

RASG-PA Safety Issue Alert

Lithium Battery Fires in Passenger Cabin



RSIA-02

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Subject: Raising Awareness of Risks of Cabin Fire and Smoke Events Associated with Lithium Batteries Carried by Passengers

Threat: Cabin Fires / Smoke in Cabin

Intended Audience: Air Carrier Operators, Aerodrome Operators and States' Civil Aviation Authorities.

Background: While the Pan American region has not experienced major incidents involving lithium battery fires in aircraft cabins, two notable events occurred in the Asia Pacific region during the first quarter of 2025. One resulted in a hull loss on the ground, while the other occurred at a cruising altitude and was successfully extinguished in flight. Both events were suspected to have been caused by lithium battery power banks stowed in the cabin overhead compartment. Thankfully, neither event resulted in loss of life but both have drawn attention from governments, industry stakeholders and the public about risks of lithium batteries carried by passengers.



Nowadays, most energy storage devices, including batteries powering portable electronic devices (PEDs) contain lithium batteries due to their higher energy density and efficiency which is suitable for compact applications. However, these benefits come with risks, especially when not handled properly.

A lithium battery fire can be started by uncontrolled heating, overcharging, crushing or internal short circuit triggered by poor manufacturing quality, aged batteries or damage due to mishandling. Lithium

battery fires are very energetic and can result in the explosion of the device. Additionally, unlike other fires, lithium battery fires may be self-sustaining and require special methods to handle. Fire propagation of such kind may be fueled by the heat released from burning batteries, which may potentially escalate into a catastrophic event if not properly managed in a timely manner.

The general tactics of mitigation for such risks include measures to minimize opportunities that induce battery failures; support early detection in case of fire; and reinforce effectiveness of firefighting procedures, etc.

The ICAO Doc 9284 - *Technical Instructions for the Safe Transport of Dangerous Goods by Air* (TI) permits passengers to carry devices containing lithium batteries (e.g. mobile phones, tablets and laptops) in carry-on baggage or checked baggage while spare lithium batteries (e.g. power banks) may only be permitted in carry-on baggage subject to certain conditions and safety precautions. IATA has promulgated additional guidance on quantity limits regarding spare lithium batteries and PEDs.

Currently, passengers could be advised about the restrictions of items carried as baggage at various touch points such as check-in and during pre-flight passenger briefings, etc. Lithium batteries with not more than specified energy capacity may be permitted for carriage by passengers without prior approval from air/aerodrome operators. After the recent fire events, civil aviation authorities (CAAs) and air carrier operators have become more cautious of the associated risks. Some have implemented measures, such as forbidding stowage of power banks in the cabin overhead compartment and enhancing preflight

passenger briefings, in addition to the ICAO TI requirements as a result.

Recommendations: To mitigate the risk of lithium battery fires in cabins, RASG-PA recommends the following:

To All Stakeholders:

When communicating with passengers, consider referring to *lithium batteries as rechargeable batteries for power banks and rechargeable devices for laptops, cell phones, and tablets*

To Air Carrier Operators:

- Conduct a review of safety risk assessments on the carriage of lithium batteries by passengers; get familiarized with hazards of lithium batteries and potential consequences of incidents involving such batteries; and keep abreast of the latest technology / devices containing lithium batteries;
- Adopt mitigating measures that reduce the likelihood of inducing lithium battery fire in the cabin, and measures that help to reinforce early detection and effective firefighting;
- Review the adequacy of aircraft emergency equipment including personal protective equipment for the cabin crew (e.g., fireproof gloves), particularly on the provision for firefighting aboard aircraft;
- Review the operating procedures for the crew and align operating procedures with relevant guidance and requirements from ICAO, IATA, OEM¹ and/or CAAs²;
- Review and if necessary, reinforce crew's competencies through Safety and Emergency Procedure training by drawing from experiences in recognizing and mitigating lithium battery related incidents during flight;
- Review the effectiveness of current promulgation methods for battery fire risk information to passengers and cooperate with all stakeholders for communicating with passengers about

relevant requirements such as through signage, messaging, etc.;

- In the event of a lithium battery fire, crews should isolate passengers, extinguish flames (if present), then thoroughly cool the device with water and only after it is cooled, place it in a water-capable containment container, ensuring the device is covered by water or other nonflammable liquid, and relocate it to monitored safe location;
- Report safety issues to CAAs or IATA, as applicable.

SSP/SMS Collaborations: CAAs may coordinate efforts amongst stakeholders on enhancing safety awareness of passengers to achieve "Prevention, Early Detection and Coordinated Actions to Mitigate Risks of Power Banks and other Lithium Battery Devices"

To Aerodrome Operators:

- Promulgate battery fire risk information to passengers at airport terminals;
- Cooperate with all stakeholders to enhance effectiveness of campaigns to raise passenger awareness on inherent risks of lithium batteries and advise them on the actions needed for securing the safe carriage of lithium batteries and associated consumer products.

To Civil Aviation Authorities:

- Take proactive safety management actions, assess operators' risk management processes, consult and engage operators in harmonizing practices to minimize confusion to passengers, coordinate with stakeholders to enhance public awareness;
- Align State's requirements with international practices as far as practicable;
- Share findings, safety risks or concerns in local and international forums in a timely manner.

Credit: Asia Pacific Regional Aviation Safety Team (APRAST)

¹ [Airbus Safety First: Lithium Battery Fire in the Cabin or in the Cockpit – July 2025](#)

² [Federal Aviation Administration \(FAA\) SAFO 25002, Transport Canada AC No. 700-065](#)