

**UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
RENTON, WASHINGTON 98057-3356**

In the matter of the petition of

Israel Aircraft Industries, Ltd.

for an exemption from § 25.807(g)(1) of Title
14, Code of Federal Regulations

Regulatory Docket No. FAA-2004-16969

GRANT OF EXEMPTION

By letter dated July 29, 2008, Mr. Ami Rogev, Director of Certification, Aircraft Division, Bedek Group, Israel Aerospace Industries (IAI), Ltd., LOD 70100, Israel, petitioned for an amendment to Exemptions 8350, issued on June 28, 2004, and 8350A, issued on March 28, 2005. Those exemptions granted IAI certain relief from Title 14, Code of Federal Regulations (14 CFR) 25.810(a)(1), 25.857(e) and 25.1447(c)(1). Those exemptions applied to Boeing Model 767-200 airplanes converted from a passenger to a freighter configuration. They allowed the non-crewmembers (commonly referred to as supernumeraries) carried aft of the flight deck on those converted airplanes to have access to the class E cargo compartment during flight. The petitioner now requests an amendment to Exemptions No. 8350 and 8350A to allow deactivation of the upper deck right hand door. The upper deck left hand door and the flight deck windows (LH and RH) will serve as the emergency escape routes for the occupants.

The petitioner submitted supplementary information via e-mail dated November 13, 2008. The purpose of this e-mail was twofold. It added information to the public interest statement contained in the original petition letter and it notified the FAA that IAI intends to exercise the privileges of the requested exemption outside the United States.

The petitioner has previously been granted relief from the following regulations:

Section 25.810(a)(1), at Amendment 25-88, which requires that each non-overwing emergency exit more than 6 feet from the ground have an approved means to assist occupants in descending to the ground. For passenger exits, this must be a self-supporting, automatically deployed and erected slide at each applicable exit.

Section 25.857(e), at Amendment 25-93, which requires, in part, that when a Class E cargo compartment is installed on the airplane, the airplane is used for carriage of cargo only.

Section 25.1447(c)(1), at Amendment 25-87, which requires, in part, that oxygen dispensing units must be automatically presented to the occupants before the cabin altitude exceeds 15,000 feet. The total number of dispensing units and outlets must exceed the number of seats by at least 10 percent. The extra units must be uniformly distributed throughout the cabin as practicable. There must be at least two oxygen dispensing units connected to oxygen terminals in each lavatory.

The petitioner seeks additional relief from the following regulations:

Section 25.807(g)(1) at Amendment 25-114 which requires, in pertinent part, that for a passenger seating configuration of 1 to 9 seats, there must be at least one Type IV or larger overwing exit in each side of the fuselage or if overwing exits are not provided, at least one exit in each side that meets the minimum dimensions of a Type III exit.

Related sections of 14 CFR

Section 121.583(a), which contains, in pertinent part, a listing of categories of persons who may be carried aboard an airplane in part 121 service without complying with all the requirements of part 121 pertaining to carriage of passengers.

Sections 25.812(g)(2), (h)(1), (h)(2)(i), (h)(2)(ii), (i), (j), (k), (l)(1), and (l)(3) at Amendment 25-88 which contain, in pertinent part, the exterior emergency lighting requirements.

The petitioner supports its request with the following information. This information is quoted from parts of Mr. Ami Rogev's July 29, 2008 petition letter. The complete petition and additional e-mail containing supplemental information may be found in the docket.

IAI is the holder of FAA STC ST01433SE for a major modification of a B767-200 aircraft from passenger to a special freighter (SF) configuration. During the certification IAI has petitioned for and was granted FAA exemptions number 8350 and 8350A pertaining to the following:

- Carriage on a freighter airplane of three non-crewmembers (supernumeraries) in a dedicated compartment immediately aft of the flight deck in addition to flight deck occupancy of two flight crewmembers and two observers.
- Access of persons into the Class E compartment in flight for the purpose of attending to the cargo.
- Use of quick donning oxygen masks in the supernumerary area and use of portable oxygen bottle by persons entering the Class E cargo compartment in lieu of self presenting oxygen masks.
- Use by non-crewmembers of inertia reel descent devices in lieu of slides as emergency egress assist means.
- Lack of assist space near floor level exits.

