

Exemption No. 8698

**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 § 25.857(e) of Title
14, Code of Federal Regulations

Regulatory Docket No. FAA-2005-23188

PARTIAL GRANT OF EXEMPTION

By letter dated January 4, 2006, Mr. Jon D. Wickell, DAS-501296-CE Certification Engineer, The Boeing Company, PO Box 7730, Wichita, KS, 67277-7730, petitioned the Federal Aviation Administration (FAA) for an exemption from the requirements of § 25.857(e) of Title 14, Code of Federal Regulations (14 CFR). The proposed exemption, if granted, would permit carriage of six non-crewmembers (commonly referred to as supernumeraries) on Boeing Model 767-200 airplanes, which have been converted from passenger to Tanker Transport (TT) airplanes.

The petitioner requests relief from the following regulation:

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.

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's supportive information is as follows:

"Supporting Information: The 767-200 Tanker Transport is a modified Type Certified 767-200 aircraft. The aircraft is capable of being converted from an all passenger configuration to an all cargo configuration. The passenger configuration allows the carriage of 200 persons. The all cargo configuration included a main deck Class E cargo compartment with Class C lower lobe cargo compartments. The 767-200 Tanker Transport will be certified under Supplemental Type Certificate.

"As required by 14 CFR 11.81(e), justification for the exemption from 14 CFR 25.857(e) is based on the cabin configuration meeting all required emergency egress and safety requirements for a passenger airplane as outlined below:

- "1. The 767 TT is equipped with two Type C exits located on the left and right side of the aircraft just aft of the flight deck. Even though the interior configuration requires the door be re-rated as a Type C exit, the exit maintains the physical size of a 767-200 production Type A exit. It provided a clear opening of 42 inches wide by 72 inches high and is floor level. These exits are openable from the outside.
- "2. The right and left hand Type C exits include retention of the production certified Type A exit self supporting slide/rafts. These slide/rafts deploy automatically when the exit is opened.
- "3. The configuration of the cabin in the proximity of the right and left hand exits is identical to the passenger configuration and allows for a crew member to assist in the evacuation of persons without reducing the unobstructed width of the passageway below that required for a Type A exit. However, due to the increased training of these supernumerary personnel, crew assist will not be necessary.
- "4. The additional persons would be expected to exit from either the right or left hand Type C exit as their means of egress. These exits are also available to the flight deck occupants and would be considered their primary means of egress.
- "5. In addition, the 767 TT flight compartment left and right hand windows can be used for flight compartment escape via escape rope(s), identical to the production 767-200.
- "6. The ratio of two flight crew members to six persons provides a more than adequate level of leadership and control during an emergency evacuation. The availability of a full passenger exit configuration (Type A re-rated to Type C with automatic slide/rafts) improves the crews ability to manage egress of the aircraft.
- "7. All required forward cabin emergency equipment is retained from the passenger configuration and include life vests, emergency locator transmitter, portable oxygen, two fire extinguishers and two protective breathing equipment (PBE) apparatus.

"8. The supernumeraries will be provided with an emergency oxygen source and supply in support of Class E cargo fire suppression of 195 minutes of unpressurized flight at 25,000 feet altitude and emergency descent.

"9. The forward cabin area emergency lighting systems, including floor mounted escape lighting, is retained from the passenger configuration.

"10. The forward cabin area retains the passenger configuration two-way flight deck/cabin intercom system.

"11. The forward cabin will have protection from hazardous quantities of smoke, flames, or noxious gases via the Class E cargo compartment barrier which also serves as a fire/smoke barrier.

"12. Boeing proposed the carriage of the supernumeraries be limited by the Airplane Flight Manual Supplement (AFMS) to persons as defined in FAR 121.583(a)(1) through (7). This limitation shall include the requirement for the operator to ensure that the requirements of § 121.583(b) through (d) are met. The operator must instruct the occupants in the autonomous use of the emergency equipment and escape means provided.

"13. The operator will be responsible to develop an FAA-approved training plan that satisfies the AFM requirements for carriage of supernumeraries.

"As required by 14 CFR 11.81(d), this exemption is in the public interest as cargo operators have a need for a variety of mission support personnel. Specific mission support personnel may include cargo specialists who are required to ensure proper loading and unloading of fragile or other special types of cargo. In addition, some destination airfields may not have cargo-handles readily available, obligating operators to transport persons to ensure safe and timely unloading of cargo.

"Related Part 25 Requirements: The table below summarizes the pertinent requirements associated with supernumeraries egress and how they are met on the 767-200 Tanker transport all cargo configuration.

