



International Civil Aviation Organization

## ELECTRONIC BULLETIN

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**AMENDMENT TO THE *TECHNICAL INSTRUCTIONS FOR THE SAFE TRANSPORT OF DANGEROUS GOODS BY AIR (DOC 9284)* RELATING TO THE TRANSPORT OF LITHIUM METAL BATTERIES ON PASSENGER AIRCRAFT**

1. The ICAO Council, at the eighth meeting of its 203rd Session, approved Corrigendum No. 1 to the 2015-2016 Edition of the *Technical Instructions for the Safe Transport of Dangerous Goods by Air* (Technical Instructions, Doc 9284). Corrigendum No. 1 relates to the transport of lithium metal batteries as cargo on passenger aircraft and is available on [www.icao.int/safety/DangerousGoods](http://www.icao.int/safety/DangerousGoods).
2. Amendments to Doc 9284 prohibiting the transport of lithium metal batteries as cargo on passenger aircraft were approved by the Council at the sixth meeting of its 202nd Session (C-DEC 202/6) and have been incorporated in the 2015-2016 Edition of the Technical Instructions. These amendments included a special provision allowing for the transport of small lithium metal batteries as cargo on passenger aircraft with the prior “approvals” of the State of Origin and the State of the Operator. This provision was intended for use on a case-by-case basis when there was an urgent need to transport lithium metal batteries and no other form of transport was appropriate. The Council approved the provision with the understanding that package performance criteria for States to use when considering applications for an approval would be completed in time for incorporation in the 2015-2016 Edition of the Supplement to Doc 9284. Regrettably, although development of this material by the Dangerous Goods Panel (DGP) is progressing, the material is not yet mature enough for incorporation in the Supplement to the Technical Instructions. The Council has therefore approved Corrigendum No. 1 to the 2015-2016 Edition of Doc 9284 which replaces the provision for granting an “approval” with a provision for granting an “exemption”.
3. The decision to forbid the transport of lithium metal batteries as cargo on passenger aircraft was based on the knowledge that lithium batteries which are mishandled, damaged, defective, improperly packaged, designed or manufactured are capable of overheating and igniting and that fully compliant lithium metal batteries can also ignite from the heat of a suppressed fire which had not involved lithium metal batteries. Current packaging requirements cannot contain a lithium metal fire and Halon, the fire suppressant agent commonly used in cargo compartments equipped with smoke or fire detection systems and built-in fire suppression systems, is ineffective at controlling a lithium metal fire. A fire involving large quantities of lithium batteries could therefore lead to a catastrophic failure of the airframe.
4. Annex 18 — *The Safe Transport of Dangerous Goods by Air* and Doc 9284 allow for States concerned to grant an exemption to allow carriage of normally forbidden dangerous goods in instances of extreme urgency, when other forms of transport are inappropriate or when full compliance with the prescribed requirements is contrary to public interest, and provided that every effort is made to

achieve an overall level of safety in transport which is equivalent to the level of safety provided for in Doc 9284. States concerned are the States of Origin, Operator, Transit, Overflight and Destination. The Supplement to Doc 9284 provides guidance for States on processing of exemptions.

5. Lithium metal batteries are permitted for transport on cargo aircraft in accordance with Doc 9284 and by other modes of transport. The number of requests to States for exemptions to transport them as cargo on passenger aircraft should therefore be minimal. Testing has shown that there is a direct correlation between lithium content, quantity of cells and batteries, and the magnitude of the risk they pose. If a State determines granting an exemption is justified, it is recommended that the number of batteries permitted in a shipment be limited to fifty and the lithium metal content of each battery be limited to 0.3 g.

6. Background information related to the decision to ban lithium metal batteries from transport on passenger aircraft can be found in the reports of the twenty-fourth meeting of the DGP, the second DGP Working Group Meeting on Lithium Batteries, and the first and second International Multidisciplinary Lithium Battery Transport Coordination Meetings. These reports are available on the DGP website at <http://www.icao.int/safety/DangerousGoods/Pages/DGP.aspx>.

Issued under the authority of the Secretary General