



**WORKING PAPER**

**DANGEROUS GOODS PANEL (DGP)  
WORKING GROUP MEETING (DGP-WG/16)**

**Montreal, 17 to 21 October 2016**

**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 2019-2020 Edition**

**2.8: Part 8 — Provisions Concerning Passengers and Crew**

**PASSENGER PROVISIONS ADDRESSING SPARE LITHIUM METAL BATTERIES FOR  
PORTABLE MEDICAL ELECTRONIC DEVICES**

(Presented by A. Stubblefield)

**SUMMARY**

This working paper invites the DGP-WG to consider revising the passenger provision for spare lithium metal batteries associated with portable medical electronic devices.

**Action by the DGP-WG:** The DGP-WG is invited to consider the proposed amendment as shown in the appendix to this working paper.

**1. INTRODUCTION**

1.1 Part 8;1.1, Table 8-1, Item 8) allows, with the approval of the operator, spare lithium metal batteries for portable medical electronic devices exceeding 2 grams but not exceeding 8 grams lithium content in carry-on baggage.

1.2 The original working paper (DGP/22-WP/75) associated with the introduction of this provision originally proposed to ensure that the then current allowance for lithium metal batteries (not more than 2 grams lithium content) under the Consumer Articles section of Table 8-1 be copied over under the Medical Necessities section of Table 8-1 (see DGP/22-WP/75 and the Report of the Twenty-Second Meeting of the DGP (2009)). While agreeing to this proposal, the report indicates that the DGP also increased the limit for lithium metal batteries in portable medical electronic devices to 8 grams. The rationale was that most automated external defibrillators (AEDs) require lithium metal batteries between 4 and 8 grams lithium content.

1.3 The spare lithium metal battery provision in Table 8-1 for portable medical electronic devices can be reasonably read to permit spare batteries without any portable medical electronic device accompanying the passenger in their baggage. Meanwhile, operators and screeners are unable to ascertain that these batteries are intended for the passenger's portable medical electronic device.

1.4 In all practicality, the Table 8-1 provision for spare lithium metal batteries with a lithium content exceeding 2 grams but not exceeding 8 grams, was intended for a specific medical device application that would be limited to a small subset of passengers. However, the current provision could be interpreted to allow an unlimited number of such spare lithium metal batteries in carry-on baggage with or without an accompanying portable medical electronic device.

1.5 The DGP is well aware of the significant risks to aircraft and their occupants when there are fires involving lithium metal batteries. Fires associated with lithium metal batteries in an aircraft cabin can present a significant safety issue. However, the same fire in a cargo compartment (where halon suppression is ineffective) would be even more catastrophic. It is partially for this reason that spare lithium metal batteries (UN 3090) are forbidden as cargo shipments on passenger aircraft.

1.6 It is suggested that the provision be revised in line with its original intent to facilitate the limited transport of medical devices powered by lithium metal batteries to include accompanying spare batteries necessary to power the device.

## 2. ACTION BY THE DGP-WG

2.1 The DGP is invited to consider the amendment to Table 8-1 provisions for dangerous goods by passengers and crew as shown in Appendix A to this working paper. Spare lithium metal batteries with a lithium content exceeding 2 grams but not exceeding 8 grams may only be carried when accompanying the medical device the battery is intended to operate.

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APPENDIX

PROPOSED AMENDMENT TO PART 8 OF THE TECHNICAL INSTRUCTIONS

Part 8

PROVISIONS CONCERNING  
PASSENGERS AND CREW

Chapter 1

PROVISIONS FOR DANGEROUS GOODS  
CARRIED BY PASSENGERS OR CREW

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1.1 DANGEROUS GOODS CARRIED BY PASSENGERS OR CREW

| <i>Items or articles</i>   | <i>Location</i> |                  |               | Approval of the operator(s) is required | The pilot-in-command must be informed | <i>Restrictions</i>  |
|--|-----------------|------------------|---------------|---|---------------------------------------|--|
|  | Checked baggage | Carry-on baggage | On the person |   |                                       |  |
| Medical necessities  |                 |                  |               |   |                                       |  |
| ...  |                 |                  |               |   |                                       |  |
| 8) Portable medical electronic devices (automated external defibrillators (AED), nebulizer, continuous positive airway pressure (CPAP), etc.) containing lithium metal or lithium ion cells or batteries |                 |                  |               |   |                                       |  |
| Portable medical electronic devices containing lithium metal cells or batteries not exceeding 2 grams or lithium ion cells or batteries not exceeding 100 Wh   | Yes             | Yes              | Yes           | No                                      | No                                    | a) carried by passengers for medical use; and<br>b) batteries or cells must be of a type which meets the requirements of each test in the UN <i>Manual of Tests and Criteria</i> , Part III, subsection 38.3.  |
| Spare batteries for portable medical electronic devices containing lithium metal cells or batteries not exceeding 2 grams or lithium ion cells or batteries not exceeding 100 Wh                         | No              | Yes              | Yes           | No                                      | No                                    | a) carried by passengers for medical use;<br>b) batteries or cells must be of a type which meets the requirements of each test in the UN <i>Manual of Tests and Criteria</i> , Part III, subsection 38.3; and<br>c) must be individually protected so as to prevent short circuits (by placement in original retail packaging or by otherwise insulating terminals, e.g. by taping over exposed terminals, or placing each battery in a separate plastic bag or protective pouch). |

| Items or articles   | Location        |                  |               | Approval of the operator(s) is required | The pilot-in-command must be informed | Restrictions  |
|---|-----------------|------------------|---------------|---|---------------------------------------|---|
|   | Checked baggage | Carry-on baggage | On the person |   |                                       |   |
| Portable medical electronic devices containing lithium metal batteries exceeding 2 grams but not exceeding 8 grams or lithium ion batteries exceeding 100 Wh but not exceeding 160 Wh                     | Yes             | Yes              | Yes           | Yes                                     | No                                    | <ul style="list-style-type: none"> <li>a) carried by passengers for medical use; and</li> <li>b) batteries or cells must be of a type which meets the requirements of each test in the UN <i>Manual of Tests and Criteria</i>, Part III, subsection 38.3.</li> </ul>  |
| Spare batteries for portable medical electronic devices containing lithium metal batteries exceeding 2 grams but not exceeding 8 grams or lithium ion batteries exceeding 100 Wh but not exceeding 160 Wh | No              | Yes              | Yes           | Yes                                     | No                                    | <ul style="list-style-type: none"> <li>a) carried by passengers for medical use;</li> <li>b) batteries or cells must be of a type which meets the requirements of each test in the UN <i>Manual of Tests and Criteria</i>, Part III, subsection 38.3;</li> <li>c) must be individually protected so as to prevent short circuits (by placement in original retail packaging or by otherwise insulating terminals, e.g. by taping over exposed terminals or placing each battery in a separate plastic bag or protective pouch); <del>and</del></li> <li>d) no more than two spare batteries exceeding 2 grams lithium content for lithium metal or a watt-hour rating exceeding 100 Wh for lithium ion may be carried; <u>and</u></li> <li>e) <u>spare batteries exceeding 2 grams lithium content for lithium metal must accompany the medical device the battery is intended to operate.</u></li> </ul> |
| ...   |                 |                  |               |   |                                       |   |