

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

In the matter of the petition of

Kitty Hawk Aircargo

for exemption from §§ 25.855(a),
25.857(e), and 25.1447(c)(1) of Title 14,
Code of Federal Regulations

Regulatory Docket No. FAA-2007-28761

PARTIAL GRANT OF EXEMPTION

By letters dated March 20, 2007, May 2, 2007, and May 21, 2007, Danny K. Clifton, Vice President of Flight Operations, Kitty Hawk Aircargo, 1535 West 20th Street, P.O. Box 612787, DFW International Airport, TX 75261, petitioned for an exemption from §§ 25.855(a), 25.857(e), and 25.1447(c)(1) of Title 14, Code of Federal Regulations, to allow carriage of up to 16 non-crewmembers to attend to live animal cargo on Boeing 727-200 airplanes converted from passenger airplanes to freighters.

The petitioner requests relief from the following regulations:

Section 25.855(a) at Amendment 25-116 requires that cargo compartments meet one of the class requirements of § 25.857.

Section 25.857(e) at Amendment 25-93 defines the attributes of a Class E cargo compartment and provides that a Class E cargo compartment may not be on any airplane other than one used exclusively for carriage of cargo.

Section 25.1447(c)(1) at Amendment 25-116 requires, in pertinent part, that oxygen masks be immediately available to each seated occupant, be automatically deployed with manual backup, and exceed in number the quantity of seats by ten percent with the extra units distributed evenly throughout the cabin.

Related regulations:

Section 121.285 contains requirements pertaining to the carriage of cargo in passenger compartments.

Section 121.310 requires, in pertinent part, emergency escape means in accordance with § 25.809(f)(1), emergency exit markings and signs, emergency lighting in accordance with § 25.812, and passageways and accesses to emergency exits.

Section 121.317 requires “No Smoking” and “Fasten Seat Belts” signs in accordance with § 25.791 and “No Smoking” placards in accordance with § 25.1541.

Section 121.583(a) lists categories of people who may be carried aboard an airplane in part 121 service without complying with all the passenger-carrying airplane requirements of part 121.

Section 121.583(b) contains requirements for passenger-carrying operations, including emergency exit access, seats, safety belts, and means to notify the occupants when smoking is prohibited and when safety belts must be fastened.

The petitioner supports its request with the following information:

Kitty Hawk Aircargo is requesting exemption from certain requirements related to carriage of up to 16 non-crew members (commonly referred to as supernumeraries) on Boeing 727-200 airplanes converted to carry cargo rather than passengers. The supernumeraries are animal handlers needed to attend to horses being carried as cargo. This request is similar to those for exemptions previously granted for this type of operation.

Kitty Hawk Configuration

The cargo compartment has been modified in accordance with Supplemental Type Certificate SA1076NE to comply with the passenger-carrying requirements of § 121.583(b). There are two seats mounted on the aft side of the flight deck bulkhead forward of the 9G cargo barrier and sixteen seats mounted in the aft end of the airplane aft of all of the cargo.

Attached to or adjacent to each of these seats is a portable oxygen system which provides oxygen to seat occupants when needed. The supernumeraries carry these systems with them when they are out of their seats. The oxygen masks are connected to the bottle but the mask is not automatically presented to the supernumeraries.

The available exits for the supernumeraries in the airplane are the forward left hand Type I exit which is located forward of the 9G cargo barrier, the four (4) overwing exits, and the aft ventral air stairs.

The pilot in command has a means of notifying the supernumeraries when smoking is prohibited and when safety belts must be fastened in accordance with § 121.583(b).

Prior to each flight, a crewmember will brief the supernumeraries on the following matters in accordance with § 121.583(c):

- When smoking is prohibited,
- Use of seat belts,
- Location and use of emergency exits,
- Use of oxygen and emergency oxygen equipment,
- For extended overwater flights, the location and use of life rafts and life preservers.

Requested Exemptions

Kitty Hawk Aircargo is requesting an exemption from 14 CFR 25.857(e) to allow carriage of up to 16 animal handlers on the main deck of a 727-200 freighter Class E cargo compartment. The animal handlers receive training on emergency procedures for the airplane, including evacuation and use of oxygen systems. By extension, exemption from 14 CFR 25.855(a) is also requested, as this regulation requires that any cargo compartment comply with a designated classification of § 25.857.

