



WORKING PAPER

DANGEROUS GOODS PANEL (DGP)

TWENTY-FIRST MEETING

Montréal, 5 to 16 November 2007

- 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 2009-2010 Edition
- Agenda Item 4:** Amendments to the *Emergency Response Guidance for Aircraft Incidents involving Dangerous Goods* (Doc 9481) for incorporation in the 2009-2010 Edition
- Agenda Item 5:** Resolution, where possible, of the non-recurrent work items identified by the Air Navigation Commission or the panel
- 5.1: Principles governing the transport of dangerous goods on cargo only aircraft**

**ACCESSIBILITY REQUIREMENTS FOR CARGO AIRCRAFT ONLY
DANGEROUS GOODS**

(Presented by G.A. Leach and M. Rogers)

SUMMARY

This paper proposes changes to the accessibility requirements for dangerous goods permitted only on cargo aircraft.

Action by the DGP is in paragraph 2.

1. INTRODUCTION

1.1 The DGP Working Group of the Whole Meeting in Memphis, Tennessee (DGP-WG07) was presented with two working papers ([DGP-WG/07-WP/20](#) and [WP/37](#)) as part of the non-recurrent work item of the panel to review the principles governing the transport of dangerous goods on cargo only aircraft. The two papers proposed different ways of revising the current provisions and it was agreed that the presenters of the papers would discuss the issue further, prior to DGP/21, and return with a joint proposal taking account of all issues raised at DGP-WG07. This paper is the result of those further discussions.

1.2 In essence, three aspects of the subject were addressed by the two previous working papers:

1.2.1 The current requirement for accessibility, and whether this should be replaced or be supplemented with alternative provisions

1.2.1.1 The current requirement for accessibility requires CAO dangerous goods to be loaded such that “a crew member or other authorized person can see, handle and, where size and mass permit, separate such packages or overpacks from other cargo in flight.” This requirement has been in place since the very first edition (1983) of the Technical Instructions. At that time, aircraft routinely operated with three flight crew and commonly a loadmaster, thus providing for a crew member not actually engaged in flying the aircraft to enter the main deck cargo compartment with a view to taking action if possible. However, many modern aircraft typically fly with only two flight crew members and no loadmaster and so the ability for physical intervention is limited.

1.2.1.2 It was suggested the current requirement should be replaced with a requirement for CAO dangerous goods to be loaded in a Class C cargo compartment, however not all aircraft are equipped with such holds; this would also have the effect of effectively removing what might be a last resort action available to the crew. Consequently, it is proposed that as an alternative to accessibility, CAO dangerous goods should be permitted for carriage in a Class C cargo compartment or indeed a unit load device which has a fire detection and suppression system equivalent to that required by the certification requirements for a Class C cargo compartment. At WG07 concern was expressed at the wording in the two previous working papers with regard to a ULD meeting the Class C cargo compartment requirements; it is hoped that clarifying that the ULD need only have to have an equivalent fire detection/suppressant system would be acceptable to the panel.

1.2.1.3 It is also suggested that the current wording in respect of accessibility would benefit from revision in two respects. Firstly, it is believed that requiring the crew to “see” a package is not required, as appropriate response actions may be possible without the offending package being visible. It is believed that using the word “access” would be more appropriate, because this provides for new systems being developed whereby a fire in a ULD can be dealt with remotely, not necessarily involving the intervention of the crew (as demonstrated at WG07).

1.2.1.3 In summary, it is proposed to allow three alternatives of loading

- a) in a Class C cargo compartment;
- b) in a ULD with a fire detection/suppression system equivalent to that of a Class C cargo compartment; and
- c) loaded in such a way that the crew can either physically or remotely access a package/overpack.

However, it will be noted that the co-presenters of this paper seek further discussion on this issue and it will be seen in paragraph 2 of this paper, under the proposed new 2.4.1.1 c) 1) that the panel needs to decide whether the word “or” or “and” is appropriate.

1.2.2 The current requirement for hazard warning labels and the “cargo aircraft only” (CAO) label to be visible

1.2.2.1 The history behind the introduction of this requirement was discussed at DGP-WG07 ([DGP-WG/07-WP/37](#)). Clearly, if loading of CAO dangerous goods in a Class C cargo compartment is to be permitted, the current requirement for labels to be visible would be inappropriate. Furthermore, deletion of the requirement will provide for all CAO dangerous goods, which currently have to be spread around the aircraft so that labels are visible, to be loaded in one place; this will reduce manual handling (and the attendant risk of damage) and also reduce possible exposure of such goods to undeclared dangerous goods.

