

Lithium Battery Air Safety Advisory Committee Meeting Minutes

October 20, 2022

I. Call to Order

Chairman Bob Brown called the fifth meeting of the Lithium Battery Air Safety Advisory Committee to order at 9:36 AM EDT on October 20th. The meeting was held in Atlantic City, NJ when the Federal Aviation Administration (FAA) hosted the Tenth Triennial International Fire & Cabin Safety Research Conference 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. Nineteen of the twenty-two Committee members were in attendance:

BOB BROWN, Chairman, Coalition of Airline Pilots Associations

JAMES DAVIS, AccuFleet Testing

RAJU DESAI, Apple

DOUG FERGUSON, Boeing

LINDA GABOR, Call2Recycle

GEORGE KERCHNER, PRBA - the Rechargeable Battery Association

JENNIFER LITTENBERG, Hawaiian Airlines

TODD MACKINTOSH, General Motors

BRANDON MARTIN, Outdoor Power Equipment Institute

ROBERT McCLELLAND, UPS Airlines

DINKAR MOKADM, Association of Flight Attendants- CWA

KATHLEEN O'SHEI, Integer

MARIANNA PATTERSON, Amazon

PAUL ROGERS, International Association of Fire Fighters

STEPHANE ROSSETTI, Medtronic

TIM SHEPPARD, Samsung Electronics America

MIKE TOBIN, Alaska Airlines

VERONICA WILSON, Walmart

DAVID WROTH, Underwriters Laboratories

III. Opening Remarks

Opening remarks were provided by William Quade, Deputy Associate Administrator, Office of Hazardous Materials, PHMSA, and Ben Supko, Executive Director, FAA Office of Hazardous Materials. Deputy Associate Administrator Quade noted the unique opportunity that hosting this meeting in conjunction with the FAA-hosted triennial conference presented to provide access to presentations on fire and cabin safety to members of the committee that may not otherwise attend the event. He encouraged the Committee to continue supporting the work to inform the ICAO Energy Storage Device Working Group members as they perform their risk assessments on lithium batteries contained in and packed with equipment. Additionally, he noted recent PHMSA initiatives to bring together other agencies interested in lithium battery safety and social media campaigns to address micro-mobility device battery safety. Executive Director Supko provided an update on lithium battery air transportation incidents collected by the FAA and their work to make the information more visually appealing and accessible. Mr. Supko noted the collaborative work the FAA is leading with the USPS, PHMSA, other regulators, and airlines who carry mail on a Safety Risk Management Panel to look at issues with hazardous materials, both declared and undeclared in the mail.

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 agenda. A motion was received from member Tobin and a second from member Wroth. The agenda was adopted as provided. Chairman Brown then asked for a motion to adopt the previous meeting minutes. Member O'Shei and a second from member Ferguson provided a motion to adopt the minutes. Noting no objections to the agenda or minutes as presented, the agenda and previous meeting minutes were approved.

V. Presentation

Ms. Michelle Chevalier, UL Solutions, gave a presentation on UL Solutions Dangerous Goods Process Management Certification Program. This certification program assesses an organization's management system and related processes to comply with applicable regulations, agreements, and codes of practice and legislation that pertain to the transportation of dangerous goods articles that are developed, made, sourced, packaged, stored, or offered for transportation by the organization. The certification program includes an initial audit, including employee interviews and records reviews; a post-audit, including identification of any corrective actions, a certification decision based on the audit results; and an annual audit to maintain certification.

v1. Reports from Sub-Committees

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 and member Rossetti who gave the Committee an update on the Thermal Runaway Incident Program (TRIP), indicating the onboarding of two new members, a review of reports containing thermal incidents in both passenger and cargo operations, sharing of incident data with relevant partners, and the most recently compiled 2022 incident data through September 30, 2022. The next steps include advancing the TRIP program through additional database enhancements and a potential feedback loop for manufacturers.

Ms. O'Shei updated the Committee on the work of this Sub-Committee concerning forensic evaluations. The Sub-Committee has a general agreement around when a forensic evaluation would be appropriate and has developed a draft flowchart on when to conduct various evaluations and the types of inspections that might be performed in various contexts. Outstanding issues such as the authority to take possession of devices, handling potential personally identifiable information on devices, shipping of damaged devices for analysis, and notification to device manufacturers were noted as ongoing discussions within the Sub-Committee.

b. A Supply Chain Safety and Integrity Sub-Committee update was provided by its Chair, Bob McClelland. This update discussed the Sub-Committee's continuing work to refine their existing life cycle spreadsheet, identify life cycle activities that presented the most risk for air transportation and set priorities within the Sub-Committee on the targeted areas of focus. Mr. McClelland presented a simplified supply chain product lifecycle flowchart that the Sub-Committee will utilize in future discussions. Future work envisioned includes further refinement of the lifecycle spreadsheet and flowchart, including extended use, reuse, and refurbishment of devices and batteries and looking at eCommerce/third-party resellers where confidence is lower that shippers understand the requirements for shipping lithium batteries and battery-powered devices.

