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**DEPARTMENT OF TRANSPORTATION**

**Pipeline and Hazardous Materials Safety Administration**

**49 CFR Parts 172, 173 and 175**

**[Docket No. PHMSA-2009-0095 (HM-224F)]**

**RIN 2137-AE44**

**Hazardous Materials: Transportation of Lithium Batteries**

**AGENCY:** Pipeline and Hazardous Materials Safety Administration (PHMSA), DOT.

**ACTION:** Notice of proposed rulemaking; request for additional comment.

**SUMMARY:** In this document, PHMSA is seeking comment on the impact of changes to the requirements for the air transport of lithium cells and batteries that have been adopted into the 2013-2014 International Civil Aviation Organization Technical Instructions on the Transport of Dangerous Goods by Air (ICAO Technical Instructions). PHMSA is considering whether to harmonize with these requirements and is publishing this notice to allow interested persons an opportunity to supplement comments to our January 11, 2010, Notice of Proposed Rulemaking (NPRM).

**DATES:** Comments Due Date: [INSERT 30 DAYS FROM PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may submit comments by identification of the docket number (PHMSA-2009-0095) by any of the following methods:

- **Federal eRulemaking Portal:** Go to <http://www.regulations.gov>. Follow the online instructions for submitting comments.

- Fax: 1-202-493-2251.
- Mail: Docket Operations, U.S. Department of Transportation, West Building, Ground Floor, Room W12–140, Routing Symbol M–30, 1200 New Jersey Avenue, S.E., Washington, DC 20590.
- Hand Delivery: To Docket Operations, Room W12–140 on the ground floor of the West Building, 1200 New Jersey Avenue, S.E., Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

Instructions: All submissions must include the agency name and docket number for this notice at the beginning of the comment. To avoid duplication, please use only one of these four methods. All comments received will be posted without change to the Federal Docket Management System (FDMS), including any personal information.

Docket: For access to the dockets to read background documents or comments received, go to <http://www.regulations.gov> or DOT's Docket Operations Office (see ADDRESSES).

Privacy Act: Anyone is able to search the electronic form of any written communications and comments received into any of our dockets by the name of the individual submitting the document (or signing the document, if submitted on behalf of an association, business, labor union, etc.). You may review DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (Volume 65, Number 70; Pages 19477-78).

Asking for Confidential Treatment: If you want PHMSA to give your comment confidential treatment, you must file it in paper form and take the following steps in accordance with 49 CFR 105.30:

(1) Mark “confidential” on each page of the original document you would like to keep confidential.

(2) Send us, along with the original document, a second copy of the original document with the confidential information deleted.

(3) Explain why the information you are submitting is confidential (for example, it is exempt from mandatory public disclosure under the Freedom of Information Act, 5 U.S.C. 552 or it is information referred to in 18 U.S.C. 1905).

PHMSA will decide whether or not to treat your information as confidential. We will notify you, in writing, of a decision to grant or deny confidentiality at least five days before the information is publicly disclosed, and give you an opportunity to respond.

**FURTHER INFORMATION CONTACT:** Kevin A. Leary, Standards and Rulemaking Division, Pipeline and Hazardous Materials Safety Administration, telephone (202) 366-8553, or Michael Locke, Program Development Division, Pipeline and Hazardous Materials Safety Administration, telephone (202) 366-1074.

### **Background**

On January 11, 2010 (75 FR 1302), PHMSA, in coordination with the Federal Aviation Administration (FAA), published a Notice of Proposed Rulemaking (NPRM) to address the air transportation risks posed by lithium cells and batteries. Some of the proposals in the NPRM were intended to harmonize provisions in the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) with provisions in the ICAO Technical Instructions; other proposals in the NPRM were intended to address safety concerns arising from research findings from the FAA Technical Center suggesting that

current aircraft systems and procedures may not be sufficient to combat a fire involving lithium batteries (from either an external cargo fire or internal source from manufacturing defects)<sup>1</sup>. The FAA Technical Center issued an additional report in 2010 that supplements the previous studies. All of these reports are available in the public docket of this rulemaking. Many of the commenters to the NPRM urged PHMSA to adopt lithium battery transport safety standards identical to those in the 2011-2012 edition of the ICAO Technical Instructions.