1.2.3 The possible introduction of a requirement for CAO dangerous goods to be made available to the crew for inspection prior to departure

1.2.3.1 At DGP-WG07, a requirement was proposed that CAO dangerous goods should be made available to the crew for inspection, if requested ([DGP-WG/07-WP/20](#)). It was suggested that this should only be a recommended practice, as there was no corresponding requirement for the crew to conduct such an inspection ([DGP-WG/07-WP/37](#)). Furthermore, a requirement would place enforcement agencies in the position of potentially having to investigate and prosecute an operator or handling agent who, for reasons of practicality, were unable to make such packages available. After further discussion between the presenters, it was agreed that a recommendation would be appropriate.

1.3 During subsequent discussions, it was queried why gases in Division 2.3 are not treated in the same way as toxic material in solid or liquid form; currently they are not listed as an item of CAO dangerous goods which does not have to be accessible to the crew. Consequently, it is proposed that this apparent anomaly is addressed.

2. ACTION BY THE DGP

2.1 The DGP is invited to *amend* Part 7;2.4.1 of the Technical Instructions as follows::

2.4.1 Loading on cargo aircraft

2.4.1.1 Packages or overpacks of dangerous goods bearing the “Cargo aircraft only” label must be loaded on a cargo aircraft in such a manner that a crew member or other authorized person can see, handle and, where size and mass permit, separate such packages or overpacks from other cargo in flight. Hazard warning labels and the “Cargo aircraft only” label must be visible. accordance with one of the following provisions:

a) in a Class C aircraft cargo compartment; or

b) in a unit load device equipped with a fire detection/suppression system equivalent to that required by the certification requirements of a Class C aircraft cargo compartment; or

c) in such a manner that in the event of an emergency involving such packages or overpacks, a crew member or other authorized person can access those packages or overpacks, and can:

- 1) handle and, where size and mass permit, separate such packages or overpacks from other cargo; [or] [and]
- 2) use any appropriate emergency response equipment carried onboard the aircraft on packages or overpacks involved in that emergency.

2.4.1.2 When requested, packages or overpacks bearing the “Cargo aircraft only” label should be made available to the crew for inspection prior to departure.

2.4.1.3 This provision The requirements of 2.4.1.1 and 2.4.1.2 does not apply to:

- a) gases of division 2.3;
- b) substances of Class 3, Packing Group III, without a subsidiary risk;
- b~~c~~) toxic and infectious substances (Class 6);
- e~~d~~) radioactive material (Class 7);
- e~~c~~) miscellaneous dangerous goods (Class 9).

2.2 The DGP is also invited to *replace* the third paragraph of 2.5 of the *Emergency Response Guidance for Aircraft Incidents involving Dangerous Goods*(Doc 9481) with the following text:

2.5 DANGEROUS GOODS ON CARGO AIRCRAFT

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Incidents in the main deck cargo compartment. Dangerous goods carried on the main deck of a cargo aircraft fall into two broad categories:

- a) those which are permitted either for carriage on a passenger aircraft, or which are cargo aircraft only (CAO) dangerous goods or quantities not subject to additional loading requirements applicable to other CAO dangerous goods. Depending on circumstances (position on main deck, types of unit load devices (ULDs) used, etc), these may be completely inaccessible.
- b) those which are required to be accessible (the full requirements for accessibility are set out in the Technical Instructions, Part 7, Chapter 2) and those which are not, but which may still be cargo aircraft only (CAO) goods or quantities. ~~those which may only be carried on a cargo aircraft and are subject to additional loading requirements which are set out in Part 7:2.4.1 of the Technical Instructions. These D~~ dangerous goods may be required to be accessible which means they must be loaded so that they ~~the crew~~ can be seen, either handled and, where size and mass permit, separated such packages or overpacks from other cargo, or use any appropriate emergency response equipment carried onboard the aircraft on packages or overpacks involved in that incident. However, other dangerous goods on the main deck may, depending on circumstances (position on main deck, types of unit load devices (ULDs) used, etc.), be completely inaccessible. In the event of an incident ~~occurring~~ involving these dangerous goods, an assessment will have to be made of the practicality of attempting direct physical intervention. In any event, both for accessible and non-accessible dangerous goods, standard aircraft emergency procedures should always be followed.

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