

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

In the matter of the petition of

**THE BOEING COMPANY**

for an exemption from §§ 25.807(c) and  
25.857(e) of Title 14, Code of Federal  
Regulations

**Regulatory Docket No. FAA-2007-27851**

**GRANT OF EXEMPTION**

By letter dated August 9, 2006, Mr. David J. Horn, DAS Administrator, The Boeing Company, PO Box 7730, Wichita, Kansas, petitioned for an exemption from §§ 25.807(c) and 25.857(e) of Title 14, Code of Federal Regulations (14 CFR). The proposed exemption, if granted, would permit carriage of 8 non-crewmembers (commonly referred to as supernumeraries) in the upper deck compartment located aft of the flightdeck on Boeing Model 747-300 series airplanes which have been converted from a combination passenger-freighter configuration to a freighter configuration.

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

**Section 25.807(c)**, at Amendment 25-55, requires, in pertinent part, that for a passenger seating capacity of 1 through 9, the airplane be equipped with one pair of Type IV exits.

**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 be used only for carriage of cargo.

**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.

**A summary of petitioner's supporting information**

The petitioner seeks an exemption from § 25.807(c), Amendment 25-55, and § 25.857(e), Amendment 25-93, to allow the operators of a Boeing Model 747-300 airplane which has been converted to a special freighter to carry up to 8 supernumeraries while operating with a main deck class E cargo compartment.

The petitioner indicates that an exemption is appropriate because airplane and personnel safety measures will be incorporated to allow the carriage of the supernumeraries. The airplane has adequate emergency egress exits for both the crewmembers and the supernumeraries; both can use the aft cabin exits, and the crewmembers can also use the overhead emergency hatch. All required emergency equipment has been installed in the flight deck and in the upper deck cabin, and both areas are protected from smoke, flames, and harmful gases. A list of specific safety measures pertaining to emergency egress, emergency equipment, training, and related protection for the supernumeraries is provided in the petition for exemption.

An Airplane Flight Manual Supplement will limit the categories of persons to be carried on the 747-300 special freighter and will specify that the operators must instruct the supernumeraries in the use of the exit doors and slide/rafts and must determine that they are able to use that equipment. The petitioner states that because of the level of safety provided by part 25 and § 121.583, there is no apparent decrease in the level of safety provided.

### **Summary of the Petitioner's Public Interest Statement**

The exemption is in the public interest because the number of cargo operations has increased and is projected to increase further in the future. Using 747-300 airplanes which have been modified as special freighters is an economical way for air cargo operators to support this increasing demand. The modification provides room to carry supernumeraries who meet the criteria of § 121.853 on the upper deck. The supernumeraries include specialists in the loading, care, and unloading of special cargo.

Carrying these specialists will improve the utility of air cargo airplanes and increase the efficiency and safety of their operation. (Such cargo specialists may not be available at the airports to which the cargo is being transported.) Being able to carry the cargo handlers on the special freighter, therefore, serves the public interest by providing less expensive shipment of cargo, which results in lower cost for materials transported by air, and, ultimately, results in lower customer costs for such materials or for products made from them.

The Boeing Company's complete petition for exemption, including all its supporting information is available on the Department of Transportation's website at <http://dms.dot.gov>. The docket number is FAA-2007-27851.

### **Public Comment**

A summary of the petitioner's request for exemption was not published in the Federal Register. This petition for exemption is very similar to others of which a summary was published and for which no public comments were received.

### **The FAA's analysis**

The FAA considers the petitioner's proposal to be in the public interest for the reasons stated by the petitioner.

Regulations for transport category airplanes classify airplane occupants as either "crew" or "passengers." Due to differences in training, physical capabilities, and other

factors (such as familiarity with the airplane), part 25 specifies different emergency equipment and different means of emergency evacuation for crewmembers and for passengers.

Because supernumeraries are not crewmembers with respect to part 25, they must be considered “passengers” by default. However, supernumeraries do hold a special status because of their training and other factors. The FAA, therefore, has granted certain exemptions to allow the 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 request under consideration, and the number and location of persons to be carried.

The petitioner has requested relief from the requirements of § 25.857(e), which permit carriage of only cargo when a Class E cargo compartment is installed on the airplane. 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. For this reason, only crewmembers are typically permitted on board such airplanes. The supernumeraries subject to this petition will occupy the upper deck compartment, located just aft of the flightdeck.

The FAA has determined that, due to the way that fire in the cargo compartment is to be controlled, the operator must find that supernumeraries onboard an airplane are physically fit and must brief them on the use of emergency equipment. These limitations are consistent with previous grants of exemption and will be included in this grant of exemption. There must also be suitable means of preventing smoke penetration into occupied areas. The petitioner’s design accounts for this by providing a barrier which complies with the requirements pertaining to smoke penetration to protect supernumeraries in the upper deck compartment aft of the flightdeck.

The petitioner has requested relief from § 25.807(c), which requires, in pertinent part, that for a passenger seating capacity of 1 through 9 the airplane be equipped with a pair of Type IV exits. The airplane, as described, is equipped with a pair of Type A exits which have been re-rated to Type I. Since the Type I exits are larger than the Type IV exits, the airplane exceeds the minimum requirement. Therefore, there is no need for an exemption from § 25.807(c).

In consideration of the foregoing, I find that a grant of exemption 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, the Boeing Company, is hereby granted an exemption from §§ 25.857(e) Amendment 25-93. The petition is granted to the extent required to permit type certification of Boeing Model 747-300 airplanes which have been converted from a combination passenger-freighter configuration to a freighter configuration with provision for the carriage of supernumeraries. The following limitations apply and must be documented in the Limitations Section of the AFM:

1. A maximum of 8 supernumeraries may occupy the area just aft of the flightdeck. The total maximum occupancy of the airplane is limited to 13 persons, including the flightcrew (3 on-duty flightcrew members and 2 off-duty flightcrew members).
2. Supernumeraries are limited to the categories specified in §§ 121.583(a)(1) through (a)(7).
3. Prior to each flight, a flightcrew member must brief each supernumerary on the use of the exits, including instructions to view the ground to determine whether a safe landing can be achieved before using an assist means and emergency equipment.
4. The operator must determine that each supernumerary is physically able to accomplish the necessary emergency procedures.

5. Supernumeraries are prohibited from being in the cargo area below the smoke barrier during taxi, takeoff, landing, and flight. The preflight briefing must inform the supernumeraries of this requirement.

Issued in Renton, Washington, on May 14, 2007.

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