AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final special conditions; request for comments.

SUMMARY: These special conditions are issued for the Embraer Model ERJ 170–100 SU series airplanes. These airplanes, as modified by C&D Zodiac, Inc., will have a novel or unusual design feature associated with seats that include non-traditional, large, non-metallic panels that would affect survivability during a post-crash fire event. 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 August 18, 2010. We must receive your comments by September 27, 2010.

ADDRESSES: You must mail two copies of your comments to: Federal Aviation Administration, Transport Airplane Directorate, Attn: Rules Docket (ANM–113), Docket No. NM433, 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. NM433. You can inspect comments in the Rules Docket weekdays, except Federal holidays, between 7:30 a.m. and 4 p.m.


SUPPLEMENTARY INFORMATION:
The FAA has determined that notice of, and opportunity for prior public comment on, these special conditions are 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 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
Type Certification Basis

Under the provisions of § 21.101, C&D Zodiac, Inc., must show that the Model ERJ 170–100 SU, as changed, continues to meet the applicable provisions of the regulations incorporated by reference in Type Certificate No. A56NM. The regulations incorporated by reference in the type certificate are commonly referred to as the original type certification basis. The regulations incorporated by reference in Type Certificate No. A56NM are as follows: 14 CFR part 25, as amended by Amendments 25–1 through 25–101.

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 ERJ–170–100 SU, because of a novel or unusual design feature, special conditions are prescribed under the provisions of § 21.101.

In addition to the applicable airworthiness regulations and special conditions, the Model ERJ 170–100 SU 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.

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.

Special conditions are initially applicable to the model for which they are issued. Should the applicant apply for an STC to modify any other model included on the same type certificate to incorporate the same novel or unusual design feature, the special conditions would also apply to the other model.

Novel or Unusual Design Features

The Model ERJ 170–100 SU series airplanes will incorporate the following novel or unusual design features:

- These models offer interior arrangements that include passenger seats that incorporate non-traditional, large, non-metallic panels in lieu of the traditional metal frame covered by fabric. The flammability properties of these panels have been shown to significantly affect the survivability of occupants of the cabin in the event of fire. These seats are considered a novel design for transport category airplanes that include Amendment 25–61 and Amendment 25–66 in the certification basis, and were not considered when those airworthiness standards were established.
- The existing regulations do not provide adequate or appropriate safety standards for seat designs that incorporate non-traditional, large, non-metallic panels. To provide a level of safety equivalent to that provided by the balance of the cabin, additional airworthiness standards, in the form of special conditions, are necessary. These special conditions supplement § 25.853. The requirements contained in these special conditions consist of applying the identical test conditions, required of all other large panels in the cabin, to seats with non-traditional, large, non-metallic panels.

Definition of “Non-Traditional, Large, Non-Metallic Panel”

A non-traditional, large, non-metallic panel, in this case, is defined as a panel with exposed-surface areas greater than 1.5 square feet installed per seat place. The panel may consist of either a single component or multiple components in a concentrated area. Examples of parts of the seat where these non-traditional panels are installed include, but are not limited to: seat backs, bottoms and leg/foot rests, kick panels, back shells, and credenzas and associated furniture. Examples of traditional exempted parts of the seat include: arm caps, armrest close-outs such as end bays and armrest-styled center consoles, food trays, and video monitors and shrouds.

Clarification of “Exposed”

“Exposed” is considered to include those panels directly exposed to the passenger cabin in the traditional sense, plus those panels enveloped such as by a dress cover. Traditional fabrics or leathers currently used on seats are excluded from these special conditions. These materials must still comply with §§ 25.853(a) and 25.853(c) if used as a covering for a seat cushion, or § 25.853(a) if installed elsewhere on the seat. Non-traditional, large, non-metallic panels covered with traditional fabrics or leathers will be tested without their coverings or covering attachments.

Discussion

In the early 1980s, the FAA conducted extensive research on the effects of post-crash flammability in the passenger cabin. As a result of this research and service experience, the FAA adopted new standards for interior surfaces associated with larger surface area parts. Specifically, the rules require measurement of heat release and smoke emission (part 25, Appendix F, parts IV and V) for the affected parts. Heat release has been shown to have a direct correlation with post-crash, fire-survival time. The materials that comply with the standards, § 25.853, titled “Compartment Interiors,” as amended by Amendments 25–61 and 25–66 extended survival time by approximately 2 minutes over materials that do not comply.

