

**Exemption No. 8350A**

**UNITED STATES OF AMERICA  
DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION  
RENTON, WASHINGTON 98055-4056**

In the matter of the petition of

**Israel Aircraft Industries, Ltd.**

for an exemption from §§ 25.810(a)(1),  
25.857(e), and 25.1447(c)(1) of Title 14,  
Code of Federal Regulations

**Regulatory Docket No. FAA-2004-16969**

**GRANT OF EXEMPTION**

By letter dated July 26, 2004, Mr. Samuel Ifergan, Senior Director Quality Assurance, Bedek Aviation Group, Israel Aircraft Industries Ltd., LOD 70100, Israel, petitioned for an amendment to Exemption No. 8350, previously issued on June 28, 2004. That exemption granted Israel Aircraft Industries, Ltd. certain relief from §§ 25.810(a)(1), 25.857(e), and 25.1447(c)(1) to allow carriage of three non-crewmembers (commonly referred to as supernumeraries) located aft of the flight deck on Boeing Model 767-200 airplanes which have been converted from a passenger to a freighter configuration. The petitioner now requests an amendment to Exemption No. 8350 to permit access into the Class E cargo compartment during flight by the supernumeraries, i.e., animal handlers or groomers to care for the live animals.

**The petitioner requests relief from the following regulations:**

**Section 25.810(a)(1)**, Amendment 25-88, 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, requires, in pertinent 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, requires, in pertinent 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 as uniformly distributed throughout the cabin as practicable. There must be at least two oxygen dispensing units connected to oxygen terminals in each lavatory.

**Related sections of the regulations:**

**Section 121.583(a)** 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.

**The petitioner supports his request with the following information:**

“In the subject exemption IAI has been granted an exemption from meeting certain requirements related to the carriage on a freighter airplane of three non-crewmembers (persons not necessarily assigned some duty associated with the operation of the airplane, commonly referred to as supernumeraries) in addition to the maximum existing flight deck occupancy (Two flight crew and two observers), with a limit on the total occupancy of seven.

“The exemption granted included a limitation that prohibits the entry of the supernumerary persons aft of the 9g net during flight, stating that such entry would require additional limitations.

“IAI is requesting to reconsider this limitation on the following grounds:

“A reconsideration may be requested as specified under 11.101 (a) if there is additional significant fact that has not been submitted.

“The fact that has not been submitted is that the IAI design already incorporates the features necessary to ensure the safety of persons entering in flight the class E compartment.

“These features were designed based on recognition of FAA limitations previously specified for other aircraft modifications and are described herein.

“As recognized by FAR 121.583 the purpose of the supernumeraries is among others to take care of animals. The safe care or handling of animals requires entry into the class E compartment in flight.

“The limitation imposed by the exemption would limit the potential usage of the aircraft by the operator, having an economic impact as well.

“IAI proposes the following safety features and limitations for entry of supernumerary persons into the class E compartment in flight:

“1. Only one person at a time may enter the class E compartment for purpose of cargo inspection.

“2. A portable oxygen bottle and mask shall be located in the supernumerary area near the entrance to the class E compartment. The bottle and mask must be carried by the person entering the compartment at all times.

“3. Smoking shall be prohibited in the compartment.

“4. The door to the class E compartment must be closed at all times except for entry and exit. The compartment must not be entered in case of fire in the class E compartment.

“Note: The certification tests of the conversion have already considered the possibility of entrance into the cargo compartment by including in the smoke penetration test a door opening for five seconds to simulate a person exiting the compartment.

“5. A flight deck operated switch would activate flashing of the compartment lights for a duration of 10 seconds to indicate to any person within the compartment that immediate return to seat and use of oxygen is required.

“6. All the limitations shall be printed on a placard to be placed on the compartment entry door and shall be included in the flight manual.

“7. In addition the flight manual shall instruct the flight crew to brief the supernumeraries before each flight about the limitation and procedures in case of entry into the class E in flight.

“In view of the above IAI requests to amend the exemption and change the limitation to allow entry in flight of supernumerary persons into the class E compartment in order to fulfill their duties and avoid limiting the aircraft use.”

A summary of this petition was not published in the Federal Register for public comment because the nature of this exemption is similar to previous petitions for which no public comments were received.

**The FAA's analysis/summary is as follows:**

Exemption No. 8350 was granted to Israel Aircraft Industries, Ltd. with a limitation that restricted its applicability to permit animal handlers access into the Class E cargo compartment during flight to attend to the live animals. The original petition for exemption did not include a request to permit supernumerary access to the Class E cargo compartment, or a proposed design consideration for this access. Therefore, the exemption was granted with limitation number 5 stating that access to the Class E cargo compartment was prohibited during flight. The petitioner has submitted additional information and proposed limitations to allow supernumerary access to the Class E cargo compartment during flight for the purpose of attending to live animals.

