



DEPARTMENT OF TRANSPORTATION
MATERIALS TRANSPORTATION BUREAU
WASHINGTON, D.C. 20590

13153

[Docket No. HM-173; Notice No. 80-4]

Public Meetings and Request for Comment on the Transportation of Wet Electric Storage Batteries

AGENCY: Materials Transportation Bureau, Research and Special Programs Administration, Department of Transportation.

ACTION: Notice of public meetings and request for comment.

SUMMARY: A recent proposal by the Materials Transportation Bureau (MTB) in Docket HM-166B; Notice 79-8 (44 FR 29503) has generated significant public interest and controversy concerning the transportation on passenger-carrying aircraft of wheelchairs equipped with wet electric storage batteries which contain corrosive battery fluid ("wet cell batteries"). The primary purpose of this notice is to announce public meetings and invite public comment concerning the development of standards which will be applicable to the transportation on passenger-carrying aircraft of wet cell battery equipped wheelchairs. In addition to requesting public comment on the air transport of wet cell battery equipped wheelchairs, this notice also invites public comment and suggestions with regard to simplifying, clarifying, eliminating, or improving those requirements of the Hazardous Materials Regulations which apply to the transportation of wet cell batteries by all modes.

The meetings will be informal fact-finding proceedings and interested persons will have the opportunity to present oral statements.

DATES: Meetings: A public meeting will be held in Washington, D.C., on April 3, 1980 at 9:30 a.m. A second meeting will be held in Denver, Colorado, on April 16, 1980, at 7:00 p.m.

Comments: Written comments should be received no later than June 1, 1980.

ADDRESSES: Meetings: The meeting on April 3, 1980 will be held in room 2230 (enter Southeast lobby) of the Nassif Building, 400 Seventh Street, SW., Washington, D.C. The meeting on April 16 will be held at American Legion Post 4500 East Alameda, Denver, do 80222.

Comments: Address comments to the Dockets Branch, Materials Transportation Bureau, U.S. Department of Transportation, Washington, D.C. 20590. Comments should identify the docket (Docket HM-173) and be submitted in five copies. The Dockets

Branch is located in room 8426 of the Nassif Building, 400 Seventh Street, SW., Washington, D.C. Public dockets may be reviewed between the hours of 8:30 a.m. and 5 p.m. Monday through Friday.

FOR FURTHER INFORMATION CONTACT: Edward T. Mazzullo, Office of Hazardous Materials Regulation, Materials Transportation Bureau, Department of Transportation, 400 Seventh Street, SW., Washington, D.C. 20590, (202) 426-2075.

SUPPLEMENTARY INFORMATION: This notice serves to announce public meetings and requests comments concerning the transportation of wet cell batteries. In particular, the public is invited to participate in the development of standards to be made applicable to wet cell battery equipped wheelchairs when offered for transportation on passenger-carrying aircraft and to "nonspillable" wet cell batteries when offered for transportation by any mode of transport. Subjects to be discussed fall under the following categories:

1. *Air transport of wheelchairs equipped with wet electric storage batteries (§ 173.250(a)).*

On May 21, 1979, the MTB published a notice of proposed rulemaking (Docket HM-166B; Notice 79-8; 44 FR 29503) in which one proposal was to forbid the transportation of self-propelled vehicles equipped with wet electric storage batteries other than nonspillable batteries aboard passenger-carrying aircraft. The proposal addressed a safety consideration related to the spillage of battery fluid from wheelchairs equipped with wet cell batteries and was also aimed at correcting a regulatory inconsistency by which wet cell batteries, prohibited by § 172.101 for transportation on passenger-carrying aircraft, may be carried on these aircraft when installed in self-propelled vehicles.

In the interest of timeliness, the proposal which appeared in Notice 79-8 was deleted from the final rule in Docket HM-166B, which has been published elsewhere in this issue of the Federal Register. Comments concerning wheelchairs equipped with wet cell batteries which were submitted by persons in Docket HM-166B will be included in this Docket for consideration. Issues raised by those comments and other items on which the MTB is requesting public comments are discussed herein.

Two commenters to Docket HM-166B contended that no additional restrictions on the transport of wet cell battery

equipped wheelchairs are necessary, and imply that the wheelchairs are safe for transportation. The MTB disagrees with this contention. While there have not been a large number of incidents or extensive property damages reported to the MTB involving spills of battery fluid from batteries attached to wheelchairs, the potential for serious consequences from spills is sufficient to justify further consideration of a rulemaking action in this area. The risks posed by wheelchairs equipped with wet electric storage batteries carried aboard aircraft involve spills of battery fluid which can damage or destroy organic materials (e.g., baggage, packaging materials, carpeting) and weaken or erode metal flooring. In some situations, if the battery fluid comes in contact with human tissue, severe burns can be produced. A chemical reaction between battery fluid and other materials can evolve irritating fumes, causing potential discomfort to passengers and crew. In addition, there is no practical means of neutralizing spilled materials during flight and attempts to flush or dilute the material could result in structural damage to the aircraft.

Comments submitted by associations representing handicapped persons, airlines, and pilots, tend to support the MTB's position that present regulatory requirements should be clarified and upgraded regarding the transport of wet cell battery equipped wheelchairs. Commenters also stated that, under the existing regulatory requirements, some air carriers and pilots are reluctant to accept wet cell battery equipped wheelchairs for transportation.