At the time Amendment 25–61 was written, the potential application of the requirement to seats was explored. The seat frame itself was not a concern because it was primarily made of aluminum and included only small amounts of non-metallic materials (for example, a food tray table and armrest closeout). It was determined that the overall effect on survivability was negligible, whether or not these panels met the heat-release and smoke-emission requirements. The requirements therefore did not address seats, and the preambles to both Notice of Proposed Rule Making (NPRM) 85–10 and the final rule (Amendment 25–61) specifically noted that they were excluded “because the recently adopted standards for flammability of seat cushions will greatly inhibit involvement of the seats.”

In the late 1990s, when it became clear that seat designs were evolving to include large non-metallic panels with surface areas that would impact survivability during a cabin fire event compared to partitions or galleys, the FAA issued Policy Memorandum 97–112–39. This memo noted that large surface area panels must comply with heat-release and smoke-emission requirements, even if they were attached to a seat. If the FAA had not issued such a policy, seat designs would have been viewed as a loophole to the airworthiness standards that would result in an unacceptable decrease in survivability during a cabin fire event.

Applicability

As discussed above, these special conditions are applicable to the Model ERJ 170–100 SU series airplanes. Should C&D Zodiac, Inc., apply for an STC to modify any other model included on Type Certificate No. A56NM to incorporate 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 Embraer Model ERJ 170–100 SU series airplanes. It is not a rule of general applicability and affects only the applicant who applied to the FAA for approval of these features on the airplane.

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
Accordingly, pursuant to the authority delegated to me by the Administrator, the following special conditions are issued as part of the supplemental type certification basis for Embraer Model ERJ 170–100 SU series airplanes modified by C&D Zodiac, Inc.

1. Except as provided in special condition number 3, below, compliance with heat-release and smoke-emission testing requirements of § 25.853, and Appendix F, parts IV and V, is required for seats that incorporate non-traditional, large, non-metallic panels that may be either a single component or multiple components in a concentrated area in their design.

2. The applicant may designate up to and including 1.5 square feet of non-traditional, non-metallic panel material per seat place that does not have to comply with special condition number 1, above. A triple-seat assembly may have a total of 4.5 square feet excluded on any portion of the assembly (e.g., outboard seat place, 1 square foot; middle, 1 square foot; and inboard, 2.5 square feet).

3. Seats do not have to meet the test requirements of part 25, Appendix F, parts IV and V, when installed in compartments that are not otherwise required to meet these requirements. Examples include:
   a. Airplanes with passenger capacities of 19 or less;
   b. Airplanes that do not have § 25.853, Amendment 25–61 or later, in their certification basis and do not need to comply with the requirements of § 121.33 applies;
   c. Airplanes exempted from § 25.853, Amendment 25–61 or later.

To ensure timely processing of comments, the Commission is no longer accepting comments submitted by electronic mail (e-mail) except through http://www.regulations.gov.

Written Submissions: Submit written submissions in the following way:
- Mail/Hand delivery/Courier (for paper, disk, or CD-ROM submissions) preferably in five copies, to: Office of the Secretary, U.S. Consumer Product Safety Commission, Room 820, 4330 East West Highway, Bethesda, Maryland 20814; telephone (301) 504–7923.
- Instructions: All submissions received must include the agency name and docket number for this notice. All comments received may be posted without change to http://www.regulations.gov, including any personal information provided. Do not submit confidential business information, trade secret information, or other sensitive or protected information (such as a Social Security Number) electronically; if furnished at all, such information should be submitted in writing.
- Docket: For access to the docket to read background documents or comments received, go to http://www.regulations.gov.

FOR FURTHER INFORMATION CONTACT:
Richard McCallion, Program Area Team Leader, Office of Hazard Identification and Reduction, U.S. Consumer Product Safety Commission, 10901 Darnestown Road, Gaithersburg, MD 20878; e-mail rmccallion@cpsc.gov.

SUPPLEMENTARY INFORMATION:

I. Introduction

Section 14(a)(3)(B)(vi) of the CPSA, as added by section 102(a)(2) of the Consumer Product Safety Improvement Act of 2008 (CPSIA), Public Law 110–314, directs the CPSC to establish and publish a notice of requirements for accreditation of third party conformity assessment bodies to assess children’s products for conformity with “other children’s product safety rules.” Section 14(f)(1) of the CPSA defines “children’s product safety rule” as “a consumer product safety rule under [the CPSA] or similar rule, regulation, standard, or ban under any other Act enforced by the Commission, including a rule declaring a consumer product to be a banned hazardous product or substance.” Under section 14(a)(3)(A) of the CPSA, each manufacturer (including an importer) or private labeler of products subject to those regulations must have products that are manufactured more than 90 days after the establishment and Federal Register publication of a notice of the requirements for accreditation tested by