



U.S. Department
of Transportation
**Research and
Special Programs
Administration**

400 Seventh Street, S.W.
Washington, D.C. 20590

FEB 24 2000

Mr. Melvin Starks
Manager, Cargo Loading and
Hazardous Materials
Express One International, Inc.
3890 West Northwest Highway,
Dallas, TX 75220

Ref. No. 99-0247

Dear Mr. Starks:

This is in response to your letter dated August 27, 1999, regarding the definition of a "compartment or bin" under the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180). Your questions are paraphrased and answered as follows:

Is a compartment one pallet position, or is it the entire upper cabin? The answer to your question is no, a cargo compartment is not one pallet position. The term, "cargo compartment" as used in the HMR is based on the requirements for cargo compartments of 14 CFR Part 25 Sections 25.855 and 25.857, which were amended by a February 17, 1998 final rule published by the Federal Aviation Administration (63 FR 8031). Quantities of dry ice in excess of 441 pounds in any cargo compartment are allowed only when a special written arrangement has been made between the shipper and the operator.

Regarding your question of whether the Office of Hazardous Materials Standards is aware of a formula to calculate the maximum quantity of dry ice for a B-727 aircraft, the answer is no. The requirement for special written arrangement with an operator for quantities of dry ice in excess of the limitation provided in § 173.217 is based on the range of possible cargo compartment configurations of different aircraft. The HMR does not specify a formula to be used to determine the maximum amount of dry ice that may be carried on a particular aircraft.

I hope this satisfies your request.

Sincerely,

Delmer F. Billings
Chief, Standards Development
Office of Hazardous Materials Standards



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173.217



Nelson
8173.217

MELVIN STARK'S
Manager - Cargo Loading
and Hazardous Materials

99-0247

August 27, 1999

Mr. Ed Mazullo
400 7th Street Southwest
Washington, D. C. 20590

Dear Mr. Mazullo:

Express One (and most other airlines that fly B727 aircraft) allows up to 4000 pounds of dry ice to be loaded in the main cargo compartment. My concern is that this may be too much! 49 CFR 173.217(d) allows 441 pounds per compartment or bin. I need you give a specific definition of "compartment or bin." In other words, is a compartment one pallet position or the entire upper cabin which consists of 9 or 12 pallet positions? I have contacted FAA dangerous goods specialists, Mr. Richard Tarr of the DOT, and the Research and Special Programs Administration. I received different answers from each one. Mr. Tarr referred me to you. ?

They reason I have concerns in this matter is because it has been reported to me that dry ice shipments have been the cause of death for some pilots. Also the U. S Navy has a dry ice formula that limits the amount of dry ice in the entire upper cabin to about 800 pounds. This could be because cargo and passengers are transported in the same upper compartment. The Navy formula is:

$$X = \frac{VA(0.47)}{32.3}$$

V= Volume of aircraft A=Air Exchange per hour X= Maximum dry ice

Do you know of such a formula that calculates the maximum dry ice quantity for the entire main cabin area of a B727 aircraft?

I would appreciate hearing from you on this matter as soon as possible.

Respectfully

Melvin Starks

Copy to: Bud Phillips
Skip Spence
Neil Johnson
Ken Schweitzer