

UNITED STATES OF AMERICA  
DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION  
KANSAS CITY, MISSOURI 64106

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In the matter of the petition of \*  
\*  
EASTERN METRO EXPRESS \*  
\*  
for an exemption from aisle width \*  
requirement stated in Exemption \*  
No. 3548 \*  
\*  
\* \* \* \* \*

Regulatory Docket No. 22767

GRANT OF EXEMPTION

By letter dated June 21, 1984, Mr. John E. Molis, on behalf of Eastern Metro Express, Post Office Box 20968, Hartsfield Atlanta International Airport, Atlanta, Georgia 30320, petitioned for an exemption to permit supplemental type certification of their British Aerospace Model 3101 airplanes without complying with the width of aisle requirement imposed as a limitation in the GRANT OF EXEMPTION Number 3548 for type certification of the British Aerospace Model 3101 airplane to Special Federal Aviation Regulation (SFAR) No. 41.

Sections of SFAR No. 41 affected:

Section 5(e), under the title Doors and exits, paragraphs (g), and (h), (i), (j), and (k), provides various airworthiness standards for airplanes to be recertificated to SFAR No. 41. As applied to the Model 3101 airplane, these standards require three emergency exits in addition to the passenger entrance door, an emergency evacuation demonstration under certain conditions, marking of the emergency exits, accessibility standards related to emergency exits, and specific minimum dimensions for the passenger aisle width.

Limitations of Exemption No. 3548 affected:

As a condition for the GRANT OF EXEMPTION Number 3548, the British Aerospace Model 3101 airplane design was required to comply with requirements in § 25.815 of the FAR, as amended through

Amendment 25-38, and other related sections of Part 25 to permit type certification with two emergency exits instead of the required four emergency exits specified in SFAR No. 41, paragraph 5(e).

The petitioner's supportive information is as follows:

The Model 3101 airplane is originally certificated under Part 23 of the FAR with compliance with additional requirements of Part 25 which includes § 25.815 and SFAR No. 41. The minimum aisle widths for § 25.815 and SFAR No. 41, less than 25 inches from the floor is 12 inches and 9 inches, respectively, while Eastern Metro Express' installation is 12 inches, which meets or exceeds the requirements of both regulations. From a height of more than 25 inches from the floor, § 25.815 and SFAR No. 41 require 20 inches and 15 inches, respectively, while Eastern Metro Express' installation is 15 inches which is the minimum of the SFAR No. 41 requirement.

During original type certification of the Model 3101 airplane, the airplane manufacturer, British Aerospace, voluntarily used the aisle width requirements of § 25.815 in lieu of the requirements of sections of SFAR No. 41, reference Exemption No. 3548. Eastern Metro Express desires to use the aisle width of SFAR No. 41 of 15 inches for the minimum passenger aisle width, 25 inches or more from the floor. It is emphasized, Eastern Metro Express will exceed the dimensions for the minimum aisle width less than 25 inches from the floor for both the § 25.815 and SFAR No. 41 requirements.

With the seating arrangement in the Eastern Metro Express Model 3101 airplane with the UOP, Inc., Model 910 seats, the first through third row of seats (from the front) have the 15 inch dimension (25 inches or more from the floor), whereas with the staggered seating arrangement of the remaining rows of seats provide a greater aisle width, 25 inches or more from the floor at the seat back location. This provided aisle width exceeds the requirements for both § 25.815 and SFAR No. 41 at these locations. The emergency exit and passenger entrance door are both aft of the first three rows of seats.

As an added substantiation, to insure safety for the passengers, Eastern Metro Express performed two emergency evacuation demonstrations in a Model 3101 airplane with the proposed aisle width. The first emergency evacuation demonstration used the passenger entrance door for egress and was completed in 41.9 seconds. The second emergency evacuation demonstration used the overwing emergency exit, opposite side of the airplane from the passenger entrance door, for egress and was completed in 52.6 seconds. Both emergency evacuation demonstration times were less than the required maximum time of 90 seconds stated in SFAR No. 41 and were less than the type certification evacuation demonstration time conducted by British Aerospace with the previously approved seats and aisle widths.

Eastern Metro Express is of the opinion that compliance with SFAR No. 41 in lieu of § 25.815 of the FAR would be in the interest of the public since both SFAR No. 41 and § 25.815 have been previously approved by the Federal Aviation Administration (FAA) and the emergency evacuation demonstration results in an equal to or faster evacuation in an emergency situation; i.e., showed higher margin of safety. Further enhancements to Public Interest are cited under the reasons for the use of the UOP, Inc. Model 910 seats and are as follows: (1) increased structural strength, (2) improved vertical spinal alignment of passengers seated in the outboard seats, (3) increased seat pitch, (4) contoured seat back, (5) improved passenger comfort, (6) improved underseat storage, (7) lighter weight with corresponding fuel and pay load improvements, and (8) increased durability.

Comments of published petition summary:

A summary of the petition for exemption was published in the Federal Register on August 10, 1984 (49 FR 32145) and the FAA received no comments to the summary. This summary was published as a means of advising the public of the requested exemption and to permit interested persons to comment on the petitioner's request.