Kitty Hawk Aircargo is also requesting an exemption to 14 CFR 25.1447(c)(1) to allow portable oxygen units mounted on the supernumerary seats. These same units would be carried by the animal handlers while they are away from the seats. The units are Scott 5500 series portable oxygen systems with a 11.5 liter bottle which provides 120 minutes of oxygen at 20,000 feet. The oxygen masks are connected to the oxygen units but the masks are not automatically presented to the supernumeraries. There are two additional portable oxygen units, including masks, mounted in the aft bulk head of the cargo compartment. The petitioner requests that these two portable oxygen units and the 18 seat-mounted oxygen units for the animal handlers be found to comply with the requirement that the number of oxygen masks exceed the number of seats by ten percent.

Kitty Hawk Aircargo is an airline company specializing in providing worldwide cargo services, including the transportation of racehorses and show horses. The animals are very valuable, with many worth over one million dollars. They cannot be properly insured for air transport, unless there are a sufficient number of qualified animal handlers on board. The interest of the company is to provide a sufficient level of safety for the animals and the animal handlers. The Boeing 727-200 freighters which Kitty Hawk Aircargo uses presently do not have enough seats for the animal handlers.

The petition is for an exemption from 14 CFR 25.857(e) and 25.1447(c)(1). The exemption from § 25.857(e) will allow for the accommodation of up to 16 animal handlers on the main deck of a Boeing Model 727-200 freighter in a specially designated area. The exemption from § 25.1447(c)(1) will provide an acceptable level of safety in terms of automatically-presented oxygen by requiring the animal handlers to carry portable oxygen units when they leave the animal handlers' area. The 18 installed oxygen units and the two additional walk-around oxygen units comply with § 25.1447(c)(1) which requires that the number of oxygen units exceed the number of seats by at least ten percent. All features of the Class E cargo compartment required by §§ 25.855 and 25.857 will be retained, and the petitioner must comply with all safety requirements of part 25 which are part of the certification basis of the airplane.

The Aircraft Operating Manual approved by the FAA contains a bulletin with an operating limitation which restricts carriage of supernumeraries accommodated by the specially-modified section of the airplane to animal handlers who are trained for such duties. The seats may be occupied by the animal handlers during operations in which no cargo is being transported, but may not be occupied during operations in which cargo other than live animals is being transported. In addition, the petitioner has developed a training plan and begun training the animal handlers about the prohibition of smoking and the procedures for using equipment related to ditching and emergency evacuation. The training plan has been approved by the FAA.

Public Interest

The carriage of an appropriate number of animal handlers aboard an airplane to attend to the live animal cargo, especially race horses and show horses, serves the public interest in raising the level of safety of the animals and the flight crew and, consequently, the public in general. Designing animal handlers' stations to meet the certification basis requirements as well as some of the recent safety requirements of 14 CFR part 25 raises the safety level of the animal handlers to that intended for passengers. This exemption, therefore, serves the public interest by providing for safe delivery of the animal cargo and safe conditions for the animal handlers.

Notice and Public Procedure Provided

The FAA has determined that good cause exists for waiving the requirement for Federal Register publication because this petition is similar to those granted in the past, and delay in acting on this petition would be detrimental to Kitty Hawk Aircargo.

The FAA's analysis/summary is as follows:

The petitioner has requested relief primarily from the requirements of § 25.857(e) which permit only carriage of 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 a fire that occurs 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 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 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 proposals under consideration, and the number and location of persons to be carried.

Granting the petitioner's request would allow carriage of supernumeraries to attend to live animals and remotely-located seating at the aft portion of the main cabin for the supernumeraries, without benefit of immediately available flightcrew or flight attendants. Carriage of any cargo other than live animals, either exclusively or in combination with live animals, is beyond the scope of this evaluation and must be considered separately. However, cargo necessary for care of the animals may be carried. Additionally, supernumeraries may be on board the return flight to their initial departure location without live animals being carried. Limiting the cargo to live animals and items needed for their care will minimize the risk of a fire in the Class E cargo compartment and provide an adequate level of safety, in conjunction with the other limitations, for the carriage of supernumeraries on the airplane.

Smoking must be prohibited in the cargo compartment and a placard indicating this prohibition, as specified in § 25.853(c) at Amendment 25-15 must be displayed in a conspicuous location.

