



**WORKING PAPER**

**DANGEROUS GOODS PANEL (DGP)**

**TWENTY-FOURTH MEETING**

**Montréal, 28 October to 8 November 2013**

**Agenda Item 2: Development of recommendations for amendments to the *Technical Instructions for the Safe Transport of Dangerous Goods by Air* (Doc 9284) for incorporation in the 2015-2016 Edition**

**REVIEW OF SPECIAL PROVISION A51**

(Presented by D. Brennan)

**SUMMARY**

This working paper proposes a review of Special Provision A51 to consider reinstatement of the provisions allowing lithium ion aircraft batteries up to a maximum net mass not exceeding 35 kg, but with a requirement that the batteries be shipped at a reduced state of charge.

**Action by the DGP:** The DGP is invited to revise Special Provision A51 as set out in the appendix to this working paper.

**1. INTRODUCTION**

1.1 At DGP/23 the panel adopted revisions to Special Provision A51 to make allowance for lithium ion aircraft batteries up to a maximum net mass of 35 kg to be carried on passenger aircraft.

1.2 This revision was adopted to make provision for operators to be able to transport on a passenger aircraft the main ship's battery and the auxiliary power unit (APU) battery that are fitted to the B787.

1.3 Due to the issues with the B787 batteries and the subsequent grounding of the aircraft for a period of time in early 2013 the panel decided, until the National Transportation Safety Board (NTSB) investigation into the batteries fitted to the aircraft had been completed, to restrict the use of Special Provision A51 to UN 2794 and UN 2795 only. This revision to A51 was done through an addendum to the *Technical Instructions for the Safe Transport of Dangerous Goods by Air* (Doc 9284) 2013-2014 Edition issued on 13 February 2013.

1.4 Following the NTSB investigation, and work by Boeing with the Federal Aviation Administration (FAA) to address the main aircraft and APU lithium ion battery installation, the grounding of the B787 was lifted in mid-2013 and the aircraft returned to service.

1.5 With the return to service Boeing also recommenced delivering B787 to customer airlines. Since that time, a significant number of aircraft have been delivered and the number of operators of the B787 continues to increase. This then brings back to the fore the reason for the original amendment to A51, the need for operators to be able to move spare aircraft batteries, and in particular when an “aircraft on ground” (AOG) situation occurs, on a passenger aircraft. This is particularly important in some parts of the world where the availability of cargo aircraft operations may be limited.

1.6 It is therefore proposed to reinstate lithium ion aircraft batteries into Special Provision A51, but with the condition that these aircraft batteries may only be carried on a passenger aircraft when shipped at no more than 25% state of charge. Shipping a lithium ion battery at a reduced state of charge significantly increases safety by removing the stored energy component that could contribute to an incident in transport. Shipping lithium ion aircraft batteries at this level of charge is consistent with the requirements set out in the component maintenance manual (CMM) produced by the manufacturer.

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APPENDIX

PROPOSED AMENDMENT TO PART 3 OF THE TECHNICAL INSTRUCTIONS

Part 3

DANGEROUS GOODS LIST,  
SPECIAL PROVISIONS AND  
LIMITED AND EXCEPTED QUANTITIES

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Table 3-2. Special provisions

| TIs | UN  |
|-----|---|
| ... |   |
| A51 | <p>Irrespective of the limit specified in column 11 of Table 3-1, aircraft batteries up to a limit of 100 kg net mass per package may be transported <u>on a passenger aircraft as follows:-</u></p> <ul style="list-style-type: none"><li>a) <u>wet cell batteries, UN 2794 or UN 2795, up to a limit of 100 kg net mass per package;</u></li><li>b) <u>lithium ion batteries, UN 3480, packages containing a single aircraft battery with a net mass not exceeding 35 kg. The battery must be discharged to not more than 25% state of charge when shipped under this provision; and</u></li><li>c) <u>Transport in accordance with this special provision must be noted on the dangerous goods transport document.</u></li></ul> <p><del>— Note. — This special provision applies to UN 2794 Batteries, wet, filled with acid and UN 2795 Batteries, wet, filled with alkali only.</del></p> |
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