

(3) systems which affect the structural performance of the airplane. The applicable airworthiness regulations do not contain adequate or appropriate safety standards for these design features. These proposed 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. Additional special conditions will be issued for other novel or unusual design features of the Embraer Model 170–100 and 170–200 airplanes.

DATES: Comments must be received on or before March 20, 2003.

ADDRESSES: Comments on this proposal may be mailed in duplicate to: Federal Aviation Administration, Transport Airplane Directorate, Attention: Rules Docket (ANM–113), Docket No. NM242, 1601 Lind Avenue SW., Renton, Washington 98055–4056; or delivered in duplicate to the Transport Airplane Directorate at the above address. All comments must be marked: *Docket No. NM242*. Comments may be inspected in the Rules Docket weekdays, except Federal holidays, between 7:30 a.m. and 4 p.m.

FOR FURTHER INFORMATION CONTACT: Tom Groves, FAA, International Branch, ANM–116, Transport Airplane Directorate, Aircraft Certification Service, 1601 Lind Avenue SW., Renton, Washington 98055–4056; telephone (425) 227–1503; facsimile (425) 227–1149.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites interested persons to participate in this rulemaking by submitting 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 concerning these proposed special conditions. The docket is available for public inspection 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 notice between 7:30 a.m. and 4 p.m., Monday through Friday, except Federal holidays.

We will consider all comments we receive on or before the closing date for comments. We will consider comments

filed late if it is possible to do so without incurring expense or delay. We may change the proposed special conditions in light of the comments we receive.

If you want the FAA to acknowledge receipt of your comments on this proposal, include with your comments a pre-addressed, stamped postcard on which the docket number appears. We will stamp the date on the postcard and mail it back to you.

Background

On May 20, 1999, Embraer applied for a type certificate for its new Model 170 airplane. Two basic versions of the Model 170 are included in the application. The Model 170–100 airplane is a 69–78 passenger twin-engine regional jet with a maximum takeoff weight of 81,240 pounds. The Model 170–200 is a lengthened fuselage derivative of the 170–100. Passenger capacity for the Model 170–200 is increased to 86, and maximum takeoff weight is increased to 85,960 pounds.

Type Certification Basis

Under the provisions of 14 CFR 21.17, Embraer must show that the Model 170–100 and 170–200 airplanes meet the applicable provisions of 14 CFR part 25, as amended by Amendments 25–1 through 25–98.

If the Administrator finds that the applicable airworthiness regulations (*i.e.*, part 25, as amended) do not contain adequate or appropriate safety standards for the Embraer Model 170–100 and 170–200 airplanes because of novel or unusual design features, special conditions are prescribed under the provisions of § 21.16.

In addition to the applicable airworthiness regulations and special conditions, the Embraer Model 170–100 and 170–200 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 pursuant to section 611 of Public Law 93–574, the “Noise Control Act of 1972.”

Special conditions, as defined in 14 CFR 11.19, are issued in accordance with § 11.38 and become part of the type certification basis in accordance with § 21.17(a)(2), Amendment 21–69, effective September 16, 1991.

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 features, the special conditions would also apply to the other model under the provisions of § 21.101(a)(1), Amendment 21–69, effective September 16, 1991.

Novel or Unusual Design Features

The Embraer Model 170–100 and 170–200 airplanes will incorporate the following novel or unusual design features:

Engine Size and Torque Load

Since 1957 the limit engine torque load which is posed by sudden engine stoppage due to malfunction or structural failure—such as compressor jamming—has been a specific requirement for transport category airplanes. Design torque loads associated with typical failure scenarios were estimated by the engine manufacturer and provided to the airframe manufacturer as limit loads. These limit loads were considered simple, pure torque static loads. However, the size, configuration, and failure modes of jet engines have changed considerably from those envisioned when the engine seizure requirement of § 25.361(b) was first adopted. Current engines are much larger and are now designed with large bypass fans capable of producing much larger torque, if they become jammed.

Relative to the engine configurations that existed when the rule was developed in 1957, the present generation of engines are sufficiently different and novel to justify issuance of special conditions to establish appropriate design standards. The latest generation of jet engines are capable of producing, during failure, transient loads that are significantly higher and more complex than the generation of engines that were present when the existing standard was developed. Therefore, the FAA has determined that special conditions are needed for the Embraer Model 170–100 and 170–200 airplanes.

Electrical and Electronic Systems Which Perform Critical Functions

The Embraer Model 170–100 and 170–200 airplanes will have an electronic flight control system which performs critical functions. The current airworthiness standards of part 25 do not contain adequate or appropriate standards for the protection of this system from the adverse effects of operations without normal electrical power. Accordingly, this system is considered to be a novel or unusual design feature. Since the loss of normal