversion factor from watts to kilowatts

Values for H_m (in hours/day) are specified in Table 2 of this section:

TABLE 2—HOURLY WEIGHTINGS

Standby-active, low mode	H_{on}	$H_{standby\text{-}active,\ low}$	$H_{standby\text{-}passive}$	H_{off}
Yes	5	19	0	0
No	5	0	19	0

[FR Doc. 2013–24346 Filed 10–24–13; 8:45 a.m.]

BILLING CODE 6450–01–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No. FAA–2013–0774; Special Conditions No. 25–497–SC]

Special Conditions: Embraer S.A., Model EMB–550 Airplanes; Isolation or Airplane Electronic System Security Protection From Unauthorized Internal Access

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final special condition; request for comments.

SUMMARY: These special conditions are issued for the Embraer S.A. Model EMB–550 airplane. This airplane will have a novel or unusual design feature associated with connectivity of the passenger domain 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 October 25, 2013. We must receive your comments by December 9, 2013.

ADDRESSES: Send comments identified by docket number FAA–2013–0774 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 8 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 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: The FAA has determined that notice of, and opportunity for prior public comment on, these special conditions are unnecessary because 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.

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 May 14, 2009, Embraer S.A. applied for a type certificate for their new Model EMB–550 airplane. The Model EMB–550 airplane is the first of a new family of jet airplanes designed for corporate flight, fractional, charter, and private owner operations. The aircraft has a conventional configuration with low wing and T-tail empennage. The primary structure is metal with composite empennage and control surfaces. The Model EMB–550 airplane is designed for 8 passengers, with a maximum of 12 passengers. It is equipped with two Honeywell HTF7500–E medium bypass ratio turbofan engines mounted on aft

fuselage pylons. Each engine produces approximately 6,540 pounds of thrust for normal takeoff. The primary flight controls consist of hydraulically powered fly-by-wire elevators, ailerons and rudder, controlled by the pilot or copilot sidestick.

The digital systems architecture for the Embraer EMB–550 series of airplanes is composed of several connected networks. This proposed network architecture is used for a diverse set of functions, including:

- Flight-safety related control and navigation systems,
- Airline business and administrative support, and
- Passenger entertainment.

Type Certification Basis

Under the provisions of Title 14, Code of Federal Regulations (14 CFR) part 21.17, Embraer S.A. must show that the Model EMB–550 airplane meets the applicable provisions of part 25, as amended by Amendments 25–1 through 25–127 thereto.

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 Model EMB–550 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 or similar novel or unusual design feature, the special conditions would also apply to the other model under § 21.101.

In addition to the applicable airworthiness regulations and special conditions, the Model EMB–550 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 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, 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 Embraer S.A. Model EMB–550 airplane will incorporate the following novel or unusual design features: the architecture allows connections 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 airplane systems. Furthermore, 14 CFR part 25 regulations and current system safety assessment policy and techniques do not address potential security vulnerabilities, which could be caused by unauthorized access to airplane data buses and servers. The intent of these special conditions are to ensure that security, integrity, and availability of airplane systems are not compromised by certain wired or wireless electronic connections between airplane data busses and networks.

Discussion

The Embraer S.A. Model EMB–550 airplane's integrated network configuration may allow increased connectivity with external network sources and will have more interconnected networks and systems, such as passenger entertainment and information services, than previous Embraer airplane models. This may allow the exploitation of network security vulnerabilities and increase risks potentially resulting in unsafe conditions for the airplane and its 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 and a means of compliance 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 airplane systems and networks and the passenger entertainment domain.

Applicability

As discussed above, these special conditions are applicable to the Embraer S.A. Model EMB–550 airplane. Should Embraer S.A. 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 one model 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. 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 Embraer S.A. Model EMB–550 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 6, 2013.

Jeffrey E. Duven,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 2013–24987 Filed 10–24–13; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No. FAA–2013–0773; Special Conditions No. 25–496–SC]

Special Conditions: Embraer S.A., Model EMB–550 Airplanes; Airplane Electronic System Security Protection From Unauthorized External Access

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final special condition; request for comments.

SUMMARY: These special conditions are issued for the Embraer S.A. Model EMB–550 airplane. This airplane will have a novel or unusual design feature associated with the architecture and connectivity capabilities of the airplanes' computer systems and networks, which may allow access to or by external computer systems and networks. Connectivity to, or access by, external systems and networks may result in security vulnerabilities to the airplanes' systems. 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 October 25, 2013. We must receive your comments by December 9, 2013.

ADDRESSES: Send comments identified by docket number FAA–2013–0773 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 8 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 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: The FAA has determined that notice of, and opportunity for prior public comment on, these special conditions are unnecessary because 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.

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 May 14, 2009, Embraer S.A. applied for a type certificate for their new Model EMB–550 airplane. The Model EMB–550 airplane is the first of a new family of jet airplanes designed for corporate flight, fractional, charter, and private owner operations. The aircraft has a conventional configuration with low wing and T-tail empennage. The primary structure is metal with composite empennage and control surfaces. The Model EMB–550 airplane is designed for 8 passengers, with a maximum of 12 passengers. It is equipped with two Honeywell HTF7500–E medium bypass ratio turbofan engines mounted on aft fuselage pylons. Each engine produces approximately 6,540 pounds of thrust for normal takeoff. The primary flight controls consist of hydraulically powered fly-by-wire elevators, ailerons and rudder, controlled by the pilot or copilot sidestick.

The digital systems architecture for the Embraer Model EMB–550 series of airplanes is composed of several connected networks. This proposed network architecture is used for a diverse set of functions, providing data connectivity between systems, including:

- Airplane control, communication, display, monitoring and navigation systems,
- Airline business and administrative support systems,
- Passenger entertainment systems, and
- Access by systems external to the airplane.

Type Certification Basis

Under the provisions of Title 14, Code of Federal Regulations (14 CFR) part 21.17, Embraer S.A. must show that the Model EMB–550 airplane meets the applicable provisions of part 25, as amended by Amendments 25–1 through 25–127 thereto.

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 Model EMB–550 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 or similar novel or unusual design feature, the special conditions would also apply to the other model under § 21.101.