



U.S. Department
of Transportation

Administrator

1200 New Jersey Avenue, SE
Washington, DC 20590

**Pipeline and Hazardous
Materials Safety
Administration**

June 25, 2013

The Honorable Deborah A. P. Hersman
Chairman
National Transportation Safety Board
490 L'Enfant Plaza, SW
Washington, DC 20594

Dear Chairman Hersman:

Thank you for your December 26, 2012 letter regarding Safety Recommendations A-07-104 through -109. This letter provides follow-up to that letter with regard to separate requests made concerning Safety Recommendations A-07-107, and A-07-108 and -109, respectively. The National Transportation Safety Board (NTSB) issued these recommendations on December 17, 2007, as a result of: (1) its investigation of the February 7, 2006, in-flight cargo smoke indication and the subsequent fire after landing of a United Parcel Service flight at Philadelphia International Airport, Philadelphia, Pennsylvania; and (2) its concerns about the increasing number of incidents documented by the Federal Aviation Administration (FAA) involving overheating and fires initiated by secondary (rechargeable) lithium ion batteries.

A-07-107

Require commercial cargo and passenger operators to report to the Pipeline and Hazardous Materials Safety Administration all incidents involving primary and secondary lithium batteries, including those contained in or packed with equipment that occurs either on board or during loading or unloading operations and retain the failed items for evaluation purposes.

In the December 26, 2012 letter, the NTSB stated that the PHMSA regulation for the reporting of transportation incidents involving lithium batteries partially satisfied Safety Recommendation A-07-107. In addition, the NTSB communicated its continuing concern that PHMSA has not implemented a requirement for aircraft operators to retain a failed lithium battery item (at the time of an incident) for evaluation. The NTSB did note, however, ongoing operator and shipper efforts to retain and evaluate failed items to assist PHMSA and other government agencies as well as PHMSA's special investigation process to obtain specific information about the failed item and its packaging. The NTSB indicated these actions were responsive to the second part of

this recommendation but requested an explanation of the criteria that PHMSA uses to determine whether a failed battery item should be retained for evaluation.

PHMSA has investigated numerous lithium battery incidents since beginning to require reporting of all lithium battery incidents. Based on the circumstances of these incidents, PHMSA field operations personnel have utilized a variety of strategies during their investigations including releasing the incident battery or device for further analysis; conducting follow-up investigations with shippers to identify deficiencies; and conducting compliance inspections on companies shipping similar products. In two separate incidents involving different companies shipping single cell lithium ion batteries, it was determined that damage from an external force caused the incident. While no violations of the HMR were found, in both of these instances, the shipper elected to change their package to prevent similar occurrences. In another case, PHMSA issued a competent authority approval to authorize the transport of potentially defective lithium batteries. We took this action to support the Canadian government in an ongoing investigation into a company suspected of shipping undeclared lithium batteries. In response to a number of incidents involving e-bikes (powered by lithium ion batteries), PHMSA conducted additional compliance inspections targeted at shippers of batteries that power these e-bikes.

As a supplement to our information gathering process, PHMSA field investigators use the enclosed decision tree and instructional guide as an aid in deciding whether a failed lithium battery item should be retained for further analysis to help determine a failure cause or mode and further inform decisions on risk mitigation of lithium battery transportation, especially by aircraft. This decision tree and instructional guide are used by our field investigators at the outset of an incident investigation. The decision tree and guide consider the failed battery item availability and condition, the size and type of the failed battery item, the lead agency conducting the investigation, and other relevant factors pertinent to retention of the item. Through the use of this decision tree and instructional guide, PHMSA is able to focus its investigative efforts and avoid duplicative or unnecessary retention of failed battery items. Incidents and investigations are fluid and dynamic environments and PHMSA may make a determination, on a case by case basis, to have a failed battery item retained outside the scope of this process.

