



WORKING PAPER

DANGEROUS GOODS PANEL (DGP)

TWENTY-FIFTH MEETING

Montréal, 19 to 30 October 2015

Agenda Item 5: Development of a comprehensive strategy to mitigate risks associated with the transport of lithium batteries including development of performance-based packaging standards and efforts to facilitate compliance

REVISION TO SPECIAL PROVISION A181

(Presented by D. Brennan)

SUMMARY

This working paper proposes a revision to Special Provision A181 to clarify what parts of the applicable packing instructions must be met and also what information must appear on the dangerous goods transport document when a package contains both lithium batteries packed with and contained in equipment.

Action by the DGP: The DGP is invited to agree to the revisions to the Technical Instructions as shown in the appendix to this working paper.

1. INTRODUCTION

1.1 It is not infrequent for a shipper to have both lithium batteries packed with equipment and lithium batteries contained in equipment in the same package, see Figure 1 for an example.

1.2 To address this situation a number of years ago the DGP developed Special Provision A181. Special Provision A181 provides a clear statement on what proper shipping name must be marked on the package that contains both lithium batteries packed with and lithium batteries contained in equipment.

1.3 However, Special Provision A181 does not clearly identify that this proper shipping name must also be used to describe the dangerous goods on the dangerous goods transport document. Special Provision A181 also does not make it clear what parts of the applicable packing instructions apply, or what limits apply to the mass of lithium batteries contained in the package.



Figure 1 - Example of a power tool with battery installed and one spare battery.

1.4 In addition, there is also the question of what provisions apply where a package contains both lithium batteries packed with equipment and contained in equipment where the lithium batteries meet the provisions of Section II of the packing instruction given that “no other parts of these Instructions” apply to Section II, which therefore excludes the application of Special Provision A181.

1.5 To address these issues, it is proposed to revise the wording of Special Provision A181 to specifically identify that all applicable parts of the packing instructions apply when “packed with” and “contained in” are in the same package; that the total mass of batteries in the package cannot exceed the limit for passenger aircraft or cargo aircraft only, as applicable, and that the proper shipping name on the dangerous goods transport document must be the “packed with” proper shipping name.

1.6 It is also proposed to add some additional text into Section II of Packing Instruction 966 and Packing Instruction 969 to set out what applies in the event that a shipper wants to pack lithium batteries packed with equipment and equipment with lithium batteries installed in the same outer packaging.

2. **ACTION BY THE DGP**

2.1 The DGP is invited to agree to the revisions to the Technical Instructions as shown in the appendix to this working paper.

APPENDIX

PROPOSED AMENDMENT TO PART 3 OF THE TECHNICAL INSTRUCTIONS

Part 3

DANGEROUS GOODS LIST,
SPECIAL PROVISIONS AND
LIMITED AND EXCEPTED QUANTITIES

Chapter 3

SPECIAL PROVISIONS

Parts of this Chapter are affected by State Variations AE 3, AU 1, AU 2, CA 7, HR 3, IR 3, JM 1, KP 2, MO 2, NL 1, US 11, ZA 1; see Table A-1

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Table 3-2. Special provisions

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A181	<p>When a package contains a combination of lithium batteries contained in equipment and lithium batteries packed with equipment, the <u>following requirements apply</u>:</p> <p>a) <u>the shipper must ensure that all applicable parts of both packing instructions are met. The total mass of lithium batteries contained in any package must not exceed the limits for passenger aircraft or cargo aircraft, as applicable. Where a package contains both lithium metal and lithium ion batteries, the provisions of Part 4:1.1.9 e) must be met;</u></p> <p>b) <u>the package must be marked UN 3091 Lithium metal batteries packed with equipment, or UN 3481 Lithium ion batteries packed with equipment, as appropriate. If a package contains both lithium metal batteries and lithium ion batteries packed with and contained in equipment, the package must be marked as required for both battery types. However, button cell batteries installed in equipment (including circuit boards) need not be considered;</u></p> <p>c) <u>the dangerous goods transport document must indicate UN 3091 Lithium metal batteries packed with equipment or UN 3481 Lithium ion batteries packed with equipment, as appropriate. If a package contains both lithium metal batteries and lithium ion batteries packed with and contained in equipment, then the dangerous goods transport document must indicate both UN 3091 Lithium metal batteries packed with equipment and UN 3481 Lithium ion batteries packed with equipment and the requirements of Part 5:4.1.5.8 f) apply.</u></p>
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Part 4

PACKING INSTRUCTIONS

Chapter 11

CLASS 9 — MISCELLANEOUS DANGEROUS GOODS

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

Packing Instruction 966

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

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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 outer packaging; or
 - be placed in inner packagings that completely enclose the cell or battery, then placed with the equipment in a strong 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.
- Each package of cells or batteries, or the completed package, must be capable of withstanding a 1.2 m drop test in any orientation without:
 - damage to cells or batteries contained therein;
 - shifting of the contents so as to allow battery to battery (or cell to cell) contact;
 - release of contents.
- Each package must be labelled with a lithium battery handling label (Figure 5-32).
- Each consignment must be accompanied with a document with an indication that:
 - the package contains lithium ion cells or batteries;
 - the package must be handled with care and that a flammability hazard exists if the package is damaged;
 - special procedures must be followed in the event the package is damaged, to include inspection and repacking if necessary; and
 - a telephone number for additional information.
- The words "lithium ion batteries, in compliance with Section II of PI966" must be placed on the air waybill, when an air waybill is used.
- Where a package contains a combination of lithium batteries contained in equipment and lithium batteries packed with equipment that meet the limits for lithium cells or batteries of Section II, the following requirements apply:
 - the shipper must ensure that all applicable parts of both packing instructions are met. The total mass of lithium batteries contained in any package must not exceed 5 kg;
 - the words "lithium ion batteries, in compliance with Section II of PI966" must be placed on the air waybill, when an air waybill is used.
- Any person preparing or offering cells or batteries for transport must receive adequate instruction on these requirements commensurate with their responsibilities.

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Packing Instruction 969

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

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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 outer packaging; or
 - be placed in inner packagings that completely enclose the cell or battery, then placed with the equipment in a strong 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.
- Each package of cells or batteries, or the completed package, must be capable of withstanding a 1.2 m drop test in any orientation without:
 - damage to cells or batteries contained therein;
 - shifting of the contents so as to allow battery to battery (or cell to cell) contact;
 - release of contents.
- Each package must be labelled with a lithium battery handling label (Figure 5-32).
- Each consignment must be accompanied with a document with an indication that:
 - the package contains lithium metal cells or batteries;
 - the package must be handled with care and that a flammability hazard exists if the package is damaged;
 - special procedures must be followed in the event the package is damaged, to include inspection and repacking if necessary; and
 - a telephone number for additional information.
- The words "lithium metal batteries, in compliance with Section II of PI969" must be placed on the air waybill, when an air waybill is used.
- Where a package contains a combination of lithium batteries contained in equipment and lithium batteries packed with equipment that meet the limits for lithium cells or batteries of Section II, the following requirements apply:
 - the shipper must ensure that all applicable parts of both packing instructions are met. The total mass of lithium batteries contained in any package must not exceed 5 kg;
 - the words "lithium metal batteries, in compliance with Section II of PI969" must be placed on the air waybill, when an air waybill is used.
- Any person preparing or offering cells or batteries for transport must receive adequate instruction on these requirements commensurate with their responsibilities.

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