IAI has been requested by ABX Air to modify to the IAI special freighter (SF) configuration several 767-200 airplanes that have previously been modified to Package Carriers (PC) per ABX Air owned STCs. The airplanes in the PC configuration have seats for supernumeraries on the flight deck, accommodating a total of four supernumeraries and two flight crewmembers. This configuration was granted FAA exemptions number 6698 and 6698A pertaining to:

- Carriage on a freighter airplane of four non-crewmembers (supernumeraries) seated within the flight deck in addition to two flight crewmembers.
- Permanent deactivation of door 1R including removal of door tracks and using for emergency egress exits and means door 1L with a slide and flight deck window 2R with descent devices.

While the conversion to SF removes most of the PC installed items and brings the airplane to the standard SF configuration, it is not practical to rebuild door 1R opening capability. Therefore it is intended to keep the flight deck supernumeraries seating arrangement and the window 2R exit means in the PC configuration. The differences from the baseline approved SF conversion will be certified as a change to the IAI SF STC.

In order to accommodate the above changes IAI is petitioning for a change to exemptions 8350 and 8350A allowing for airplanes modified from PC to SF the same exemption granted to the PC with regard to the non-usage of door 1R and the usage of window 2R emergency exit.

This petition addresses only an exemption that is requested in addition to those previously granted in either 8350 or 8350A, to accommodate changes due to the PC retained items that were originally covered by ABX Air exemptions 6698 and 6698A. This exemption is requested only for a limited fleet of B767-300 aircraft (up to 24 airplanes) modified from a PC configuration to a special freighter (SF) under the IAI STC ST01433SE.

Description of the changes of the converted airplane configuration to accommodate the PC configuration

The 767-200SF airplane as certificated by STC ST01433SE has a smoke partition aft of doors 1L and 1R. The compartment created between this partition and the flight deck aft partition was defined as supernumeraries' compartment. A triple seat was installed in this compartment for the supernumeraries. Emergency exits were provided through door 1L and 1R. Since the smoke partition interfered with the door bustle, the slides were

removed and replaced by descent devices. With four seats in the flight deck the total occupancy was limited to seven persons.

For the PC airplanes modified to SF, instead of the addition of three supernumerary seats the total occupancy of the flight deck is increased from four persons to six persons: Two flight crewmembers and four non-crewmembers (supernumeraries). The existing pilot, co-pilot and two observer seats are retained from the type certified aircraft and two additional supernumerary seats are installed on the aft wall of the flight deck. This flight deck arrangement and occupancy has already been approved on these airplanes under ABX Air STC number ST01669AT-D.

Emergency exits arrangement and emergency evacuation

The aircraft is configured with three emergency escape exits: Door 1L, which is a Type A floor level exit and the two flight deck windows 2R and 2L. This arrangement of exits has been approved on the PC conversion by exemptions 6698 and 6698A.

Door 1L is the primary emergency exit means for the flight deck occupants. The SF installed 9g net and its distention space as dictated by the cargo envelope interfere with the space required for the original door mounted slide during door opening. Therefore the door 1L slide (which was retained by the PC conversion) is replaced by an emergency descent device consisting of 6 inertia reels and 6 escape harnesses which are installed adjacent to the door. An additional demo harness is provided for supernumerary briefing. A placard containing instructions for the use of the device is installed adjacent to the harnesses' stowage. This inertia reel descent device and its usage at door 1L is already part of the SF approved design.

Both flight deck side windows open from the inside of the airplane. RH window mechanism has been modified for the PC configuration to enable opening from the outside of the airplane as well. This will be retained in the SF configuration of these airplanes. Flight deck side windows are in compliance with the requirements of 25.807(j) and 25.809 for crew exits and are also equipped with descent devices as installed by the PC conversion.

Door 1R has been deactivated by the PC conversion that has removed most of the mechanism and the tracks necessary for its operation. It is impractical to re-activate this door due to the significant removals performed during the PC conversion.

Requested exemption

Exemption from the aforesaid Sections is sought to the following extent in addition to the previously approved exemption:

Section 25.807(g)(1): An exemption is requested to allow non-crew persons seated in the flight deck the usage of door 1L (Type A) and the flight deck crew type emergency exits (windows 2R and 2L) as emergency exits in lieu of the required two Type III or Type IV exits (one on each side).