The petitioner has indicated that flightcrew activated and lighted "Fasten Seat Belt" signs that are visible to persons sitting in the supernumerary seats will be provided. A requirement for these signs is not included in the certification basis of the Boeing Model 727-200 airplane; however, these signs are required by § 121.317. Part 25 has been amended to include a requirement for installation of these signs since type certification of the 727-200 airplane, and such signs are required as a condition of this exemption.

An aural or visual annunciation operated by the flightcrew which can be recognized in the cargo compartment must be installed to indicate during turbulence that the supernumeraries must return to their seats. The petitioner has proposed to install "Return to Seat" signs along the length of the cargo compartment to address this situation.

The petitioner has proposed to install a standard airplane intercom/public address system that would be audible from anywhere within the cargo compartment and flight deck. A functioning public address system is considered essential for initiating and directing emergency evacuations and for providing pre- and post-impact instructions and will be required as a condition of this exemption.

The supernumeraries must have a supplemental oxygen system comparable to that required by part 25 for passengers. However, taking into account the extra knowledge and training that supernumeraries will have, we do not find that an equivalent system needs to be provided. The petitioner has proposed to install a portable oxygen unit on each of the 18 supernumerary seats and to have the supernumeraries use these same portable units when they are not at their seats.

The petitioner has proposed that, if oxygen is required, the flight crew will announce USE OXYGEN, USE OXYGEN over the public address system that can be heard at all locations in the main deck cargo compartment to address the "immediately available" and "automatically presented" requirements of § 25.1447(c)(1). We find that a crew announcement of the need to use oxygen is inadequate. An automatically-activated aural and visual signal which is immediately recognizable throughout the cargo compartment, including the area forward of the 9G barrier, must be provided to notify supernumeraries when to don oxygen masks. There must be a mean to activate the signal in the event of failure of the automatic system. The supernumeraries must be

trained to return to their seats as soon as possible after the “Don oxygen masks” signal has been activated.

The oxygen units must be sized adequately for continuous and uninterrupted use during worst-case flight duration following a decompression, and supernumeraries must be trained in the location and use of these oxygen units. The supernumeraries must be trained to re-secure the portable units to their seats upon returning to their seats.

Section 25.1447(c)(1) requires that there be ten percent more oxygen masks than occupants. The FAA finds that the rationale behind this requirement does not apply in this case because there will be no lap children and no flight attendants. Therefore, although it is beneficial to provide the two extra oxygen bottles, as proposed by the petitioner, installation of these bottles is not a requirement of this exemption. The petitioner has indicated its intention to retain all required attributes of a Class E cargo compartment, as addressed in §§ 25.855 and 25.857(e), with the single exception of allowing the supernumeraries to be accommodated in the cargo compartment. Hence, the FAA interprets this petition as indicating that the operator will retain the means required by § 25.857(e)(3) to control a Class E cargo compartment fire, that is, control of compartment ventilation which normally involves decompression of the airplane. Accordingly, this grant of exemption requires the retention of these procedures.

This exemption does not provide relief, beyond that explicitly stated, from applicable airworthiness requirements. This exemption addresses specific regulations that must be met for approval of the proposed design, but does not address all applicable regulations. As mentioned above, regulations that are applicable to passengers are applicable to supernumeraries. The following highlights some significant areas which must be addressed to meet applicable airworthiness requirements at the certification basis of the Boeing Model 727-200 airplane. Later amendments of these rules may be applicable, as determined in accordance with § 21.101.

1. All four overwing exits and the left hand forward entry door must be reactivated and qualify as emergency exits. The ventral air stair exit must be reactivated.
2. Colored exit bands must be provided on the outside of the airplane for these exits in accordance with § 25.811(f) at Amendment 25-15.
3. Approved means to assist occupants in descending to the ground must be provided at these exits in accordance with § 25.809 at Amendment 25-15.
4. Flotation means must be provided for the occupants.
5. Exit identifier signs, means for locating the exits in dense smoke, and opening instructions marked on or near the exit must be provided, as required by § 25.811 at Amendment 25-15.
6. Emergency lighting must be provided in accordance with § 25.812 at Amendment 25-15.
7. Required emergency equipment for passenger compartments and Class E compartments must be provided. For example, a fire extinguisher and protective breathing equipment must be provided in accordance with § 25.853(f) at Amendment 25-15 and 4b.380(c) at Amendment 4b-11, respectively.

