सत्यमेव जयते

GOVERNMENT OF INDIA
OFFICE OF THE DIRECTOR GENERAL OF CIVIL AVIATION
OPPOSITE SAFDARJUNG AIRPORT, NEW DELHI-110003

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Dangerous Goods Advisory Circular No. 01/2025

Subject: Minimising risks of lithium batteries and devices carried by passenger and crew members.

Nowadays, most energy storage devices, including batteries powering portable electronic devices contain lithium batteries due to their higher energy density and efficiency. The widespread usage of lithium batteries in various rechargeable devices has led to increase in carriage of lithium batteries by air. Power banks, portable chargers, and similar devices containing lithium batteries can act as ignition sources and potentially initiate on-board fires.

Lithium batteries placed in overhead stowage bins or within carry-on baggage may be obscured, difficult to access, or not readily monitored by passengers or crewmembers. This may result in delayed detection of smoke or fire and response actions, increasing the potential hazard to flight safety.

Lithium battery fires are very energetic and can result in the explosion of the device .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. Unlike other fires, lithium battery fires may be self-sustaining and require special methods to handle. The general preventive measures to minimise the risks of lithium battery fire may include minimizing the possibilities of heating of the devices; early detection in case of fire; and reinforcement of effectiveness of firefighting procedures and training, etc.

Recently, there have been numerous safety occurrences globally where the suspected cause was attributed to lithium batteries carried aboard aircraft.

Accordingly, this circular is issued to all air operators and airport operators to review and reinforce their safety risk management processes pertaining to the carriage and handling of lithium batteries, rechargeable lithium batteries (power banks etc.) and rechargeable devices containing lithium batteries (laptops, cell phones, tablets etc.) and adopt appropriate risk mitigation strategies to minimise lithium batteries thermal runaway events. Therefore, air operators and airport operators are advised to take following measures:

Air Operators:

(i) Conduct a review of safety risk assessments related to the carriage of lithium batteries by passengers, enhance familiarity with the associated hazards and the potential consequences of incidents involving such batteries, and remain updated on the latest technologies and devices containing lithium batteries;

(ii) Adopt and implement mitigating measures to minimize the likelihood of lithium battery induced fires in the aircraft cabin, and establish robust provisions to enable early detection and effective firefighting in the event of such incidents;

(iii) Review the adequacy of onboard emergency equipment, including personal protective equipment (PPE) for cabin crew (e.g., fire-resistant gloves), with particular attention to the availability, functionality, and suitability of firefighting provisions on board;

(iv) Review the operating procedures for the crew and align operating procedures with relevant guidance and requirements from ICAO, OEM and/or DGCA;

(v) Assess and reinforce crew competencies through Safety and Emergency Procedures (SEP) training and Dangerous Goods Training incorporating lessons learned from previous occurrences involving lithium battery related incidents to enhance crew readiness and response effectiveness. Training should ensure that Crewmembers are able to:

- recognize early signs of lithium battery thermal runaway (e.g., overheating, smoke, or flame).
- use of correct fire extinguishing agents.

- recognize the secondary hazards, including smoke inhalation risks, and procedures are in place to minimize exposure for passengers and crew.
- ensure that all firefighting equipment, water sources, and fire containment kits are serviceable, accessible, and sufficient for the aircraft type and operation;

(vi) Evaluate the effectiveness of current communication methods used to disseminate battery fire risk information to passengers, and strengthen collaboration with all relevant stakeholders to improve passenger awareness through appropriate channels such as signage, announcements, and digital messaging;

(vii) Broadcasting cabin announcements advising passengers to:

- Carry power banks and spare batteries only in hand baggage.
- Using or charging power banks is not allowed during flight.
- Immediately inform cabin crew if any device emits heat, smoke, or an unusual odor;

(viii) Power banks and spare batteries shall not be placed in overhead bins and educate passengers 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; and

(ix) Promptly report all safety issues and occurrences related to lithium battery incidents to DGCA.

Airport Operator:

(i) Promulgate information on lithium battery fire risks to passengers through appropriate means at airport terminals, ensuring clear visibility and accessibility of such safety communications by displaying clear notices and videos at entrance gates, check-in counters, lounges, boarding gates, and security checkpoints;

(ii) Promote awareness among passengers about the safe handling of power banks and lithium battery devices, including advising them not to charge such devices prior to boarding; and

(iii) 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.

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