



Lithium Batteries as Cargo in 2016

Background

The 25th meeting of the ICAO Dangerous Goods Panel meeting (DGP/25), which was held in Montreal 19 – 30 October 2015, considered a number of proposals to address safety concerns associated with the carriage of lithium batteries as cargo, including:

- a total prohibition on the carriage of lithium ion batteries (UN 3480) as cargo on passenger aircraft;
- deletion of Section II of Packing Instructions 965 and 968;
- restricting the transport of lithium ion batteries to be at no more than 30% state of charge (SoC);
- removing the allowance for packages of lithium ion batteries (UN 3480) prepared according to Section II of PI 965 and lithium metal batteries (UN 3090) prepared according to Section II of PI 968 to be placed in an overpack.

These proposals resulted from tests conducted by the FAA Technical Centre that indicate that Halon, which is the fire suppression agent used in passenger aircraft cargo compartments, may not be capable of suppressing a fire involving large quantities of lithium ion cells. Based on the tests, the major aircraft manufacturers issued recommendations to the operators of their aircraft that lithium ion batteries (UN 3480) not be shipped as cargo on passenger aircraft until safer methods of transport are established, and that operators conduct a safety risk assessment to establish appropriate risk mitigation measures based on their operation.

The majority of the DGP did not support a total prohibition on the carriage of lithium ion batteries on passenger aircraft as this was seen as penalising compliant shippers, while not addressing the broader compliance issues around the transport of lithium batteries. The DGP did though support the adoption of the restriction of 30% SoC for UN 3480 and to limit the transport of the lithium ion and lithium metal batteries that are excepted from most of the regulatory requirements, prepared in accordance with Section II of PI 965 and PI 968, to no more than one package per consignment. The DGP believe that these changes will provide significant improvements to the safety of lithium batteries in air transport.

The DGP also supported the development of performance-based standards for packagings for lithium batteries, UN 3480 and UN 3090. As the performance-based standards have yet to be developed, the DGP recommended that the requirements for SoC and the restrictions on number of packages for the excepted lithium batteries be implemented in advance of the 1 January 2017 effective date for the 2017 – 2018 edition of the ICAO Technical Instructions through an addendum to the 2015 – 2016 edition of the ICAO Technical Instructions.

DGP/25 has recommended that the additional restrictions for UN 3480 and UN 3090 be adopted with effect 1 April 2016 (this date is to be confirmed). The recommendation of DGP/25 has still to be endorsed by the Air Navigation Commission and approved by the ICAO Council. The actual date of implementation will depend on the date that Council adopts the changes.

Changes to the Provisions for Lithium Batteries Effective 1 April 2016 (actual date to be confirmed)

1. UN 3480, PI 965, Section IA and IB. Lithium ion cells and batteries must be offered for transport at a state of charge (SoC) not to exceed 30% of their rated design capacity. Cells and/or batteries at a SoC of greater than 30% of their rated capacity may only be shipped with the approval of the State of Origin and the State of the Operator under the written conditions established by those authorities.

Note:

Guidance and methodology for determining the rated capacity can be found in the UN Manual of Tests and Criteria, 5th Revised Edition, Amend. 1 and Amend. 2, Section 38.3.2.3.

2. UN 3480, PI 965, Section II. Lithium ion cells and batteries must be offered for transport at a state of charge (SoC) not to exceed 30% of their rated design capacity.

A shipper is not permitted to present for transport more than one (1) package prepared according to Section II in any single consignment.

Not more than one (1) package prepared in accordance with Section II of PI 965 may be placed into an overpack. When the package is placed in an overpack, the lithium battery handling label required by this packing instruction must either be clearly visible or the label must be affixed on the outside of the overpack and the overpack must be marked with the word "Overpack".

3. UN 3090, PI 968, Section II. A shipper is not permitted to present for transport more than one (1) package prepared according to Section II in any single consignment.

Not more than one (1) package prepared in accordance with Section II of PI 968 may be placed into an overpack. When the package is placed in an overpack, the lithium battery handling label required by this packing instruction must either be clearly visible or the label must be affixed on the outside of the overpack and the overpack must be marked with the word "Overpack".

4. Packages prepared according to Section II of PI 965 and PI 968 must be offered to the operator separately from other cargo and must not be loaded into a unit load device (ULD) before being offered to the operator.

***Note:** Other changes to the provisions applicable to lithium batteries packed with equipment (UN 3481, PI 966 & UN 3091, PI 969), or lithium batteries contained in equipment (UN 3481, PI 967 & UN 3091, PI 970) are not covered in this document. These additional changes will be publicised separately and will come into effect from 1 January 2017.*

The full report of DGP/25, when available, along with the working papers of DGP/25, is available on the on the ICAO Website here:

<http://www.icao.int/safety/DangerousGoods/Pages/DGP25.aspx>

You can contact the IATA Dangerous Goods Support team if you have questions or concerns that may not have been addressed in this document at: dangood@iata.org.

www.iata.org/lithiumbatteries