The above list of applicable airworthiness requirements is based on the certification basis of the Boeing Model 727-200 airplane. Operating regulations, such as part 121, may require later

amendments of the airworthiness requirements to be met. For example, §§ 121.309 and 121.310 contain additional emergency equipment requirements.

In conclusion, the FAA has determined that the existing regulations for type certification do not address occupants that are neither crew nor passengers, and an exemption is warranted to permit carriage of these supernumeraries.

The Grant of Exemption

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, Kitty Hawk Aircargo is hereby granted an exemption from 14 CFR 25.855(a), 25.857(e), and 25.1447(c)(1). The petition is granted to the extent required to permit type certification of the Boeing Model 727-200 passenger-to-freighter converted airplanes with provision for the carriage of supernumeraries.

The following limitations apply, and limitations 1 through 7 and 9 through 11 must be documented in the limitations section of the Airplane Flight Manual (AFM):

1. Occupants are limited to the categories specified in §§ 121.583(a)(4)(ii) and 121.583(a)(5), applicable only to persons referenced in § 121.583(a)(4)(ii).
2. Maximum occupancy outside of the flight deck is restricted to 18 supernumeraries, two aft of the flight deck bulkhead and forward of the 9G cargo barrier and sixteen aft of the 9G cargo barrier.
3. Each occupant must be instructed by the operator, in accordance with an FAA accepted training plan and briefed by a flight crewmember prior to each flight in the prohibition against smoking and in procedures and equipment use relating to ditching and emergency evacuation, decompression, fire extinguishment, seat belt use, and communications with the flight deck.
4. The operator must determine that each occupant is physically able to accomplish the necessary emergency procedures.
5. A supplemental oxygen bottle with a mask connected to it must be mounted on or immediately next to each supernumerary seat and be located so that each occupant can don the mask and activate oxygen flow while seated. The supernumeraries must be trained in the use of these oxygen units.
6. Each supernumerary must be provided with a portable oxygen source with the mask connected to it that must be carried whenever the supernumerary is not in the vicinity of his/her seat. The portable oxygen units may be located in a common area or may be the same units installed at the supernumerary seats. The supernumeraries must be trained in the use of these oxygen units. It must be easy for the supernumeraries to

stow the units properly, and the supernumeraries must be trained in the stowage procedures.

7. An automatically activated aural and visual decompression signal immediately recognizable throughout the cargo compartment must be provided to notify supernumeraries when to don oxygen masks. The flightcrew must be provided with a manual means to activate the signals in the event of failure of the automatic system. This signal and the accompanying procedures for donning a mask and activating oxygen flow must be included in the training and pre-flight briefing.
8. The oxygen units must be sized adequately for continuous and uninterrupted use during worst-case flight duration following a decompression.
9. A flightcrew-operated aural or visual annunciation which would be recognized in the cargo compartment must be installed to indicate during turbulence that persons must return to their seats. Signs that notify when seat belts should be fastened must be operable by a member of the flightcrew and, when illuminated, must be legible under all probable conditions of cabin illumination to each supernumerary seated in the cargo compartment. Appropriate procedures and limitations must be established to ensure that the flightcrew signals the supernumeraries to return to their seats and fasten their seat belts at the onset of turbulence and for landing. The pre-flight briefing must explain the actions supernumeraries must take upon a “return to seat” signal and upon lighting of the “fasten seat belt” sign.
10. Operations are limited to the carriage of live animal cargo and cargo which is needed to care for the animals. Supernumeraries may be on board the return flight to their initial departure location without live animal cargo, provided that no other cargo is being carried; however, the other conditions of this exemption are still applicable to this flight.
11. A limitation must be established to prohibit smoking in the cargo compartment.
12. A public address system must be installed that is audible from anywhere within the occupiable compartments of the airplane and can be activated from either the flight deck or from the supernumerary seating area. The public address system must comply with § 25.1423 at Amendment 25-79.

13. An interphone system must be installed that provides two-way communication between the supernumerary seating area and the flight deck and is within reach of at least one of the supernumeraries at his/her seat. This system must be independent of the public address system, except for handsets, headsets, microphones, selector switches, and signaling devices.

This exemption will remain in effect unless superseded or rescinded.

Issued in Renton, Washington, on September 25, 2007.

/s/ Michael Kaszycki, Acting Manager
Transport Airplane Directorate
Aircraft Certification Service