Several commenters suggested that nonspillable batteries are not practical for use in wheelchairs. They contended that only batteries in which the battery fluid is contained as a gel may be considered nonspillable and that such batteries are more expensive and have a shorter service life than currently used automotive-type wet cell batteries. The MTB has done some exploratory research on this subject and it appears these contentions have some validity. Although some wet cell batteries are considered nonspillable, they may not be practical for use in wheelchairs. Further information is needed as to the availability of reasonably priced, efficient, nonspillable batteries which are suitable for use in wheelchairs.

Several commenters have suggested that an acceptable level of safety can be achieved in transporting wheelchairs

equipped with "spillable" batteries by requiring air carriers to disconnect and tape battery terminals, tape fill caps on the batteries, and secure the wheelchairs in an upright position when placed into aircraft cargo compartments. It is the MTB's opinion that such requirements may achieve an acceptable level of safety, if supplemented with requirements for "positive" securement (such as tie-down straps) in the cargo compartment and for identification of the batteries as hazardous materials by means of marking, labeling, shipping paper descriptions, or some combination thereof. A positive means of securement is felt necessary because passive means, such as stacking other baggage against the wheelchairs, can be ineffective if loads shift during transit. Identification requirements are felt necessary because, under the existing exception provided in § 173.250(a), the wheelchairs are not required to be identified as containing hazardous materials, there is no requirement to mark the wheelchairs or batteries to indicate their proper orientation, and air carriers are under no regulatory obligation to handle these items as hazardous materials because the wheelchairs are not identified as such.

Another alternative suggested by commenters involves the use of a standardized battery container. Under this proposal, batteries would be removed from wheelchairs and placed in spillproof containers which would, in effect, render the batteries "nonspillable." Additional comments are requested as to the feasibility of this proposal, particularly with regard to container costs, practicality, necessary design or performance requirements for the containers, need for advance arrangements between shipper and carrier, and the ability of carriers to make such containers available at air terminals.

A number of commenters requested public hearings on this issue. This notice grants these requests and announces the dates and locations for two public meetings. Since many airlines and associations of handicapped individuals have representatives in the Washington area, one meeting will be held in Washington, D.C. Because of several requests from commenters to Docket

HM-166B indicating substantial local interest, a second meeting will be held in Denver, Colorado.

The MTB anticipates substantial public participation at the meetings and in the request for comments and is pursuing a resolution which will serve both the demands of air transportation safety and the needs of wheelchair users.

2. Defining "nonspillable" batteries (§§ 173.260(d), 175.10(a)(14))

Electric storage batteries, containing electrolyte or corrosive battery fluid and of the nonspillable type, are excepted by § 173.260(d) from all other regulatory requirements (such as packaging, labeling and description requirements) when the batteries are securely boxed and protected against short circuits. Requests for interpretations and several of the comments submitted in Docket HM-166B have pointed out a need to define the term "nonspillable." In recent years, the MTB has answered such requests by suggesting that to be considered nonspillable, a battery should be able to withstand a vibration and an altitude test without any leakage of corrosive material. The tests are as follows:

When conducting the suggested vibration tests, the battery is rigidly clamped to the platform of a vibration machine and a simple harmonic motion having an amplitude of 0.03 inch (0.06 inch maximum total excursion) is applied. The frequency is varied at the rate of one cycle per second per minute between the limits of 10 to 55 cycles per second. The entire range of frequencies and return is traversed in $95 \pm$ minutes for each mounting position (direction of vibration) of the battery. The battery is vibrated in three mutually perpendicular directions for equal time periods. One of the directions must be perpendicular to the terminal face of the battery. The altitude test is conducted following the vibration test and the battery is stored for six hours at $75^{\circ}\text{F.} \pm 7^{\circ}\text{F.}$ under an external partial pressure of 2 psia. Leakage must not occur with the battery in any position, i.e., upright, inverted, on its side, etc. As a practical matter, depending on design, there is probably only one position in which the battery will need to be evaluated for leakage.

It has been suggested that this criteria is too severe in that very few types of

wet cell batteries can pass these tests. As an example, even the new maintenance free "sealed" batteries will most likely leak if subjected to the tests. However, suitable criteria are needed to insure an acceptable level of safety in the transport of wet cell batteries. Therefore, the MTB is requesting public comment pertaining to defining a "nonspillable" wet cell battery in terms of appropriate regulatory standards. Comment is also requested with regard to a need for identifying nonspillable batteries by means of markings or shipping paper descriptions.

3. General revision of the regulations applicable to wet electric storage batteries (§§ 173.250, 173.260).

The MTB is in the process of reviewing the standards pertaining to the transportation of wet cell batteries. The review is one of a number of regulatory reviews the MTB is conducting as part of its initiative to clarify and improve the usability of existing regulations. Wet cell batteries were selected for review because of numerous inquiries requesting interpretations of requirements and in order to reduce the possibility of noncompliance based on a misunderstanding of requirements particularly in §§ 173.250 and 173.260. Comments are invited with regard to simplifying, clarifying, or otherwise improving these requirements.

There have been few substantive changes to the regulations which pertain to wet cell batteries since adoption of these regulations in the 1930s and 1940s. Some requirements may be in need of update while others may be obsolete. Therefore, the MTB is also inviting comments with regard to eliminating obsolete or unnecessary requirements and to changing existing requirements to accommodate modern battery technology.

Issued in Washington, D.C., on February 20, 1980.

Alan I. Roberts,

Associate Director for Hazardous Materials Regulation, Materials Transportation Bureau.

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