



WORKING PAPER

DANGEROUS GOODS PANEL (DGP)

TWENTY-SIXTH MEETING

Montréal, 16 to 27 October 2017

Agenda Item 6.3: Mitigating risks posed by the carriage of lithium batteries by air (*Job card DGP.003.01*)

NUMBER OF SPARE LITHIUM BATTERIES PACKED WITH EQUIPMENT

(Presented by D. Brennan)

SUMMARY

This working paper proposes revisions to Packing Instructions 966 and 969 to clarify the number of spare lithium batteries permitted in a package with equipment.

Action by the DGP: The DGP is invited to revise Packing Instructions 966 and 969 as shown in the appendix to this working paper.

1. INTRODUCTION

1.1 At the seventeenth working group meeting of the Dangerous Goods Panel (DGP-WG/17, Montréal, 24 to 28 April 2017), a paper was presented (DGP-WG/17-WP/41) that proposed revisions to Packing Instructions 966 and 969 to clarify the number of spares that may be packed with equipment (see paragraph 3.5.3.8 of the DGP-WG/17 report). These packing instructions in both Section I and Section II have the following condition: “The number of cells or batteries in each package must not exceed the appropriate number for the equipment’s operation, plus two spares.”

1.2 The working group agreed that the intent of the provisions in the packing instructions was to allow for two spare “sets” of cells or batteries per piece of equipment and there was a need to modify the wording of the packing instructions to remove any ambiguity. However, the wording of the proposed changes in DGP-WG/17-WP/41 was not seen as sufficiently clear to achieve this.

1.3 Based on the feedback at DGP-WG/17 a revised proposal has been developed that specifically refers to “two spare sets” of cells or batteries and then what is meant by a “set”.

2. **ACTION BY THE DGP**

2.1 The DGP is invited to revise Packing Instruction 966 and Packing Instruction 969 as shown in the appendix to this working paper.

APPENDIX

PROPOSED AMENDMENT TO PART 4 OF THE TECHNICAL INSTRUCTIONS

Part 4

PACKING INSTRUCTIONS

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Chapter 11

CLASS 9 — MISCELLANEOUS DANGEROUS GOODS

Parts of this Chapter are affected by State Variation US 2; see Table A-1

11.1 PACKING INSTRUCTIONS

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Packing Instruction 966

Passenger and cargo aircraft for UN 3481 (packed with equipment) only

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I. SECTION I

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I.2 Additional requirements

- Lithium ion cells and batteries must be protected against short circuits.
- Lithium ion cells or batteries must:
 - be placed in inner packagings that completely enclose the cell or battery then placed in an outer packaging. The completed package for the cells or batteries must meet the Packing Group II performance requirements; or
 - be placed in inner packagings that completely enclose the cell or battery, then placed with equipment in a packaging that meets the Packing Group II performance requirements.
- The equipment must be secured against movement within the outer packaging and must be equipped with an effective means of preventing accidental activation.
- The number of cells or batteries in each package must not exceed the appropriate number for the equipment's operation, plus two ~~spare~~ spare sets. A "set" of cells or batteries is the number of individual cells or batteries that are required to power each piece of equipment.

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II. SECTION II

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II.2 Additional requirements

- Lithium ion cells and batteries must:
 - be placed in inner packagings that completely enclose the cell or battery, then placed in a strong rigid outer packaging; or
 - be placed in inner packagings that completely enclose the cell or battery, then placed with the equipment in a strong rigid outer packaging.

- Cells and batteries must be protected so as to prevent short circuits. This includes protection against contact with conductive materials within the same packaging that could lead to a short circuit.
- The equipment must be secured against movement within the outer packaging and must be equipped with an effective means of preventing accidental activation.
- The number of cells or batteries in each package must not exceed the appropriate number for the equipment's operation, plus two ~~spares~~, spare sets. A "set" of cells or batteries is the number of individual cells or batteries that are required to power each piece of equipment.

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Packing Instruction 969

Passenger and cargo aircraft for UN 3091 (packed with equipment) only

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I. SECTION I

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I.2 Additional requirements

- Lithium metal cells and batteries must be protected against short circuits.
- Lithium metal cells or batteries must:
 - be placed in inner packagings that completely enclose the cell or battery, then placed in an outer packaging. The completed package for the cells or batteries must meet the Packing Group II performance requirements; or
 - be placed in inner packagings that completely enclose the cell or battery, then placed with equipment in a packaging that meets the Packing Group II performance requirements.
- The equipment must be secured against movement within the outer packaging and must be equipped with an effective means of preventing accidental activation.
- The number of cells or batteries in each package must not exceed the appropriate number for the equipment's operation, plus two ~~spares~~, spare sets. A "set" of cells or batteries is the number of individual cells or batteries that are required to power each piece of equipment.

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II. SECTION II

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II.2 Additional requirements

- Lithium metal cells or batteries must:
 - be placed in inner packagings that completely enclose the cell or battery, then placed in a strong rigid outer packaging; or
 - be placed in inner packagings that completely enclose the cell or battery, then placed with the equipment in a strong rigid outer packaging.
- Cells and batteries must be protected so as to prevent short circuits. This includes protection against contact with conductive materials within the same packaging that could lead to a short circuit.
- The equipment must be secured against movement within the outer packaging and must be equipped with an effective means of preventing accidental activation.
- The number of cells or batteries in each package must not exceed the appropriate number for the equipment's operation, plus two ~~spares~~, spare sets. A "set" of cells or batteries is the number of individual cells or batteries that are required to power each piece of equipment.

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