



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, D.C. 20590

MAY 01 2012

Tom Ferguson, PG, CHMM, DGSA
Technical Consultant
Council on the Safe Transportation of Hazardous Articles, Inc.
7803 Hill House Court
Fairfax Station, VA 22039

Ref. No. 12-0044

Dear Mr. Ferguson:

This responds to your request for written clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to the stowage of a passenger-offered lithium ion battery-powered mobility aid in the cargo compartment of an aircraft. Specifically, you request clarification of the orientation requirements for such an article under § 175.10(a)(17) as amended in a final rule published in the Federal Register on January 19, 2011 (HM-215K; 76 FR 3308). Your questions are paraphrased and answered as follows:

- Q1. In the January 19, 2011 final rule, was it PHMSA's intent to require that passenger-offered lithium ion battery-powered mobility aids be stowed in an upright orientation at all times?
- A1. The answer is no. A wheelchair or other mobility aid may be loaded in other than an upright position. However, we stress the importance of stowing the mobility aid in such a manner that it is protected from unintended activation and from damage.

The intent of the amendments to § 175.10(a)(17) in the January 19, 2011 final rule were to specify that a non-spillable battery, such as a lithium ion battery, may be removed from the wheelchair and packed separately, if necessary (e.g., if the battery were not adequately secured to the wheelchair). When a non-spillable battery, such as a lithium ion battery, is securely attached to a wheelchair in a manner that assures it will not become separated under normal conditions of transportation, there is no need for the non-spillable battery, such as a lithium ion battery, to be packed separately as prescribed under the HMR. Consequently, a wheelchair or other mobility aid may be loaded in other than an upright position if its non-spillable battery is securely attached and the other relevant stowage criteria are met.

Q2. For the purposes of § 175.10(a)(17) of the HMR, does PHMSA consider a lithium ion battery “spillable” or “non-spillable”?

A2. For the purposes of § 175.10(a)(17) of the HMR, PHMSA considers a lithium battery to be non-spillable. We intend to address this issue in an upcoming rulemaking and apologize for any inconvenience the lack of clarification may have caused.

I trust this satisfies your inquiry. Please contact us if we can be of any further assistance.

Sincerely,

A handwritten signature in black ink, appearing to read "T. Glenn Foster". The signature is fluid and cursive, with a long horizontal flourish extending to the right.

T. Glenn Foster
Chief, Regulatory Review and Reinvention Branch
Standards and Rulemaking Division



**COUNCIL ON SAFE TRANSPORTATION
OF HAZARDOUS ARTICLES, INC.**

Stevens
§175.10(a)(17)
§173.185
Air / Lithium Batteries
12-0044

January 31, 2012

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Dear Dr. El-Sibaie:

The Council on Safe Transportation of Hazardous Articles, Inc. (COSTHA) hereby submits a request for interpretation regarding 49 CFR, Part 175, §175.10, paragraph (a)(17)(i)(E). Specifically, COSTHA is requesting clarification as to whether the Pipeline and Hazardous Materials Safety Administration (PHMSA) intended for lithium ion battery-powered wheelchairs to remain stowed in an upright position when loaded in the cargo compartment of an aircraft.

COSTHA is a not-for-profit organization representing manufacturers, shippers, distributors, carriers, freight forwarders, trainers, packaging manufacturers and others associated with the hazardous materials transportation industry. In addition to promoting regulatory compliance and safety in hazardous materials transportation, COSTHA assists its members and the public in evaluating the practicality and efficacy of laws, rules and regulations for the safe transportation and distribution of hazardous materials.

In the Final Rule HM-215K published on January 19, 2011, PHMSA added paragraph (a)(17) to §175.10. This new paragraph detailed provisions for the carriage of wheelchairs powered by lithium ion batteries as baggage on passenger aircraft. Subparagraph (i) addresses general requirements which apply to the condition, inspection, and handling of the wheelchair while subparagraph (ii) designated additional conditions which would apply when transported as carry-on or checked baggage. Sub-subparagraphs (a)(17)(i)(B) and (ii)(B) were modified in the Final Rule HM-218F, published on July 20, 2011, however these modifications do not have relevance to this request.

The Council on Safe Transportation of Hazardous Articles, Inc.