While Safety Recommendation A-07-107 is specific to the air mode, this process is not limited to lithium battery incidents in the air transportation mode. Our reporting requirements apply to all modes and an incident occurring in a mode other than air transportation may also trigger use of the decision tree and guide (e.g., a highway transportation incident involving lithium battery item(s) that causes a major transportation artery or facility to be closed or shut down for one hour or more). PHMSA believes that, when combined, the HMR requirement for the reporting of lithium battery incidents, the standard investigative process (as explained in our June 6, 2012 letter) and the use of the decision tree and instructional guide with regard to retention of failed lithium battery items is sufficient to support efforts to evaluate failed items, and to subsequently aid in determination of any alternative methods of risk mitigation.

A-07-108

Analyze the causes of all thermal failures and fires involving secondary and primary lithium batteries and, based on this analysis, take appropriate action to mitigate any risks determined to be posed by transporting secondary and primary lithium batteries, including those contained in or packed with equipment, on board cargo and passenger aircraft as cargo; checked baggage; or carry-on items.

A-07-109

Eliminate regulatory exemptions for the packing, marking, and labeling of cargo shipments of small secondary lithium batteries (no more than 8 grams equivalent lithium content) until the analysis of the failures and the implementation of risk-based requirements asked for in Safety Recommendation A-07-108 are completed.

In the December 26, 2012 letter, the NTSB indicated awareness that the 2013-2014 International Civil Aviation Organization Technical Instructions on the Safe Transport of Dangerous Goods by Air (“ICAO TI”) includes provisions for lithium battery transport that are responsive to these recommendations, and that incorporation into the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) would satisfy the recommendations. Relative to this position, PHMSA recently published two rulemakings in the Federal Register on January 7, 2013.

PHMSA published a final rule (78 FR 988) incorporating by reference the 2013–2014 ICAO TI into the HMR. Effective January 1, 2013, transport of lithium batteries in accordance with the 2013–2014 ICAO TI is authorized subject to limitations outlined in Part 171, Subpart C of the HMR (*see* 49 CFR 171.24(d)(1)(ii) and 171.24(d)(1)(iii)). Incorporation by reference of the 2013–2014 Edition of the ICAO TI provides shippers and carriers with the ability to use the 2013-2014 ICAO TI for transportation within the United States by aircraft and by motor vehicle or rail either before or after being transported by aircraft.

PHMSA also published a notice of proposed rulemaking (78 FR 1119) seeking public comment on the impact of the changes made to provisions for lithium battery transport in the 2013–2014 ICAO TI. PHMSA issued this notice in consideration of the long-term impacts on domestic transportation of authorizing shippers and carriers to choose between compliance with the existing language for lithium battery transport in the HMR and compliance with the ICAO TI under the aforementioned final rule. Specifically, PHMSA sought comment on whether to make

mandatory compliance with the 2013–2014 ICAO TI provisions for lithium battery transport for both domestic and international transport. Taking commenter feedback into consideration, PHMSA may issue a final rule to revise the HMR to incorporate the lithium battery provisions specified in the 2013–2014 ICAO TI into the HMR (i.e., incorporate regulatory text versus authorizing use of an international standard that contains that regulatory text).

Although the 2013-2014 ICAO TI provisions for lithium battery transport are not incorporated verbatim into the HMR, the regulatory amendment to incorporate by reference will allow shippers and carriers to opt for the method of compliance appropriate to each specific shipment. Knowing that some domestic air carriers and all international air carriers comply with the ICAO TI (subject, of course, to limitations placed by the HMR for transport in the United States) for the transportation of hazardous material including lithium battery transport, we believe incorporation by reference of the 2013-2014 ICAO TI still satisfies Safety Recommendations A-07-108 and A-07-109.

Sincerely,

A handwritten signature in black ink, appearing to read "Cynthia Quarterman", with a large, sweeping flourish at the end.

Cynthia Quarterman
Administrator

Attachment:

1. Failed Lithium Battery Item Retention Decision Tree
2. Failed Lithium Battery Item Retention Decision Tree Guide