Supporting arguments for the additional sections affected

In the SF configuration both doors 1L and 1R are used as emergency exits substituting the slides by descent devices. The group of airplanes for which this exemption is requested has been previously modified to a package carrier (PC) configuration in which door 1R was deactivated to allow space for cargo. The de-activation included not only removal of all door lifting mechanism but also structural removal of the door rail tracks. Reactivation of door 1R is impractical as it would involve major rebuild of the deleted door supporting tracks and mechanism that are not readily available at a very significant cost.

The exemption from Section 25.807(g)(1) is justified by the existence of three escape routes, all capable of [allowing] safe egress. The entry door on the left hand side is a Type A floor level door which exceeds the requirement for a Type III exit. The LH and RH flight deck windows are Type IV exits certified as flight crew emergency exits. The existing flight deck exits are already approved for flight deck occupancy of four people, of which two are non crew. The total number of supernumeraries and crew after conversion is limited to six. When considering the small number of persons on the airplane and the fact that the supernumerary persons are selected professional and trained people, the level of safety offered to them by the proposed exit arrangement would be equivalent to that provided to standard passengers on a full passenger airplane. The request for exemption is related to a limited number of airplanes (24 maximum) that have been previously used for carriage of small packages. In their current PC configuration these airplanes were already granted an exemption (reference exemptions 6698 and 6698A) allowing using the same arrangement of escape exits as proposed now. The only difference post modification to SF is that descent devices shall be used at door 1L instead of a slide as approved previously for the PC. The usage of descent devices at door 1L has already been approved for the SF modification for a total occupancy of seven persons whereas the current request is for six only.

A similar emergency exit configuration was granted exemption by the FAA to other airplanes (reference B767-300F airplane Exemption number 5993 and 5993A and 757-200 Exemption number 8258).

Public Interest

Granting the requested exemption will be in the public interest as the modification of the PC airplanes to SF configuration will allow their continued service carrying palletized cargo, whereas in the package carriers (PC) configuration the airplanes are no longer required and will be retired with a loss of assets. Mandating the reactivation of door 1R will increase the cost of the modification from PC to SF and require a significant investment effort without a significant improvement in safety.

It is a public interest to keep these airplanes on the global freighter fleet as the alternative is to replace them with newly produced freighters which will increase the cost of shipping freight.

***Federal Register* publication**

The FAA has determined that good cause exists for waiving the requirement for *Federal Register* publication because the exemption, if granted, would not set a precedent, and any delay in acting on this petition would be detrimental to Israel Aircraft Industries.

The FAA's analysis/summary is as follows:

By allowing these airplanes to be converted from package carriers to freighters, we will be allowing cargo flight operators to continue operating them, rather than retiring them because it would be too expensive to reactivate the upper deck RH door. Allowing continued use of these airplanes will help keep freight costs down, as will the ability of the carriers to carry cargo handlers on board as supernumeraries. These supernumeraries are also seen as a benefit to airplane safety and efficient operation of air cargo. For these reasons, we believe the petitioner's proposal to be in the public interest.

Certification regulations for transport category airplanes address airplane occupants as being either "crew" or "passengers." Due to differences in training, physical capabilities, and other factors, such as familiarity with the airplane, the means required by part 25 to address emergency evacuation and emergency equipment for passengers and crewmembers differ. Because supernumeraries are not crewmembers, they must be considered passengers by default with respect to part 25. However, supernumeraries do hold a special status because of their training and other factors. The FAA, therefore, has granted certain exemptions to allow carriage of supernumeraries on cargo airplanes without compliance with all of the part 25 standards for passengers, provided that certain other conditions are met. Those conditions have varied depending on the airplane design, the nature of the proposals under consideration, and the number and location of persons to be carried.

Section 25.807(g)(1) requires one Type III (20" X 36") emergency exit on each side of the fuselage for 9 or fewer passengers if overwing exits are not provided. In lieu of providing a Type III exit on each side for the supernumeraries, the petitioner proposes to provide one larger Type A (42" X 72") exit on the left side of the fuselage only. Although no passenger exit would be provided on the right side, the petitioner notes that the flight deck windows (LH and RH) would be available for use by the supernumeraries. In view of the very large exit that would be available on the LH side and the availability of the flight deck windows (LH and RH) as emergency escape paths, the FAA considers that the petitioner's proposed installation of inertia reels and harnesses at the entry door and flight deck windows (LH and RH) provides an adequate level of safety to supernumeraries for the petitioner's airplane configuration.

It should be noted that if life-rafts must be installed for flights over water, they must be of a design that can be launched out the RH flight deck window.

