

Lithium Battery Air Safety Advisory Committee Meeting Minutes

April 25, 2024

I. Call to Order

Chairman Bob Brown called the eighth meeting of the Lithium Battery Air Safety Advisory Committee to order at 9:01 AM EDT on April 25th. The meeting was held in Fort Myers, FL at the Luminary Hotel & Co. with virtual attendance via Microsoft Teams. Duane Pfund from PHMSA served as the Designated Federal Officer (DFO), and Richard Hill from FAA served as the Alternate Designated Federal Officer (ADFO).

II. Quorum

Chairman Brown surveyed those in attendance to determine the presence of a quorum.

Twenty-one of the twenty-two Committee members were in attendance:

EVA AMES, DSV Air & Sea Inc.

MARCUS BOOLISH, the Rechargeable Battery Association

BOB BROWN, Chairman, Coalition of Airline Pilots Associations

JAMES DAVIS, AccuFleet Testing

RAJU DESAI, Apple

DOUG FERGUSON, Boeing

MICHAEL HENISSEE, Amazon

JENNIFER LITTENBERG, Hawaiian Airlines

TODD MACKINTOSH, General Motors

BRANDON MARTIN, Outdoor Power Equipment Institute

DINKAR MOKADM, Association of Flight Attendants- CWA

KATHLEEN O'SHEI, Integer

BILL REESE, Commercial Vehicle Safety Alliance

PAUL ROGERS, International Association of Fire Fighters

TIM ROGERS, UPS Airlines

STEPHANE ROSSETTI, Medtronic

SCOTT SCHWARTZ, Airline Pilots Association, Int'l

TIM SHEPPARD, Samsung Electronics America

MICHAEL TOBIN, Alaska Airlines

VERONICA WILSON, Walmart

DAVID WROTH, Underwriters Laboratories

III. Welcome and New Member Introductions

DFO Pfund provided welcoming remarks and meeting logistical and safety briefing information. Chairman Brown opened the meeting and introduced the four new members of the Committee: Eva Ames with DSV Air & Sea Inc., Marcus (Marc) Boolish with the Rechargeable Battery Association, Michael (Mike) Henissee with Amazon, and Tim Rogers with UPS Airlines. Each of the new Committee members introduced provided a brief background on themselves and their interest in lithium battery air transport safety.

IV. Previous Meeting Minutes and Agenda Adoption

Chairman Brown noted that the minutes from the previous meeting and the agenda for this meeting were provided to all and made available on the Committee's webpage and asked for a motion to adopt the minutes. A motion was received from Member Henissee and a second from Member Reese. In response to a request to adopt the agenda for the meeting a motion was received from Member Ferguson and a second from Member Martin. Noting no objections to the agenda or minutes as presented, the agenda and previous meeting minutes were approved.

V. Discussion on Continuing Beyond 2025 and Progress Made

Chairman Brown facilitated a discussion on the planned sunseting of the Committee in May 2025 per statute and a discussion on what progress the Committee is making.

Chairman Brown noted that the Committee is set to terminate in May of 2025 and there was interest in continuing the work of the Committee, not necessarily under the formal structure of the Committee, but that members and government continue to communicate and advocate for issues related to the safe transport of lithium batteries by air. Committee members agreed to continue further discussions emanating from the work of the Committee.

Chairman Brown's presentation on the progress of the Committee included discussions on data collection, evaluating the supply chain, stricter regulations, participation in industry meetings, and ULD fire suppression and fire containment devices. He noted that safety gains from changes to regulations, industry practices, and emerging technologies are not all directly a result of the Committee and its work, but in many instances there have been improvements that result from collaborative work between players in many sectors and have been influenced by the work of this Committee.

VI. Sub-Committee Reports

The Sub-Committee Chairs provided the Committee with an update on work undertaken by their groups since the last Committee meeting.

- a. A Data Collection & Analysis Sub-Committee update was provided by its Chair David Wroth. Mr. Wroth provided updates on TRIP data that covered thermal incidents for CY 2023 and 2024 through the end of March, 5 year trends, incidents by device type, and incidents by location. Mr. Wroth noted the following trends in the data; passenger incident rates are increasing on a per passenger and per departure basis, for cargo a smaller number of incidents make trends difficult to discern, state of charge requirements appear to mitigate some risk.

Mr. Wroth noted that the database had recently received its 800th incident report and that there is four and a half years of highly structured data available. The presentation then went over the two recommendations related to in-depth evaluation of thermal runaway incidents aboard aircraft. This evaluation could be facilitated by authorizing carriers to take custody of any device involved in a thermal runaway incident and establishing a program and establishing a funding mechanism for in-depth investigations of thermal runaway incidents.