Since PHMSA published the NPRM, the ICAO Dangerous Goods Panel has met several times and devoted considerable discussion to the provisions applicable to the air transport of lithium cells and batteries. As a result, there have been many changes in the ICAO standards applicable to the air transport of lithium cells and batteries. Given the increased efficiency and clarity in having a uniform global standard, PHMSA considers harmonization with international standards when there is no adverse impact to safety. Therefore, consistent with 49 USC 5120, PHMSA is now considering harmonizing the HMR with lithium battery provisions recently adopted by ICAO and which will become effective on January 1, 2013.

To ensure full consideration of harmonization with the HMR, PHMSA seeks comments from the public on the impact of these changes should PHMSA adopt them. To the extent possible, we request commenters include specific data with verifiable references to support their statements. A full report of these changes is available through

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<sup>1</sup> Flammability Assessment of Bulk-Packed, Non rechargeable Lithium Primary Batteries in Transport Category Aircraft; June 2004 (DOT/FAA/AR-04/26); and Flammability Assessment of Bulk-Packed, Rechargeable Lithium-Ion Cells in Transport Category Aircraft; April 2006 (DOT/FAA/AR-06/38)

the ICAO at the following URL:

<http://www.icao.int/safety/DangerousGoods/Pages/DGP.aspx>.

### **Current Standards and Summary of Changes**

The ICAO Technical Instructions assign six separate packing instructions (PIs) to describe the requirements applicable to the various types and configurations of lithium batteries:

1. Lithium ion batteries (PI 965)
2. Lithium ion batteries packed with equipment (PI 966)
3. Lithium ion batteries contained in equipment (PI 967)
4. Lithium metal batteries (PI 968)
5. Lithium metal batteries packed with equipment (PI 969)
6. Lithium metal batteries contained in equipment (PI 970).

Within each of these packing instructions, there are two sections. Section I applies to lithium batteries that are subject to all applicable regulatory requirements including UN packaging, marking and labeling, shipping papers, a notice to the pilot in command and requirements for the air carrier to inspect each package for compliance. Section II outlines specific requirements that, if met, allow small lithium cells and batteries to be shipped excepted from many of the provisions associated with hazardous material and, these shipments may be handled as general cargo.

The changes to these exceptions in the ICAO Technical Instructions for lithium batteries not packed with, or contained in, equipment (PI 965 and PI 968) effectively split Section I of these packing instructions into:

- “Section IA,” which covers lithium cells and batteries currently subject to all regulatory requirements; and
- “Section IB,” which covers lithium cells and batteries formerly transported as general cargo.

In effect, packages containing more than 8 lithium cells or 2 lithium batteries, which were previously excepted from most of the requirements of the ICAO Technical Instructions, would be subject to additional requirements including package weight limits (10 kg for lithium ion cells and batteries and 2.5 kg for lithium metal cells and batteries) and a requirement to display a Class 9 label and the lithium battery handling label<sup>2</sup> (Section IB). In addition, the shipper must provide the carrier with the following information:

- The name and address of the shipper and consignee;
- The appropriate proper shipping name and UN number; and
- The number of packages and the gross mass of each package.

The air carrier must:

- Provide the information on this document to the pilot and retain this information for at least 3 months; and
- Inspect each package for compliance with the ICAO Technical Instructions.

The full text of the changes recently adopted by the ICAO Dangerous Goods Panel is available in the rulemaking docket and illustrated in the following charts:

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<sup>2</sup> The lithium battery handling label (figure 5-31 in the ICAO Technical Instructions) consists of text and symbols that communicate the presence of lithium ion or lithium metal cells or batteries as appropriate, an indication that a flammability hazard exists if the package is damaged, special procedures to be taken in the event the package is damaged and a telephone number for additional information.