The Federal Aviation Administration's (FAA) analysis is as follows:

To obtain the exemption, the petitioner must show, as required by § 11.25(b)(5) of the FAR, that: (1) granting the request is in the public interest, and (2) the exemption would not adversely affect safety, or that a level of safety will be provided which is equal to that provided by the rule from which the exemption is sought.

The FAA has carefully reviewed the information contained in the petitioner's request for exemption.

The petitioner is seeking an exemption from one of the requirements established as a limitation in the Grant of Exemption, Exemption No. 3548, which permitted type certification of the British Aerospace Model Jetstream 3100 airplane to SFAR No. 41 without complying with the number of emergency exits as required by section 5(e), paragraph (g) of SFAR No. 41. British Aerospace, in support of their petition for exemption, stated that in lieu of showing compliance with various requirements of SFAR No. 41, it would show compliance with the requirements set forth in the following sections of Part 25 of the FAR:

§ 25.803(a) through (c)	§ 25.813(a), (c), and (e)
§ 25.807(a) through (c)	§ 25.815
§ 25.809(a) through (e), and (g)	§ 25.853(a), (b), and (e)
§ 25.811(a) through (g)	§ 25.855(a)
§ 25.812(a) through (e), (h), and (i)	

The FAA determined that, taken as a whole, compliance with the stricter evacuation and exit provisions proposed by British Aerospace compensated satisfactorily for the reduction in the number of exits, and that the net effect was not adverse to safety. Therefore, the British Aerospace Model Jetstream 3100 airplane was issued a type certificate by complying with the requirements of SFAR No. 41 and Exemption No. 3548.

The FAA has evaluated Eastern Metro Express' petition and has determined that the proposed interior passenger cabin safety system; i.e., type, number, and location of emergency exits, emergency light, emergency exit marking, emergency exit access, etc., maintains the level of safety set forth by the airworthiness standards for airplanes certificated to SFAR No. 41, notwithstanding the fact that two less emergency exits are installed in Eastern Metro Express' Model Jetstream Model 3101 airplanes. This determination is based upon showing of compliance with standards more stringent than required by SFAR No. 41.

To comply with the requirements of SFAR No. 41, Eastern Metro Express conducted two emergency evacuation demonstrations with the aisle widths proposed and differing from the requirement stated in Exemption No. 3548. The evacuation times of both demonstrations were less than the maximum permissible 90 seconds required by SFAR No. 41.

The FAA has evaluated the petitioner's contentions related to the public interest in a grant of the petition and is of the opinion that a grant of petition would be in the public interest for the reasons stated by the petitioner.

In consideration of the foregoing, I find that a grant of exemption is in the public interest and will not adversely affect safety. Therefore, pursuant to the authority contained in sections 313(a) and 601(c) of the Federal Aviation Act of 1958, as amended, delegated to me by the Administrator (14 CFR 11.53), Eastern Metro Express is hereby granted an exemption from aisle width requirements of Exemption No. 3548 to the extent necessary to obtain a Supplemental Type Certificate for installation of UOP, Inc., Model 910 seats in their British Aerospace Model Jetstream 3101 airplane, provided that their model airplane designs are shown to continue to comply with the requirements set forth in the following sections of the Federal Aviation Regulations and the aisle width specified:

§ 25.803(a) through (c) as amended through Amendment 25-46, notwithstanding that the petitioner's airplanes have less than 44 passengers;

§ 25.807(a) through (c) as amended through Amendment 25-46;

§ 25.809(a) through (e), and (g) as amended through Amendment 25-47;

§ 25.811(a) through (g) as amended through Amendment 25-46;

§ 25.812(a) through (e), (h) and (i) as amended through Amendment 25-46;

§ 25.813(a), (c), and (e) as amended through Amendment 25-46;

§ 25.853(a) and (b) as amended through Amendment 25-51;

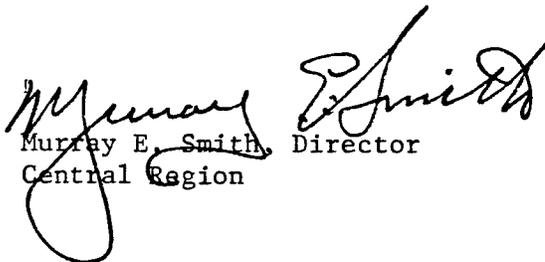
§ 25.855(a) as amended through Amendment 25-32; and

Aisle Width:

1. The width of the passenger aisle forward of Station 228.0 must not be less than 12 inches at any point from the floor to a height of 12 inches nor less than 15 inches at a height of more than 12 inches above the floor.

2. Aft of Station 228.0, the width of the passenger aisle between seats must not be less than 12 inches from the floor to a height of 25 inches above the floor and not less than 20 inches measured 25 inches and more above the floor.

Issued in Kansas City, Missouri, on SEP 28 1984

  
Murray E. Smith, Director  
Central Region