Member Kerchner noted that he had contacted several retail associations to inquire about links to lithium battery shipping information being made available on their sites. Mr. McClelland pointed out that more than 80% of thermal events in the TRIP database are from passengers. The Sub-Committee may investigate if additional communication to passengers may be useful.

c. Chairman Bob Brown introduced the Hazard Analysis Sub-Committee and the associated presenters. Mr. Dan Keslar with the FAA's Fire Safety Branch gave a presentation that provided the results of a study on the state of charge (SOC) of lithium-ion batteries offered for air transportation. Batteries were purchased and tested to determine their SOC, noting that lithium-ion batteries must be offered at 30% or less SOC for air transportation. Of the 72 batteries tested, 66% exceeded 30% SOC. It was not always possible to confirm that transportation included an air leg, but for 20 shipments where air transport was confirmed, 19 exceeded 30% SOC. Mr. Keslar noted that enforcement of the SOC regulation is difficult, determining SOC in the field is impossible as voltage is not a reliable indicator, and additional steps may be needed to ensure compliance with SOC shipping requirements.

Next, Ms. Monica Mena, from UL Standards, and Engagement, gave a presentation about the health and safety impact of counterfeit products, including batteries and battery-powered devices. Ms. Mena noted that sales from counterfeit goods often fund organized crime. Ms. Mena's presentation then focused on UL's outreach and awareness campaigns, including the "Be Safe Buy Real" campaign, which has reached over 11 million people with an anti-counterfeiting safety message. The presentation also noted outreach being conducted to facilitate consumer advocacy of proposed legislation, the SHOP Safe Act and the INFORM Consumers Act, both of which aim to combat counterfeit products.

Finally, member Kerchner updated the import-export data of lithium-ion batteries, lithium metal batteries, and battery-powered equipment for CY 2021. Mr. Kerchner also provided trend data for shipments made between 2015-2021. The data showed a gradual increase in shipments of lithium-ion batteries packed with or contained in equipment and a gradual decrease in shipments of standalone batteries. When shipment data and TRIP incident data were compared by Mr. Kerchner's association, cargo incident frequency is trending downward across increasing cargo volumes.

- d. A Regulations & Gap Analysis Sub-Committee update was provided by its co-chair Mike Tobin. This update discussed potential regulatory gaps the Sub-Committee is examining, primarily imposing a state of charge (SOC) limit on batteries packed with or contained in equipment. Mr. Tobin indicated that his Sub-Committee had been tasked with gathering U.S. stakeholder input on potential SOC limits for lithium batteries packed with or contained in equipment transported on aircraft. Mr. Tobin indicated this work would be done utilizing information provided to his committee on a safety risk assessment model using a bow-tie approach.

VII. International Update

DFO Duane Pfund provided an update on ICAO issues that focused on work by the ICAO DGP Energy Storage Devices Working Group (ESD WG) to conduct a safety risk assessment of lithium batteries packed with and contained in equipment. Additionally, Mr. Pfund provided an update on lithium battery-related proposals to be considered by the 61st session of the UN Sub-Committee of Experts on the Transport of Dangerous Goods in November/December and a discussion on potential work items for the International Maritime Organization (IMO).

DFO Pfund informed the Committee on the progress of the ESD WG action plan, which involves resource planning, process planning, identifying information needs, and stakeholder engagement. It was noted that the statutory mandate of the Committee is to facilitate communication between those in the air transport supply chain and the federal government regarding the safe air transportation of lithium cells and batteries and the economic and social impacts of the regulation of such transportation, and to provide a forum for the Secretary to provide information on and to discuss the activities of the Department of Transportation relating to lithium battery transportation safety; that the Committee, as previously agreed, will be used as a mechanism for stakeholder engagement. Mr. Pfund showed a copy of the existing bow-tie safety risk assessment, which illustrates a hazard, threat lines, prevention controls, and escalation factors.

Updates on the work of the ESD WG on this subject will be provided to the Committee and made publicly available to ensure transparency and equitable opportunities for U.S. stakeholders to participate in the data sharing and fully inform the U.S. representative of the working group.

The UN update addressed a proposal for new proper shipping names for lithium battery-powered vehicles. The IMO update informed the Committee that the organization is looking at transport requirements for vehicles, including electric vehicles.

VIII. 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 4:45 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 that reads "Bob Brown". The signature is written in a cursive style with a long, sweeping underline.

Bob Brown
Chairman
Lithium Battery Air Safety Advisory Committee

Date: February 18th, 2023