U.S. Department of Transportation

Federal Aviation Administration

Memorandum

Subject:	INFORMATION: Equivalent Level of Safety Finding for Airbus Model A380-800 FAA Project Number CP101	Date:	26 September 05
		Reg Ref:	§ 25.810
From:	Manager, Transport Standards Staff, Airframe/Cabin Safety Branch, ANM-115	Reply to Attn of:	Jeff Gardlin ANM-115
To:	Manager, Transport Standards Staff, International Branch, ANM-116	ELOS Memo #:	CP101-C-11

Background

The Airbus A380-800 design offers seating capacity on two separate decks: the main deck with a maximum passenger capacity of 542 and the upper deck with a maximum passenger capacity of 308. The upper deck of the A380-800 has three (3) pairs of Type A exits and the main deck of the airplane has five (5) pairs of Type A exits. Airbus has requested that the FAA grant an equivalent level of safety finding for the A380-800 escape systems installed at the Type A exits for compliance to the requirements of §§ 25.810(a)(1)(ii) and (b), since the new escape systems may not meet the requirement to be automatically erected within 6 seconds after deployment is initiated.

Applicable regulation(s)

§§ 25.809(b) and 25.810(a)(1)(ii) and (b)

Regulation(s) requiring an ELOS

§§ 25.810(a)(1)(ii) and (b)

Description of compensating design features or alternative standards which allow the granting of the ELOS (including design changes, limitations or equipment need for equivalency)

The A380 will incorporate an exit/escape system that will be ready for use within 10 seconds of initiation of exit opening. This is consistent with the more rigorous requirements for Type C exits adopted in amendment 25-88.

Explanation of how design features or alternative standards provide an equivalent level of safety to the level of safety intended by the regulation

The requirements for emergency exit operation treat exit opening and escape system preparation as distinct events (with the exception of type C exits noted above). For exit opening, a total of 10 seconds is permitted under § 25.809(b). For escape system preparation a total of six seconds are permitted under § 25.810(a)(1)(ii), with the escape system preparation initiated sometime during the exit opening. Thus, if the escape system began its preparation at the very end of the exit opening, there could be a total of 16 seconds before the exit is ready for use. In the case of the A380, even though the escape slide itself might require longer than 6 seconds preparation, the total time for exit readiness is only 10 seconds. Thus, the proposed approach actually improves evacuation capability over the minimum permitted in the regulation.

FAA approval and documentation of the ELOS

The FAA has approved the aforementioned Equivalent Level of Safety Finding in project issue paper C-11. This memorandum provides standardized documentation of the ELOS that is non-proprietary and can be made available to the public. The Transport Directorate has assigned a unique ELOS Memorandum number (see front page) to facilitate archiving and retrieval of this ELOS. This ELOS Memorandum number should be listed in the Type Certificate Data Sheet under the Certification Basis section. An example of an appropriate statement is provided below.

Equivalent Safety Finding(s) have been made for the following regulation(s):
§§ 25.810(a)(1)(ii) and (b),Emergency Egress Assist Means and Escape Routes (documented in TAD ELOS Memo CP101-C-11)

Original Signed by Franklin Tiangsing — *September 26, 2005*

Manager, Transport Standards Staff, Airframe/Cabin Safety Branch, ANM-115 — Date

ELOS Originated by TSS:	Project Engineer Jeff Gardlin	Routing Symbol ANM-115