The FAA's decision

In consideration of the foregoing, I find that an amendment to grants of exemption is in the public interest. Therefore, pursuant to the authority contained in 49 U.S.C. §§ 40113 and 44701, delegated to me by the Administrator, Israel Aircraft Industries is hereby granted an amendment to Exemptions No. 8350 and 8350A which adds to those previous exemptions an exemption from 14 CFR 25.807(g)(1) at Amendment 25-114.

This amendment is granted to the extent required to permit type certification of Boeing Model 767-200 airplanes that have been converted from a package carrier to a special freighter configuration with provisions for carriage of supernumeraries. On these airplanes the upper deck right hand door has been deactivated and the upper deck left hand door and the flight deck windows (LH and RH) will serve as the emergency escape routes for the occupants. The following limitations apply and, of those, limitations number 1 through 5 and 8 through 11 must be documented in the limitations section of the airplane flight manual:

1. The total maximum occupancy of the airplane is limited to six persons:
2 flight crewmembers and 4 non-crewmembers (supernumeraries).
2. Supernumeraries are limited to the categories specified in § 121.583(a)(1) through (a)(7).
3. Prior to each flight, a flight crewmember must brief each supernumerary on the use of the exits and emergency equipment, including instructions to inspect the ground to determine whether a safe landing can be achieved before using an assist means.
4. The operator must determine that each supernumerary is physically able to accomplish the necessary emergency procedures.
5. Each supernumerary must be provided with a portable oxygen unit with a mask attached to it that he or she must carry whenever he or she is in the Class E cargo compartment. The portable oxygen units may be located in a common area. The supernumeraries must be trained in the use of these oxygen units. Additionally, the oxygen units must be sized adequately for continuous and uninterrupted use during worst-case flight duration following decompression.
6. For the left-hand main entry door, emergency lighting must provide adequate illumination at the ground end of the assist means, where an evacuee would

normally make first contact with the ground, with the airplane in each of the attitudes corresponding to the collapse of one or more legs of the landing gear.

7. For the exits designated for supernumerary use, 6 descent devices (commonly known as inertia reels) and 4 harnesses for use with the descent devices, available for the supernumeraries to use, must be provided.
8. An automatically activated aural decompression signal must be present and immediately recognizable in accessible areas of the Class E cargo compartment to notify supernumeraries when to don oxygen masks. No signal is required in accessible areas in the Class E cargo compartment if an Airplane Flight Manual limitation is established prohibiting supernumeraries from being in the Class E cargo compartment during flight. The pre-flight briefing must include training in the sound of the signal, the meaning of the signal, and the response to the signal (i.e., procedures for donning the masks and activating the flow of oxygen).
9. A flightcrew-operated aural or visual annunciation that is recognized in accessible areas of the Class E cargo compartment must be installed to indicate, during turbulence, that persons must return to their seats. Appropriate procedures and limitations must be established to ensure that the flightcrew signals the supernumeraries to return to their seats at the onset of turbulence and prior to landing. The pre-flight briefing must explain this annunciation to the supernumeraries. This briefing, annunciation, and the associated procedures and limitations are not required if an Airplane Flight Manual limitation is established to prohibit supernumeraries in the Class E cargo compartment during flight.
10. A flightcrew-operated aural or visual annunciation that is recognized in accessible areas of the Class E cargo compartment must be installed to indicate, during a fire in the Class E cargo compartment, that persons must return to their seats and ensure that the smoke barrier is secured (i.e., the door or curtain is closed). Appropriate procedures and limitations must be established to ensure that the flightcrew signals the supernumeraries, at the onset of a fire, to return to their seats and secure the smoke barrier. The pre-flight briefing must explain this annunciation to the supernumeraries. This briefing, annunciation, and associated procedures and limitations to signal the supernumeraries are not required if an Airplane Flight Manual limitation is established to prohibit supernumeraries in the Class E cargo compartment during flight.
11. A placard must indicate that the smoke barrier must be secured (i.e., the door or curtain must be closed) when the Class E cargo compartment is not occupied. The placard must be located in a conspicuous place in the flight

deck either on or next to the smoke barrier. The pre-flight briefing must inform supernumeraries of this requirement and whether or not they may enter the Class E cargo compartment.

Issued in Renton Washington, on March 10, 2009

/s/Ali Bahrami
Ali Bahrami
Manager, Transport Airplane Directorate
Aircraft Certification Service