



WORKING PAPER

DANGEROUS GOODS PANEL (DGP)

TWENTY-FOURTH MEETING

Montréal, 28 October to 8 November 2013

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 2015-2016 Edition

LIFE-SAVING APPLIANCES

(Presented by D. Brennan)

SUMMARY

This working paper proposes some clarification on the provisions applicable to life-saving appliances to address lithium and other batteries.

Action by the DGP: The DGP is invited to consider the revisions to Packing Instruction 955 as shown in the appendix to this working paper.

1. INTRODUCTION

1.1 At the 2013 Meeting of the Dangerous Goods Panel Working Group of the Whole (DGP-WG/13, Montréal, 15 to 19 April 2013) there was discussion on the provisions applicable to UN 3072 — **Life-saving appliances not self-inflating** based on two working papers, DGP-WG/13-WP/20 and DGP-WG/13-WP/53.

1.2 Based on proposals in the working papers it was agreed to assign Special Provision A182 against UN 3072 — **Life-saving appliances not self-inflating** to require that appliances containing only lithium batteries must be assigned to UN 3090 — **Lithium metal batteries** or UN 3480 — **Lithium ion batteries**, as applicable.

1.3 Changes to Packing Instruction 955 were not agreed at DGP-WG/13 as the two working papers made differing proposals.

1.4 The proposal in this working paper seeks to address the comments provided at DGP-WG/13 during the discussions on the issues around the revisions to Packing Instruction 955 to

ensure that where life-saving appliances contain lithium batteries that the appropriate safety measures are addressed.

1.5 In reviewing Packing Instruction 955 it is believed that the existing text under “additional packing requirements” that provides an indication of what fits within the description for self-inflating life-saving appliances may be misleading in that it may be interpreted by some that the requirements and limits on the dangerous goods listed apply only to self-inflating appliances. It is therefore proposed to move this text to the top of the packing instruction to make this a general indication applicable to all life-saving appliances.

1.6 As part of the development of the proposals in this working paper it was identified that P905 in the UN Model Regulations, which applies to life-saving appliances, has some specific text that applies to batteries in Class 8 and lithium batteries. P905 requires that the batteries be disconnected or electrically isolated. This text has been added to the changes proposed to Packing Instruction 955.

1.7 Finally, the existing packing instruction has a paragraph that refers to passenger restraint systems and provisions that apply to these, which includes allowance for a gas cartridge containing a Division 2.2 gas and up to two actuating cartridges. This text was introduced into the Technical Instructions with effect the 1993–1994 Edition, which predates the adoption of specific UN numbers for air bags (UN 0503 and UN 3268).

1.8 It is questioned as to whether this text should be retained, particularly given the changes to the proper shipping names for air bags and seat belt pretensioners, which will become “safety devices”. As these safety devices must be packed in UN specification packagings, whereas life-saving appliances only require strong outer packagings, it is proposed to delete the applicable paragraph from Packing Instruction 955. In the appendix to this working paper this paragraph is shown struck through, but in square brackets for the panel’s consideration.

APPENDIX

PROPOSED AMENDMENT TO PART 4 OF THE TECHNICAL INSTRUCTIONS

Part 4

PACKING INSTRUCTIONS

Packing Instruction 955

Passenger and cargo aircraft for UN 2990 and UN 3072 only

The description "Life-saving appliances, self-inflating" (UN 2990) is intended to apply to life-saving appliances that present a hazard if the self-inflating device is activated accidentally.

The term "life-saving appliances" applies to articles such as life rafts, life vests, aircraft survival kits or aircraft evacuation slides.

General requirements

Part 4, Chapter 1 requirements must be met, including:

1) **Compatibility requirements**

- Substances must be compatible with their packagings as required by 4;1.1.3.

2) **Closure requirements**

- Closures must meet the requirements of 4;1.1.4.

<i>UN number and proper shipping name</i>	<i>Quantity — passenger</i>	<i>Quantity — cargo</i>
UN 2990 Life-saving appliances, self-inflating UN 3072 Life-saving appliances, not self-inflating containing dangerous goods as equipment	No limit	No limit

ADDITIONAL PACKING REQUIREMENTS

~~The description "Life saving appliances, self inflating" (UN 2990) is intended to apply to life saving appliances that present a hazard if the self inflating device is activated accidentally.~~

~~Life-saving appliances, such as life rafts, life vests, aircraft survival kits or aircraft evacuation slides, may only contain the dangerous goods listed below:~~

- ~~Division 2.2 gases, must be contained in cylinders which conform to the requirements of the appropriate national authority of the country in which they are approved and filled. Such cylinders may be connected to the life-saving appliance. These cylinders may include installed actuating cartridges (cartridges, power device of Division 1.4C and 1.4S) provided the aggregate quantity of deflagrating (propellant) explosives does not exceed 3.2 grams per unit. When the cylinders are shipped separately, they must be classified as appropriate for the Division 2.2 gas contained and need not be marked, labelled or described as explosive articles;~~

- b) signal devices (Class 1), which may include smoke and illumination signal flares; signal devices must be packed in plastic or fibreboard inner packagings;
- c) small quantities of flammable substances, corrosive solids and organic peroxides (Class 3, Class 8, Division 4.1 and 5.2), which may include a repair kit and not more than 30 strike-anywhere matches. The organic peroxide may only be a component of a repair kit and the kit must be packed in strong inner packaging. The strike-anywhere matches must be packed in a cylindrical metal or composition packaging with a screw-type closure and be cushioned to prevent movement;
- d) electric storage batteries (Class 8), which must be disconnected or electrically isolated and protected against short circuits; and lithium batteries (Class 9); and
- e) lithium batteries:
 - i) must meet the applicable requirements of 2:9.3;
 - ii) must be disconnected or electrically isolated and protected against short circuits; and
 - iii) must be secured against movement within the appliance.
- e) first aid kits which may include flammable, corrosive and toxic articles or substances.

The appliances must be packed, so that they cannot be accidentally activated, in strong outer packagings and, except for life vests, the dangerous goods must be in inner packagings packed so as to prevent movement. The dangerous goods must be an integral part of the appliance without which it would not be operational and in quantities which do not exceed those appropriate for the actual appliance when in use.

~~Passenger restraint systems consisting of a cylinder charged with a non-liquefied, non-flammable compressed gas and no more than two actuating cartridges per passenger restraint system that meet the requirements of the State of Manufacture must be packed in strong outer packagings so they cannot be accidentally activated.~~

Life-saving appliances packed in strong rigid outer packagings with a total maximum gross mass of 40 kg, containing no dangerous goods other than Division 2.2 compressed or liquefied gases with no subsidiary risk in receptacles with a capacity not exceeding 120 mL, installed solely for the purpose of the activation of the appliance, are not subject to these Instructions when carried as cargo.

Life-saving appliances may also include articles and substances not subject to these Instructions which are an integral part of the appliance.