Class E cargo compartments are usually remote from the flightdeck and encompass the entire interior of the airplane. The means of controlling fires that might occur in the cargo compartment is to starve the fire of oxygen. This is accomplished by depressurizing the airplane and maintaining an altitude that will not support combustion. The FAA has previously granted exemptions for carriage of persons in addition to crew on freighter airplanes and allowed access to the cargo compartment, provided that certain other conditions are met. These conditions have varied depending on the airplane design and the number of persons involved.

In all cases, there must be suitable means of preventing smoke penetration into areas that are occupied. The petitioner's design accounts for this by providing a barrier, which must comply with the smoke penetration requirements for the flight deck and the supernumerary compartment. However, the petitioner has indicated that configurations may be approved that will allow supernumeraries to enter the Class E cargo compartment and hence open the smoke barrier between the cargo compartment and the supernumerary compartment. In order to provide an appropriate level of safety, the petitioner must install a placard indicating that the smoke barrier is to be secured (i.e., the door or curtain must be closed) when there are no occupants in the Class E cargo compartment. The placard must be located in a conspicuous place, either on or next to the smoke barrier.

If access into the Class E cargo compartment is allowed, an aural or visual annunciation operated by the flightcrew and recognized in the Class E cargo compartment must be installed to indicate that persons must return to their seats and secure the smoke barrier (i.e., close the door or curtain) during a fire in the Class E cargo compartment. Appropriate procedures and limitations would need to be established to ensure that the flightcrew signals the supernumeraries to return to their seats and secure the smoke barrier at the onset of a fire. The pre-flight briefing would need to explain this annunciation to the supernumeraries.

Due to the way that fire in the cargo compartment is to be controlled, it is necessary to limit persons on board the airplane to those who have been found physically fit by the operator and have been briefed on the use of the emergency equipment. This limitation on the occupants is consistent with previous approvals and is included in this approval.

The petitioner indicates that configurations may be approved that will allow the supernumeraries to enter the Class E cargo compartment to tend to animals or hazardous cargo. In order to provide an acceptable level of safety to the “immediately available” requirement of § 25.1447(c)(1), each supernumerary must carry on his or her person a portable oxygen bottle with a mask connected to it while in the Class E cargo compartment.

Section 25.1447(c)(1) also requires automatic presentation of the oxygen dispensing units. For seated passengers in typical passenger airplanes, the automatic presentation of masks throughout the cabin indicates the need to don an oxygen mask. However, supernumeraries in the Class E cargo compartment will not have this indication. To provide an acceptable level of safety, an automatically activated aural decompression signal must be immediately recognizable throughout accessible areas in the Class E cargo compartment. Operation of this signal must be automatic with flightcrew manual action as a backup.

Configurations may be approved for carrying cargo, which would not require supernumeraries to access the Class E cargo compartment. For these configurations, an aural decompression signal is not required to be recognizable in the Class E compartment if an Airplane Flight Manual limitation is established to prohibit supernumeraries from being in the Class E cargo compartment during flight.

Supernumeraries must be trained about the location and use of the oxygen equipment and the signals for its use. Additionally, the oxygen units must be sized adequately for continuous and uninterrupted use during worst-case flight duration following decompression.

The petitioner proposes limiting the number of supernumeraries allowed in the Class E cargo compartment to only one. Provided the appropriate portable oxygen bottles and masks are available for use by the supernumeraries entering the cargo compartment, the FAA is not limiting the access to only one supernumerary person at a time. These conditions allow all of the supernumeraries access to the Class E cargo compartment at the same time. This allows for the maximum flexibility in operation of the airplane.

Exemption No. 8350 prohibits supernumerary personnel access into the cargo compartment during flight. The petitioner requests that Exemption No. 8350 be amended to permit supernumerary personnel access into the class E cargo compartment during flight to attend to live animals. The FAA considers the petitioner’s proposal to be in the public interest for the same reasons as those discussed in Exemption No. 8350, when the additional conditions and limitations identified in this amendment are included for access into the class E cargo compartment during flight.

In consideration of the foregoing, I find that an amendment to Exemption No. 8350 is in the public interest and will not affect the level of safety provided by the regulations. Therefore, pursuant to the authority contained in 49 U.S.C. 40113 and 44701, delegated to me by the Administrator, Israel Aircraft Industries Ltd. is hereby granted an amendment to Exemption

No. 8350. The amendment is granted to the extent required to permit type certification of Boeing Model 767-200 airplanes, which have been converted from a passenger to a freighter configuration with provisions for the carriage of supernumeraries. All other limitations of Exemption No. 8350 apply to this exemption. In addition, the following limitations apply and limitations no. 1 through 11 must be documented in the limitations section of the airplane flight manual:

1. A maximum of three supernumeraries may occupy the area just aft of the flight deck. The total maximum occupancy of the airplane is limited to seven persons including the flightcrew.
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 exits designated for supernumerary use, 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, seven descent devices (commonly known as inertia reels) and three 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, which is recognized in accessible areas in 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, which is recognized in the Class E cargo compartment, must be installed. This aural or visual annunciation is to indicate that during a fire in the Class E cargo compartment 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 28, 2005.

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