



Federal Aviation Administration

Memorandum

Date: August 19, 2009

To: Manager, Small Airplane Directorate, ACE-100

From: Manager, Project Support Office, ACE-112

Prepared by: Karl Schletzbaum, Regulations and Policy Office, ACE-112

Subject: Equivalent Level of Safety (ELOS) to 14 CFR, Part 23, § 23.853(d)(2);
Embraer Model 505 airplanes

ELOS Memo#: ACE-09-11

Regulatory Ref: 14 CFR, part 23, § 23.853(d)(2)

This memorandum requests your office to review and provide concurrence with the proposed finding of equivalent level of safety to the "Passenger and Crew Compartment Interiors" requirements of 14 CFR, part 23, § 23.853 (d)(2).

Background

The Embraer Model 505 is an 18,000 pound, ten-place airplane (eight passengers and two crew), powered by two Pratt and Whitney of Canada Turbofan Engines (3,360 pounds thrust). Section 23.853(d)(2) requires that "lavatories must have "No Smoking" or "No Smoking in Lavatory" placards located conspicuously on each side of the entry door," and it requires "the placards must have red letters at least 1/2 inch high on a white background at least 1 inch high." Embraer states that it will install conspicuous "No smoking" signs, but it would not comply with the dimensional requirements as specified in 14 CFR, part 23, § 23.853(d) (2). The corresponding 14 CFR, part 25, § 25.853, Amendment 25-72, requires "No smoking" signs, but the dimensional requirements of § 23.853(d)(2) are absent. Federal Aviation Administration (FAA) has approved "No smoking" placards without any dimensional requirements for other commuter class airplanes. Therefore, Embraer, through the Agência Nacional de Aviação Civil (ANAC), requests the FAA to consider the "No smoking" placards without dimensional requirements as equivalent in level of safety to § 23.853(d)(2), "Passenger and Crew Compartment Interiors" requirements.

Applicable regulation

Paragraph § 23.853 requires that the commuter category airplanes must demonstrate compliance with § 23.853(d)(2) “Passenger and Crew Compartment Interiors.”

Regulation requiring an ELOS finding

14 CFR, part 23, § 23.853(d)(2)

Description of compensating design features

The applicant has requested an ELOS to install “No smoking” placards which do not comply with the specified dimensional requirements of 14 CFR, part 23, § 23.853(d)(2); the applicant has noted that the FAA has accepted the same provisions for placard design on commuter category airplanes, which have similar cabin sizes and seating arrangements. Embraer requests the FAA to consider an equivalent in level of safety for the “No smoking” placards without the specific dimensions specified in the applicable regulation. Embraer has evaluated the lettering size, color contrast (for conspicuity), location, and general readability based on the arrangement and size of the EMB-505 cabin. The ANAC has reviewed Embraer's request and concurs with the applicant's proposal.

The FAA notes that it has approved similar ELOS for the same reason on other commuter category airplanes, with similar interior arrangements.

FAA approval

On the basis of the compensating features and the FAA's previous experience with the same subject ELOS, the FAA has determined that an appropriate level of safety can be provided by the issuance of this ELOS in accordance with the provisions of 14 CFR, part 21, § 21.21(b)(1).

Kim Smith

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Manager, Small Airplane Directorate
Aircraft Certification Service

Date

ELOS Originated by: Project Support Office	William J. Timberlake Manager, Project Support Office	Routing Symbol ACE-112
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