- b. A Supply Chain Safety and Integrity Sub-Committee update was provided by its Chair Veronica Wilson. Ms. Wilson noted that the Sub-Committee is continuing to struggle with lower-level manufacturers/distributors that don't comply with requirements (quality, testing or other) and distributors who don't/can't validate compliance of their products. Ms. Wilson also noted the Sub-Committee is discussing extended use of a battery/product and refurbishing and associated potential concerns during transport. The Sub-Committee is continuing discussions on; helping with passenger awareness or other campaigns to lessen the events in the aircraft cabin, what can be done to track batteries and equipment in "right-to-repair" scenarios, and local and state regulations.
- c. A presentation from Regulations and Gap Analysis Sub-Committee Member Jennifer Littenberg was provided. Ms. Littenberg provided insights from her airlines perspective on transporting lithium batteries and mitigating measures. Ms. Littenberg provided an overview of current limits for lithium battery powered mobility devices onboard aircraft and noted the difficulty in managing passenger accessibility requirements and safety and SMS concerns related to lithium batteries, particularly those related to mobility devices with non-removeable lithium batteries whose watt-hour ratings can significantly exceed limits for other devices.
- d. A presentation was provided by Dan Kessler from the FAA under the Hazard Analysis Sub-Committee. Mr. Kessler provided an update on FAA testing of fire containment bags ability to contain lithium battery fires. Mr. Kessler noted differing results of bags based on the type of battery or device that was tested and that effectiveness of these commercially available fire containment bags varied significantly between manufacturers. It was indicated that further fire containment bags would be tested and a report issued when testing was completed.

VII. Working Group Updates

The Working Group leads and invited speakers provided the Committee with an update on work undertaken by their groups since the last Committee meeting.

- a. Doug Ferguson provided a slide for the 30% state of charge (SOC) working group. Mr. Ferguson provided an update on recent adopted amendments to the ICAO Technical Instructions related to SOC for lithium batteries contained with equipment, packed with equipment, and vehicles powered by lithium batteries. He noted there were varying effective dates and mandatory versus recommendatory applicability as well.
- b. Mr. Stephane Rossetti provided an update from the Medical Device Working Group. It was noted the group would like to create a framework to clearly define certain medical devices that are designed for urgently needed life-threatening and life-sustaining medical devices and

discuss the ability to transport devices on passenger aircraft particularly where cargo aircraft are not available. Mr. Rossetti provided an overview of the different types of medical devices.

- c. Ms. Lesley Rohrbaugh from UL provided an update from the Education and Outreach Working Group. Ms. Rohrbaugh gave a presentation highlighting UL's Lithium-Ion Battery Safety and Aviation Safety Survey. The survey just completed its seventh round to research the sentiment around risk, the relevance of risk to the consumer, familiarity of risk reduction, as well as responsibility for risk mitigation. Over 14,000 unique participants have been surveyed so far. This survey indicated that 43% of respondents admitted to knowing nothing about them, 60% were not aware that many portable electronics and technology products they regularly use were powered by lithium-ion batteries, and when asked about responsibility for risk reduction survey participants selected product manufacturers (71%), but also point to government agencies such as the Consumer Product Safety Commission (CPSC) (54%) as primary stewards of battery safety. The survey indicated that 98% of air travelers brought at least one lithium-ion battery powered device with them on board aircraft, but 42% do not recall seeing signage or battery related safety messaging. Ms. Rohrbaugh also provided detailed survey data about travelers understanding of power banks and electronic cigarette requirements and actual passenger actions with these items. She indicated the survey would be replicated in the U.K. and then potentially Europe and Asia.

VIII. International Update

DFO Duane Pfund provided an update on provisions adopted by ICAO to include mitigation measures for lithium batteries contained in and packed with equipment including a 30% SOC limit, with varying degrees of applicability and effective dates. Mr. Pfund provided an update on ICAO job card lithium battery related issues and an update on lithium battery related papers to be considered at the upcoming 64th session of the UN Sub-Committee on the Transport of Dangerous Goods.

Mr. Steven Webb with PHMSA facilitated an open discussion on the transportation of prototype batteries by air. Specifically, Mr. Webb discussed two NTSB recommendations (A-20-31) & (A-20-32) to eliminate from the ICAO Technical Instructions and the U.S. Hazardous Materials Regulations special provisions that allow the transport of prototype lithium-batteries by air subject to approval by the Competent Authority. Questions asked to the Committee included; what would the impacts be of implementing universal UN 38.3 transportation testing, and do carriers have a particular concern with transporting prototype or low production run batteries under the current system? Some speakers provided comments supporting the value of prototype transport allowances for scenarios where a very limited number of batteries are made or variations of potential production batteries prior to finalization of a production design. One speaker noted that they review requests for approvals to transport prototype batteries, but that often parts of the application provided to the public during the notice and comment portion of an approval request are redacted. The commenter requested further transparency in the permit/approval submission review process by providing access to all information necessary for interested parties to assess an application and provide useful comments.

IX. Presentation on Next Committee Report

Chairman Brown provided a presentation outlining inputs from the Sub-Committee chairs on recommendations that may end up in the Committees final report. The topic areas covered included; enforcing 30% SOC, fire containment product performance, mobility device batteries, transporting medical device batteries, forensic evaluation of devices and batteries involved in incidents, and education and outreach. Chairman Brown indicated an intention to draft a report based on discussions had during this meeting and discussions with Sub-Committee chairs and

circulate it for review by all Committee members.

X. Adjournment/Closing Remarks

Chairman Bob Brown thanked everyone for a productive meeting and particularly for their commitment to collaborative work. Chairman Brown noted that the next meeting would be in approximately six months. The meeting was adjourned at 4:58 PM EDT.

At this moment, I certify that the preceding minutes are accurate and complete to the best of my knowledge.

A handwritten signature in black ink, appearing to read "Bob Brown", with a long, sweeping horizontal line extending to the right.

Bob Brown
Chairman
Lithium Battery Air Safety Advisory Committee

Date: November 4, 2024