



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

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

MAR - 6 2003

Mr. John Andrus
Manager of Transportation Safety and Procedures
Southwest Airlines Company
P.O. Box 36611
Dallas, Texas 75235-1611

Ref No. 02-0297

Dear Mr. Andrus:

This is in response to your November 19, 2002 letter requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to nonspillable wet cell batteries. Specifically, you request marking and packaging requirements for equipment with installed nonspillable batteries transported aboard passenger aircraft. Your questions are paraphrased and addressed as follows:

- Q1. Is the outer packaging of equipment installed with nonspillable batteries required to be marked "NONSPILLABLE" or "NONSPILLABLE BATTERY" and otherwise meet the requirement of § 173.159(d)?
- A1. Yes. Section 173.159(d)(2) requires each nonspillable battery and its outer packaging to be plainly and durably marked "NONSPILLABLE" or "NONSPILLABLE BATTERY" if the battery was manufactured after September 30, 1995. If a product contains a nonspillable battery and is placed in an outer packaging (e.g., fiberboard box), the battery and the outer packaging must be marked either "NONSPILLABLE" or "NONSPILLABLE BATTERY." Nonspillable batteries must be protected against short circuits, securely packaged and capable of withstanding the vibration and pressure differential tests without leakage of battery fluid from the battery.
- Q2. Must equipment that contains a nonspillable battery that is securely attached to the equipment, protected from short circuits and marked as a nonspillable battery, but offered as baggage without an outer package, be placed in an outer package marked "NONSPILLABLE" or "NONSPILLABLE BATTERY" or could it be accepted without further packaging? A two-wheeled electric scooter is cited as an example.
- A2. Provided the battery is protected against short circuits, securely packaged, plainly and durably marked "NONSPILLABLE" or "NONSPILLABLE BATTERY" and is capable of withstanding the vibration and pressure differential tests found in § 173.159(d)(3), further



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packaging would not be required. Similar vibration and pressure differential test criteria are contained in the International Civil Aviation Organization's (ICAO) Technical Instructions for international air. Special Provision A67 of the ICAO Technical Instructions requires that a temperature of 55 degrees C. be used to determine whether the electrolyte will flow from a ruptured or cracked case.

I hope this information is helpful. If we can be of further assistance, do not hesitate to contact us.

Sincerely,



Delmer F. Billings

Chief, Standards Development

Office of Hazardous Materials Standards



SOUTHWEST AIRLINES CO.

John Andrus
Corporate Safety

P.O. Box 36611
Dallas, Texas 75235-1611
(214) 792-6201
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November 19, 2002

Mr. Edward T. Mazzullo
Director, Office of Hazardous Materials Standards
U.S. DOT/RSPA (DHM-10)
400 7th Street S.W.
Washington, D.C. 20590-0001

Dear Mr. Mazzullo:

I am writing to obtain clarification regarding the transportation aboard passenger aircraft of equipment with an installed nonspillable wet cell battery.

173.159 (d) clearly sets forth the requirements for nonspillable batteries being shipped alone, but I remain uncertain about package marking requirements for equipment with installed nonspillable batteries.

Is the outer packaging of equipment with installed nonspillable batteries required to be marked "nonspillable" or "nonspillable battery" and otherwise meet the requirements of 173.159(d)?

The second scenario is for equipment that contains a nonspillable battery that is securely attached to the equipment, protected from short circuit and marked as a nonspillable battery, but offered to be checked as baggage without an outer package. An example would be a 2 wheeled electric scooter. Must this device be placed in an outer package marked "nonspillable" or "nonspillable battery" or could it be accepted without further packaging?

Thank you for your assistance with this matter. Please contact me at (214) 792-6201 if you have questions or require clarification.

Sincerely,

A handwritten signature in black ink, appearing to read "John Andrus".

John Andrus
Manager of Transportation Safety and Procedures