14 CFR Part 25	Amendment	Requirement	767 TT Compliance
25.803(a)	25-72	Each crew and passenger area must have emergency means to allow rapid evacuation in crash landings, with the landing gear retracted, considering the possibility of the airplane being on fire	The exit configuration in the all cargo configuration consists of two forward Type C exits and two flight deck escape windows.
25.807(g)(1)	25-94	For a passenger seating configuration of 1 to 9 seats,....	The exit configuration in the all cargo passenger

		at least one exit in each side that meets the minimum dimensions of a Type III exit	area consists of two forward Type C exits (one on each side).
25.810(a)(1)	25-88	Each non-overwing Type A, B or C exit must have an approved means to assist the occupant descending to the ground (including definition of automatic deployment capabilities, maximum erection times and usability under certain wind conditions).	The left and right hand forward exits have dual lane self erecting slide/rafts (unchanged from the incoming type certified 767-200 airplane).
25.812(a), (b)(1), (c), (d), (e)	25-88	Emergency Lighting	The forward cabin area will retain the applicable emergency lighting from the passenger configuration.
25.813(b)	25-88	Adequate space to allow crew members to assist in the evacuation of passengers must be provided.	The area around the Type C exits is the same as that of the fully compliant passenger configuration and affords a crew member to assist passenger personnel if required.
25.851(a)(1)	25-74	Requires 1 hand fire extinguisher in passenger compartments of 7-30 passengers	The forward cabin area will retain 2 fire extinguishers from the passenger configuration.
25.1415	25-82	Ditching Equipment	The forward cabin area retains the exit slide/raft, life vests, and emergency locator transmitter from the passenger configuration.

Table 1 - Related 14 CFR 25 Sections and Compliance of the 767 TT

"Applicant's Position: Boeing's position is that an exemption from 14 CFR Part 25.857(e) is appropriate for the 767 TT all cargo configuration limit of eight persons consisting of two (2) flight crew members and up to six (6) supernumeraries. The 767 TT includes automatic deployment of self erecting dual aisle slide/rafts as the left and right hand exits to assist occupants to the ground. The cockpit will retain the flight deck windows and escape rope(s) as a secondary means of egress.

"The 767 TT retains all necessary emergency equipment from the passenger configuration. The forward cabin is protected from the effects of smoke, flames and harmful gases with the cargo compartment smoke/fire barrier.

"The category of supernumeraries to be carried aboard the 767 TT will be limited and controlled by the AFMS. The proposed AFMS limitations will have the operators instruct the occupants in the use of the exit doors and the ropes and determine that the occupants are able to operate and use the equipment.

"As the 767 Tanker Transport configuration is compliant with all passenger exit/egress requirements as a result of the alternate passenger configuration, the request for exemption is limited to relief from 25.857(e) with respect to the limitation "that a Class E cargo compartment is one on airplanes used only for carriage of cargo". Carriage of trained supernumerary personnel will be beneficial in improving the utility of cargo airplanes and increase the efficiency and safety of their operations, all of which are in the public interest."

Federal Register publication

A summary of this petition was published in the Federal Register on January 3, 2006 (71 FR 3603). No public comments were received.

The FAA's analysis/summary is as follows:

The FAA considers that it is in the public interest to issue an exemption for the following reasons:

1. The FAA has granted several exemptions for the carriage of supernumeraries on cargo airplanes;
2. These supernumeraries are seen as a benefit to airplane safety and efficient operations of air cargo; and
3. A significant disruption of air commerce could occur if the petition were not granted.

The petitioner has requested relief from the requirements of § 25.857(e), which permits carriage of cargo only 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 a fire 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 permitted on board such airplanes.

The FAA has previously granted exemptions for carriage of persons in addition to crew on similar airplanes, provided that certain conditions are met. The conditions (or limitations) established for those previous exemptions also apply in this case.

In all cases, there must be suitable means of preventing smoke penetration into areas that are occupied. The petitioner's design addresses this requirement by providing a bulkhead which acts as a smoke barrier.

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

The petitioner has proposed an oxygen system for the supernumeraries at their seats. This system must be sized adequately for continuous and uninterrupted use during worst-case flight duration, considering the decompression procedures used to suppress a fire in a Class E cargo compartment.

In consideration of the foregoing, I find that a partial grant 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, The Boeing Company is hereby granted an exemption from 14 CFR 25.857(e). The petition is granted to the extent required to permit supplemental type certification of Boeing Model 767-200 airplanes, which have been converted from a passenger to a cargo tanker transport configuration, with provisions for the carriage of supernumeraries. The following limitations apply and must be documented in the limitations section of the airplane flight manual (AFM):

1. Occupancy outside the flightdeck is restricted to a maximum of six persons and the total occupancy of the airplane is restricted to eight persons including the flight crewmembers.
2. Supernumeraries are limited to the categories specified in §§ 121.583(a)(1) through (7).
3. Supernumeraries are prohibited from being in the cargo area during flight. The pre-flight briefing must inform supernumeraries of this requirement.
4. Each supernumerary must be briefed by a flight crewmember on the use of the exits and emergency equipment prior to each flight.
5. The operator must determine that each supernumerary is physically able to accomplish the necessary emergency procedures.
6. An aural and visual decompression signal must be provided to notify supernumeraries when to don oxygen masks. This signal must be automatically activated and be immediately recognizable throughout the supernumerary seating area. Notification of the existence of this signal, and the accompanying procedures for donning a mask and activating oxygen flow, must be included in a pre-flight briefing.
7. An aural or visual annunciation must be installed to indicate that, during turbulence, persons must return to their seats. This signal must be operated by the flightcrew and be

recognized in the supernumerary seating area. Notification of the existence of this signal, and the accompanying procedures for returning to their seats, must be included in a pre-flight briefing.

Issued in Renton Washington, on March 24, 2006.

signed by Ali Bahrami

Ali Bahrami

Manager, Transport Airplane Directorate

Aircraft Certification Service