



WORKING PAPER

DANGEROUS GOODS PANEL (DGP)

TWENTIETH MEETING

Montréal, 24 October to 04 November 2005

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 2007-2008 Edition

SEPARATION/SEGREGATION OF EXPLOSIVES

(Presented by J. Abouchaar)

1. INTRODUCTION

1.1 At DGP WG/04 a paper (DGP WG/04 WP/29) was submitted seeking the Panel's advice on how the contents of Part 7;2.2.2 concerning the separation of explosive substances and articles should be applied. There was some discussion at WG/04 about the current text and Panel members undertook to consult with their explosive experts and provide the result of that consultation to the author for development of a firm proposal.

1.2 Following WG/04 advice was sought from explosive experts regarding the precautions that should be taken for those divisions/compatibility groups permitted to be carried on cargo aircraft. No consideration was given to the restrictions that may have to be applied for explosives normally forbidden for transport and being transported under an exemption.

1.3 The text of Part 7;2.2.2 comes directly from Chapter 7 of the UN Model Regulations (7.1.3.1). These provisions make reference to explosive divisions and compatibility groups that are forbidden for transport by air and which therefore should not be included in the Technical Instructions.

1.4 Other than explosives in Division 1.4, compatibility group S, 1.4S, which may be carried on both passenger and cargo aircraft, only the following explosives may be transported on a cargo aircraft:

Division 1.3	Compatibility groups C, G
Division 1.4	Compatibility groups B, C, D, E, G

1.5 Based on comments provided to the author since WG/04 the only explosives that may cause a concern if stowed together on aircraft are those in Division 1.4B (UN0255, UN0257, UN0361 & UN0365) and those in Division 1.3C (UN0186 & UN0275) and Division 1.3G (UN0050, UN0054, UN0092, UN0093, UN0192, & UN0240). The basis for this recommendation is that the Division 1.4B explosives includes some detonators and those in Division 1.3 present a minor blast hazard or a minor projection hazard or both. These explosives may be carried on the same aircraft but should be provided with adequate separation.

1.6 The current text of Part 7;2.2.2 also makes reference to the explosives being assigned to a compatibility group different to that of its classification. The purpose of this when being stowed on an aircraft is questioned. This may have some application when determining appropriate separation distances from the passenger terminal or other airport buildings accessible to members of the public, but would appear to be meaningless for aircraft stowage.

2. PROPOSAL

2.1 Amend the text of Part 7; 2.2.2 as follows:

2.2.2 Separation of explosive substances and articles

2.2.2.1 The extent to which explosives may be stowed together in an aircraft is determined by their “compatibility”. Explosives are considered to be compatible if they can be stowed together without significantly increasing either the probability of an accident or, for a given quantity, the magnitude of the effects of such an accident.

2.2.2.2 Explosives in Compatibility Groups ~~A B~~ to ~~G K and N~~ may be stowed in accordance with the following:

- a) ~~packages bearing~~ **explosives of** the same compatibility group letter and the same division number may be stowed together;
- b) explosives of the same compatibility group but different divisions may be stowed together providing the whole is treated as belonging to the division having the smaller number. ~~However, when explosives of Division 1.5, Compatibility Group D, are stowed together with explosives of Division 1.2, Compatibility Group D, the total of the consignment must be treated as Division 1.1, Compatibility Group D, for the purposes of transport;~~
- c) ~~packages bearing~~ **as provided for in 2.2.2.3 and 2.2.2.4 explosives of** different compatibility group letters ~~must not~~ may be stowed together, whether or not they belong to the same division ~~except as provided for in 2.2.2.3 and 2.2.2.4.~~

2.2.2.3 Explosives in Compatibility Groups C, D and E may be stowed together. The appropriate division is determined in accordance with 2.2.2.2 b). Any combination of articles in Compatibility Groups C, D and E is assigned to Compatibility Group E. ~~Any combination of substances in Compatibility Groups C and D must be assigned to the most appropriate of the compatibility groups shown in the Dangerous Goods List, taking into account the predominant characteristics of the combined load.~~

2.2.2.4 Explosives in Compatibility Group S may be stowed with explosives in all compatibility groups ~~other than A and L~~.

2.2.2.5 Explosives in Division 1.4, Compatibility Group B and explosives in Division 1.3 must not be stowed together. Division 1.4B and Division 1.3 explosives must be loaded into separate unit load devices and when stowed aboard the aircraft the unit load devices must not be adjacent to each other. For non-containerised aircraft, Division 1.4B and Division 1.3 explosives must be loaded into different, non-adjacent bays. ~~Explosives in Compatibility Group L must not be stowed with explosives in other compatibility groups and they may only be stowed with the same type of explosives in Compatibility Group L.~~

2.2.2.6 ~~Explosives in Compatibility Group N must not be stowed with explosives in other compatibility groups except S. However, they may also be stowed together with explosives in Compatibility Groups C, D and E, when the explosives in Compatibility Group N must be considered as having Compatibility Group D (see also 2.2.2.3).~~

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