<b>Section II Limits</b>	Lithium ion cells or batteries not more than 2.7 Wh	Lithium ion cells more than 2.7 Wh but not more than 20 Wh	Lithium ion batteries more than 2.7 Wh but not more than 100Wh
Maximum number of cells/batteries per package	No limit	8 cells	2 batteries
Maximum net mass per package	2.5 kg	n/a	n/a

<b>Section II Limits</b>	Lithium metal cells or batteries with not more than 0.3 g lithium content	Lithium metal cells with a lithium content more than 0.3 g but not more than 1 g	Lithium metal batteries with a lithium content more than 0.3 g but not more than 2 g
Maximum number of cells/batteries per package	No limit	8 cells	2 batteries
Maximum net mass per package	2.5 kg	n/a	n/a

<b>Section IB Limits</b>	<b>Cell/Battery Size Limit</b>	<b>Package Gross Mass Limit</b>
Lithium Ion Cells	20 Wh	10 kg
Lithium Ion Batteries	100 Wh	10 kg
Lithium Metal Cells	1 g	2.5 kg
Lithium Metal Batteries	2 g	2.5 kg

**Request for Information**

To adequately consider harmonization with ICAO standards, PHMSA seeks qualitative and quantitative information from the public on the following questions. In your comments please refer to the number of the specific question(s) to which you are responding. We do not expect every commenter to be able to answer every question. Please respond to those questions you feel able to answer.

The following questions generally apply to lithium metal cells and batteries up to 1 gram per lithium metal cell and 2 grams per lithium metal battery or 20 Wh per lithium ion cell and 100 Wh per lithium ion battery. Further, please focus responses on data for cells shipped alone (that is, not packed with, or contained in, equipment), designated UN3090 (Lithium Metal Batteries) or UN3480 (Lithium Ion Batteries), and which would be covered by PI965 or PI968. To the extent possible, we request commenters include specific data with verifiable references to support their statements.

1. Beginning in 2013, how many lithium cells, batteries and packages are anticipated to be subject to the additional requirements of the proposed Section IB of ICAO Packing Instructions 965 and 968, or, in other words, how many shipments of lithium cells, batteries, and packages were previously excepted from full hazardous materials packaging and labeling requirements, but would now be subject to additional requirements? These packages would typically contain more than 2 batteries or 8 cells, but weigh less than 10 kg. Also, if quantifiable, please specify projected figures for shipments that would fall under Section IA and Section II.

2. What impacts (if any) would arise from the allowance to use non-UN Specification packaging for cells and batteries to be shipped under the proposed Section IB of ICAO Packing Instructions 965 and 968?
3. What impacts (if any) would result if PHMSA chooses not to harmonize with 2013-2014 ICAO Technical Instructions applicable to lithium batteries?
4. Will harmonization with the 2013-2014 ICAO Technical Instructions result in any modal impacts or diversions, i.e., will shippers be less likely to ship by air, in favor of maritime, truck, or rail transport of these materials? If a modal shift will occur, please quantify the impact of this shift if possible (costs increase or decrease, shipment time differences, and other considerations).
5. What is the projected burden (time and/or cost) for compliance with the information collection activities and disclosures outlined in this notice? If PHMSA were to harmonize with the 2013-2014 ICAO Technical Instructions, are there other Paperwork Reduction Act related activities associated with implementation that PHMSA should consider?
6. If PHMSA were to harmonize the 2013-2014 ICAO Technical Instructions in a final rule, are there ways in which PHMSA could reduce regulatory burden or cost of implementation, for example, delayed effective date?
7. Please provide any other relevant information that PHMSA should consider before harmonizing with ICAO's standards for lithium cells and batteries.

Issued in Washington, DC on April 5, 2012.

R. Ryan Posten

Deputy Associate Administrator

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