



**DANGEROUS GOODS PANEL (DGP)  
WORKING GROUP MEETING (DGP-WG/15)**

**Montreal, 27 April to 1 May 2015**

**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 2017-2018 Edition**

**2.4: Part 4 — Packing Instructions**

**2.7: Part 7 — Operator's Responsibilities**

**DRY ICE AS A REFRIGERANT FOR CERTAIN DANGEROUS GOODS**

(Presented by D. Brennan)

**SUMMARY**

This working paper proposes some revisions to the provisions applicable to carbon dioxide, solid (dry ice) when used as a refrigerant for UN 3373 and ID 8000.

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

**1. INTRODUCTION**

1.1 Packing Instruction 954 provides shippers with a number of relaxations from the provisions of the Technical Instructions. One of these relaxations is that a shipper may, subject to prior operator approval, ship dry ice in a unit load device. This though only applies when the dry ice is used as a refrigerant for other than dangerous goods.

1.2 There are however dangerous goods, UN 3373 — **Biological substance, Category B** and ID 8000 — **Consumer commodities**, that are also permitted in unit load devices prepared by shippers, and which are often shipped under refrigeration using dry ice. This is particularly the case when the shipper is using specific refrigerated unit load devices that have a bunker for dry ice.

1.3 So while UN 3373 and ID 8000 are allowed to be loaded into unit load devices by shippers, the Technical Instructions do not allow dry ice to be in the unit load device with either of these dangerous goods because of the restriction stated in Packing Instruction 954.

1.4 In addition, the wording and structure of Part 7;1.4.1 prevents the operator from accepting a unit load device that contains both ID 8000 and dry ice, or UN 3373 and dry ice.

1.5 To address this it is proposed that the provisions of Packing Instruction 954 be revised to make specific allowance for a shipper to be able to load UN 3373 or ID 8000 with dry ice in a unit load device and if agreed, for consequential changes to be made to Part 5;1.1 g) to address this change and Part 7;1.4.1 to allow the operator to accept such unit load devices.

## 2. ACTION BY THE DGP-WG

2.1 The DGP-WG is invited to revise the provisions of the Technical Instructions as shown in the appendix to this working paper.

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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

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Packing Instruction 954

Passenger and cargo aircraft for UN 1845 only

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Dry ice ~~used for other than dangerous goods~~ may be shipped in a unit load device or other type of pallet prepared by a single shipper provided that:

- a) the shipper has made prior arrangements with the operator;
- b) the unit load device does not contain dangerous goods other than UN 3373, **Biological substance, Category B** or ID 8000, **Consumer commodity**. Where the unit load device contains UN 3373 or ID 8000, the provisions of these Instructions that apply to those substances must be met in addition to the provisions set out in this packing instruction;
- c) the unit load device, or other type of pallet, must allow the venting of the carbon dioxide gas to prevent a dangerous build-up of pressure (the marking requirements of 5;2 and the labelling requirements of 5;3 do not apply to the unit load device); and
- d) the shipper must provide the operator with written documentation or, where agreed with the operator, information by EDP or EDI techniques, stating the total quantity of the dry ice contained in the unit load device or other type of pallet.

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## Part 5

### SHIPPER'S RESPONSIBILITIES

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#### Chapter 1

#### GENERAL

##### 1.1 GENERAL REQUIREMENTS

Before a person offers any package or overpack of dangerous goods for transport by air, that person must ensure that:

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- g) the dangerous goods are not included in any freight container/unit load device except for radioactive material as specified in 7.2.9 (subject to the approval of the operator, this does not apply to a unit load device containing consumer commodities prepared according to Packing Instruction Y963 or dry ice used as a refrigerant for other than dangerous goods when prepared according to Packing Instruction 954 or magnetized material when prepared according to Packing Instruction 953) as specified in 7.1.4;

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## Part 7

### OPERATOR'S RESPONSIBILITIES

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#### Chapter 1

#### ACCEPTANCE PROCEDURES

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##### 1.4 ACCEPTANCE OF FREIGHT CONTAINERS AND UNIT LOAD DEVICES

1.4.1 An operator must not accept from a shipper a freight container or a unit load device containing dangerous goods other than:

- a) a freight container for radioactive material (see 6;7.1);
- b) a unit load device or other type of pallet containing consumer commodities prepared according to Packing Instruction Y963;
- c) a unit load device or other type of pallet containing dry ice ~~used as a refrigerant for other than dangerous goods~~ prepared according to Packing Instruction 954 provided that the unit load device does not contain dangerous goods other than UN 3373, Biological substance, Category B or ID 8000, Consumer commodity or goods not subject to these Instructions; or
- d) a unit load device or other type of pallet containing magnetized material.

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