



WORKING PAPER

**DANGEROUS GOODS PANEL (DGP)
WORKING GROUP MEETING (DGP-WG/18)**

Montréal, 1 to 5 October 2018

- Agenda Item 3: Managing safety risks posed by the carriage of lithium batteries by air**
3.6: Develop provisions aimed at improving compliance throughout the transport supply chain, including simplification of provisions, guidance on State oversight and outreach, and responsibilities of entities outside the aviation stream (Job card DGP.003.02)

AMENDMENT TO PACKING INSTRUCTION 952

(Presented by J. Jin)

SUMMARY

This working paper invites the DGP-WG to consider the situation when UN 3171 — **Battery-powered vehicle** is shipped with lithium batteries installed, and with spare lithium batteries.

Action by the DGP-WG: The DGP-WG is invited to consider the proposed amendment to Packing Instruction 952 as shown in the appendix to this working paper.

1. INTRODUCTION

1.1 With the quick development of the battery-powered vehicle industry, more and more vehicles, such as bicycles and scooters powered by lithium batteries, are shipped by air.

1.1.1 In the 2017-2018 Edition of the Technical Instructions, vehicles powered by lithium batteries only are classified as UN 3171 — **Battery-powered vehicle** with Packing Instruction 952 assigned to the entry.

1.1.2 When lithium batteries are packed with equipment, they are classified as UN 3481 — **Lithium ion batteries packed with equipment** with Packing Instruction 966 assigned to the entry.

1.1.3 With demand for an increase in the vehicle's maximum mileage, some vehicle manufacturers will ship the vehicles with one or two spare batteries packed with the vehicle, while the

vehicle is already installed with the battery for its operation. While in this situation, both provision for UN 3171, Packing Instruction 954 and UN 3481, Packing Instruction 966 will be involved. The 2017-2018 Edition of the Technical Instruction have no provisions to describe this particular situation.



2. ACTION BY THE DGP-WG

2.1 The DGP-WG is invited to consider the proposed amendment to Packing Instruction 952 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 952

Passenger and cargo aircraft for UN 3171 only

(See Packing Instruction 220 for flammable gas-powered engines and machinery, Packing Instruction 378 for flammable liquid-powered engines and machinery, Packing Instruction 950 for flammable liquid-powered vehicles, Packing Instruction 951 for flammable gas-powered vehicles or Packing Instruction 972 for engines or machinery containing only environmentally hazardous fuels)

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ADDITIONAL PACKING REQUIREMENTS

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Batteries

All batteries must be installed and securely fastened in the battery holder of the vehicle, machine or equipment and must be protected in such a manner so as to prevent damage and short circuits. In addition:

- 1) if spillable batteries are installed, and it is possible for the vehicle, machine or equipment to be handled in such a way that batteries would not remain in their intended orientation, they must be removed and packed according to Packing Instruction 492 or 870 as applicable;
- 2) if lithium batteries are installed in a vehicle, they must meet the provisions of Part 2;9.3, unless otherwise approved by the appropriate authority of the State of Origin. Where the lithium battery is removed from the vehicle and is packed separate from the vehicle in the same outer packaging, the package must be consigned as UN 3481— **Lithium ion batteries packed with equipment** or UN 3091 — **Lithium metal batteries packed with equipment** and packed according to Packing Instruction 966 or 969, as applicable; and

Note.—

a) if lithium batteries are packed separated, then packed in one outer packaging with the vehicle without batteries installed, it must be assigned as UN 3481 — **Lithium batteries packed with equipment**.

b) if spare lithium batteries are packed with the vehicle installed with batteries in one outer packaging, it must be assigned as UN 3171 — **Battery-powered vehicle**. The spare lithium batteries must meet the requirements in Packing Instruction 966, and:

1) no more than one spare battery is permitted;

2) the spare battery must be secured to prevent movement during transport, and measures should be taken to prevent damage and short-circuit.

3) if sodium batteries are installed they must conform to the requirements of Special Provision A94.

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