ICAO International Multidisciplinary Lithium Battery Transport Coordination Meetings

All Three Multidisciplinary Lithium Battery Transport Coordination Meeting Dates:

Third Meeting

28 to 30 July 2015
(Montreal, Canada)

Second Meeting

9 to 11 September 2014
(Cologne, Germany)

First Meeting

4 to 6 February 2014
(Atlantic City, NJ, United States)

Multidisciplinary Participants

- Annex 6 – Operation of Aircraft
- Annex 8 – Airworthiness of Aircraft
- Annex 18 – The Safe Transportation of Dangerous Goods by Air
- Air Navigation Bureau – manages the safety strategies of ICAO, including the oversight of Annexes 6, 8, & 18.

Third Multidisciplinary Recommendations Summary

- Background: Concerns related to the transport of lithium batteries by air were provided by the Int'l Coordinated Council of Aerospace Industries Associations (ICCAIA) and the Int'l Federation of Air Line Pilots' Association (IFALPA) (DGP-WG/15 Report in Appendix D).
- Since DGP-WG/15 (April 2015), Boeing and Airbus had issued notices to operators warning of the potential for a fire involving high density lithium batteries to exceed the capability of aircraft cargo compartment fire protection systems

Third Multidisciplinary Recommendations Summary

- Both airframe manufacturers support a prohibition on the carriage of high density packages of lithium ion cells and batteries on passenger aircraft.

- Both airframe manufacturers recommend that operators that choose to transport lithium batteries as cargo conduct a safety risk assessment.

- Performance based standards for packaging or cells and batteries should be developed.
  - Performance standards would need to be developed on risk standards and processes that demonstrate a cell/battery/package is safe under thermal runaway conditions
    - No hazardous flame outside the package
    - External surface temperature limit
    - No hazardous fragments can exit the package and package must maintain structural integrity
    - Limitations on the quantity of flammable gases and their effects

Operator Performed Safety Risk Assessment

- A recommendation was for operators to perform a safety risk assessment to determine whether the risk from transport of lithium batteries could be adequately mitigated or eliminated to achieve an acceptable level of safety.
- Information on the types and quantities of lithium batteries and cells being transported would need to be considered in order to perform a safety risk assessment.
- The experts in the meeting also recommended that guidance on how to conduct and evaluate a safety risk assessment should be developed by those with expertise in operations.

Reducing State of Charge

- The experts at the meeting agreed that transporting lithium ion batteries at a reduced state of charge (SOC) could be an effective mitigation measure for certain cells and batteries.
- Recognition of challenges
  - Measuring SOC for shipments outside of the manufacturer's control
  - Applicability to various chemistries and designs

Cargo Loading Controls

- Suggestion to limit the number of lithium batteries loaded in one location and segregating them from other dangerous goods.
- Load lithium batteries under a fire resistant containment cover or unit load device with a fire suppression system

Conclusions

- Detailed performance standards based on four (4) criteria needed to be developed.
- In the mean time, operators should perform a safety risk assessment to determine whether risks associated with the transport of lithium batteries as cargo n passenger or cargo aircraft can be mitigated to achieve an acceptable level of safety.

QUESTIONS?