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Thus the published language of §175.10(a)(17) states:

(17) A lithium ion battery-powered wheelchair or other mobility aid as follows:

(i) A wheelchair or other mobility aid equipped with a lithium ion battery, when carried as checked baggage, provided—

(A) The lithium ion battery must be of a type that successfully passed each test in the UN Manual of Tests and Criteria as specified in §173.185 of this subchapter, unless approved by the Associate Administrator;

(B) Visual inspection of the wheelchair or mobility aid reveals no obvious defects;

(C) Battery terminals must be protected from short circuits (e.g., by being enclosed within a battery container that is securely attached to the mobility aid);

(D) The pilot-in-command is advised, either orally or in writing, prior to departure, as to the location of the wheelchair or mobility aid aboard the aircraft; and

*(E) The wheelchair or mobility aid is loaded, stowed, secured and unloaded **in an upright position and** [emphasis added] in a manner that prevents unintentional activation and protects it from damage.*

(F) A lithium metal battery is forbidden aboard a passenger-carrying aircraft.

(ii) A wheelchair or other mobility aid when carried as checked or carry-on baggage, provided—

(A) The wheelchair or other mobility aid is designed and constructed in a manner to allow for stowage in either a cargo compartment or in the passenger cabin;

(B) The lithium ion battery and any spare batteries are carried in the same manner as spare batteries in paragraph (a)(18) of this section.

(C) The lithium ion battery and any spare batteries are carried in the same manner as spare batteries in paragraph (a)(18) of this section.

Sub-subparagraph (i)(E) noted above requires the carrier to ensure the wheelchair or mobility aid is loaded, stowed, secured and unloaded in an upright position. COSTHA notes this paragraph, (a)(17) including sub-subparagraph (i)(E) were drafted using existing language from paragraph (a)(16) applicable to the carriage of wet, spillable batteries, most typically lead-acid based. For wet, spillable batteries, orientation of the battery, and thus the device in which the battery contained, is crucial to prevent leakage of the acid contained within. The inclusion of subparagraph (a)(16)(iv), requiring the device be oriented and secured in an upright manner, is therefore logical.

While the chemistry of lithium ion batteries differs from lead-acid batteries, lithium ion batteries are sealed devices and would be comparable to a wet, non-spillable battery. Orientation of the battery does not prevent nor create a more or less safe condition. PHMSA does not require wet, non-spillable batteries secured within wheelchair or mobility aid to be loaded and secured in an upright position given the lack of such a requirement in paragraph (a)(15). Therefore, we do not believe the inclusion of sub-subparagraph (a)(17)(i)(E) provides additional safety measures.

Lithium-ion batteries are not considered “spillable” and there are no other requirements in the existing regulations (49 CFR 175.10(a)(18), 49 CFR 173.185, or associated ICAO language)

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pertaining to lithium batteries that include orientation requirements or a requirement to transport or handle these types of batteries in an upright manner.

COSTHA Air Carrier members are experiencing significant problems implementing the requirements of sub-subparagraph (a)(17)(i)(E). Specifically, many mobility aids or wheelchairs are taller than the aircraft cargo compartment. This problem is prevalent on many smaller aircraft utilized by regional operators as well as larger national and international carriers. Due to the conditions of the Air Carrier Access Act (ACAA) and requirements noted in 14 CFR 382, carriers are mandated to accept wheelchairs if safety conditions allow for their carriage. The size of these devices and the requirements of sub-subparagraph (a)(17)(i)(E) are forcing carriers to either remove the battery from the device (which leads to damaged wheelchairs or devices) and store in the cabin of the aircraft, or storage of the device itself in the cabin of the aircraft.

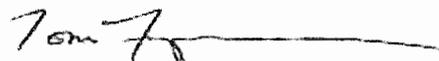
Given the information above, COSTHA requests PHMSA clarify whether they believe the upright storage of a lithium ion powered wheelchair presents a safer condition than a device stored in any other orientation, and whether the inclusion of the requirement in §175.10(a)(17)(i)(E) was intentional.

COSTHA understands that if PHMSA agrees with COSTHA's assertion, a necessary solution would be modification of the language in a future rulemaking. Please consider this document a Petition for Rulemaking to remove the words "in an upright position and" from sub-subparagraph (E) in that case.

As this interpretation has implications on pending FAA approval of multiple US air carriers' Hazardous Materials Transport and Training Programs, we request PHMSA provide guidance on this issue in an expeditious manner.

Please let me know if you have any questions regarding this issue.

Sincerely,



Tom Ferguson, DGSA
Technical Consultant