

Lithium Battery Fire Awareness

NOTE

This paper supersedes 15POS25, of the same name.

BACKGROUND

Whilst Lithium battery fire awareness has already been improved for flight and cabin crews, safety data such as the [FAA database](#) show that inflight and ground incidents keep reoccurring, which indicates that passengers and, to some extent, ground staff, still have little knowledge about potential hazards such as thermal runaway (i.e. self-sustaining uncontrolled increases in pressure and temperature) within Portable Electronic Devices (PEDs), or the carriage of spare batteries and power banks.

Indeed, despite the mandatory training for ground staff, the placards at check-in desks or the legal instructions to be read before buying an airline ticket, very few people can assess if their batteries are subject to restrictions of carriage.

The situation has worsened due to:

- The increasing use of self-check-in/self-boarding, which has reduced the visual contact between passengers and ground staff to a minimum. Simply ticking a box online to “confirm that there are no dangerous or regulated goods inside the belongings” has a much lower impact than face-to-face questioning.
- The growing number of lithium batteries contained in PEDs carried by passengers (e-cigarettes, power banks, laptops, tablets, medical appliances, watches, etc.), generally without any specified limit, and no screening for checked-in bags.
- Gate staff, ground staff, and security personnel receiving little-to-no training or experience in Regulations on lithium batteries.
- On-time performance pressure which can discourage ground personnel from asking relevant safety questions to passengers being required to put their cabin luggage in the hold at the last minute during the boarding process.

FIRE HAZARD

Lithium batteries (including power banks) can act as ignition sources and start onboard fires. Lithium batteries stored in passenger overhead bins and/or in carry-on baggage are not readily visible or monitored by passengers or crewmembers and can be difficult to access. Because of this, detection of thermal runaway and firefighting measures may be delayed in flight, increasing the risk to safety.

Lithium battery fire awareness therefore plays an essential role in the prevention of this risk.

CURRENT SAFETY ENHANCEMENT INITIATIVES

The following are considered good examples of safety enhancement initiatives:

Regulations

- National Regulation requiring extra screening for hand luggage to be loaded in the hold;
- Limitation of the number of PEDs of the same type per passenger.

At the airport

- Leaflets on cargo awareness and related video broadcast on the internet and at airports;
- Production of informative videos by National Aviation Authorities;
- Announcements in the airport terminals;
- Additional screening for abusive PED shipments/counterfeit batteries;
- Dedicated bag tags for all hand luggage explaining the applicable restrictions on Lithium batteries;
- Requirement for passengers to be questioned on the content of their cabin luggage (especially with regards to lithium batteries) whenever it must be placed in the hold at the last minute for operational reasons.

During the flight

Messages/videos delivered during the safety briefing which:

- Advise passengers on what lithium batteries are, where they are found, how thermal runaway occurs, and the associated risks;

- Provide information on the safe handling, stowage, and carriage of lithium batteries, including how to prevent those batteries from being crushed or damaged;
- Educate passengers on the dangers of poorly manufactured batteries and in the prevention of short-circuiting, such as storing lithium batteries in plastic bags, taping and covering terminals, or keeping lithium batteries in protective cases;
- Instruct passengers to contact the cabin crew immediately in the event of a PED getting stuck in a seat or misplaced, and if they notice a PED overheating or generating smoke.

At destination/stopover

Basic DG training for cabin cleaning and ground handling staff to ensure that the possible hazardous content of cabin waste (e.g. disposable e-cigarettes) put in rubbish bags that are not accepted at destination and/or during stopovers, for example due to quarantine regulations or the lack of recycling infrastructure or disposal facilities, is not placed in the aircraft hold for subsequent flights.

POSITION

IFALPA believes that better situational awareness of the risk posed by Lithium batteries taken on board is critical and urgently needed. The Federation urges stakeholders, regulators, airlines, airports, and global handlers to take safety enhancement initiatives such as the ones described above and use appropriate media for advertising basic guidelines and best practices.