

IFALPA Position on the Adoption of a Performance Packaging Standard for Lithium Battery Shipments

At the Dangerous Goods Panel Working Group meeting held in Montreal from April 27th to May 1st (DGP-WG/15), a joint paper was presented by ICCAIA and IFALPA concerning the transport of lithium batteries as cargo by air (WP/4). Following discussion of the paper, the Panel agreed to convene a third International Multidisciplinary Lithium Battery Transport Coordination Meeting to discuss the development of a performance packaging standard for the transport of lithium batteries. IFALPA believes that any performance packaging standard must contain at a minimum the following elements:

1. Internal Fire Propagation Test

The packaging used for the transport of lithium batteries must not allow a fire emanating from within the package to propagate to other packages.

2. External Fire Test

In addition to an internal fire propagation test, the packaging must be able to withstand an external fire without causing the cells and batteries contained therein to contribute to the fire. A potential alternative means of compliance could be to segregate all packages of cells and batteries in a fire resistant container or under a fire resistant cover capable of passing the external fire test.

3. State of Charge (SOC) Requirement

Due to the difficulty of ensuring state of charge compliance throughout the transportation chain and throughout the life of the cell or battery, as well as the inability during acceptance to verify a state of charge, the internal fire propagation and external fire tests should be conducted at the worst case scenario for state of charge of the selected cells or batteries (which may be less than 100% SOC). A potential alternate means of compliance in lieu of determining the worst case SOC could be to establish a safety margin by limiting SOC to a level significantly below that which had been successfully tested.

4. Applicability to both Passenger and All-Cargo Operations

Any new performance packaging standard must be applied to both passenger and all-cargo operations (or to all-cargo operations, if a prohibition on passenger aircraft is agreed). While the Technical Instructions often differentiate between the types and quantities of commodities permitted on passenger and all-cargo aircraft, there is generally no reduction in packaging standards. This approach should be

adopted for lithium batteries, especially considering the greater risk presented by the transport by all-cargo aircraft.

5. Applicability to both lithium ion and lithium metal cells and batteries

While the panel agreed to a prohibition on the transport of lithium metal cells and batteries as cargo on passenger aircraft, their transport continues on all-cargo aircraft. It would be inconsistent to implement a higher packaging standard for lithium ion cells and batteries on both passenger and all-cargo aircraft, when the fire characteristics of lithium metal batteries on all-cargo aircraft are more severe. The implementation of a performance packaging standard for lithium metal batteries on all-cargo aircraft is necessary to mitigate the risk presented by the transportation of this commodity.

6. Elimination of Section II Provisions

Concurrent with the introduction of new performance packaging standards, it is necessary to eliminate the regulatory exceptions afforded by the Section II Provisions of the Packaging Instructions for lithium metal and lithium ion batteries. In order to be effective, the performance packaging standard must be applied to all shipments of lithium batteries as cargo. To ensure proper training has occurred and to verify compliance with the packaging standard via an acceptance check, as well as to allow an Operator to properly manage and control lithium battery shipments, it is necessary to fully regulate each shipment.

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