



WORKING PAPER

**DANGEROUS GOODS PANEL (DGP)
MEETING OF THE WORKING GROUP OF THE WHOLE**

Beijing, China, 25 October to 3 November 2006

- 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

**REPORT OF THE AD HOC WORKING GROUP ON THE PRINCIPLES
GOVERNING THE TRANSPORT OF DANGEROUS GOODS ON
CARGO ONLY AIRCRAFT**

(Presented by the Rapporteur)

1. INTRODUCTION

1.1 Mr Leach was nominated as Chairman and Mr Brennan agreed to act as rapporteur. For the ad hoc working there were two working papers which were used in the discussions:

1.2 DGP-WG/06-AH/CAO-WP/1

1.2.1 The appendix to DGP-WG/06-AH/CAO-WP/1 is an extract from the report of DGP/20. It contains a number of questions on aspects of the carriage of CAO dangerous goods for the working group's consideration.

1.3 DGP-WG/06-AH/CAO-WP/2

1.3.1 DGP-WG/06-AH/CAO-WP/2 sets out the notes of a meeting held in the UK where the UK CAA invited UK based cargo operators to discuss the loading / carriage of CAO dangerous goods and the application of the accessibility provisions.

1.3.2 The Chairman provided a presentation based on the discussions that took place at the UK meeting and the suggestions/recommendations from that meeting.

1.3.3 The UK meeting looked at the reasons that determine if particular dangerous goods are limited as CAO. These were identified as being:

- a) the type of dangerous goods;
- b) the quantity per package of dangerous goods; and

- c) the type of packaging, i.e. single vs. combination.

1.3.4 The UK meeting then identified a number of real and perceived benefits from the accessibility requirement:

- a) additional inspection can be conducted by the flight crew during and/or after loading;
- b) it effectively limits the quantity of CAO dangerous goods that can be loaded onto a single aircraft; and
- c) it avoids a concentration of CAO dangerous goods in one loading position.

1.3.5 However, it was also identified that there had never been an incident where correctly prepared dangerous goods had caused an accident. There was also no requirement for fire-fighting equipment/training for flight crew. It was further questioned if flight crew had ever used the accessibility provisions to deal with an in-flight fire.

1.3.6 The group considered a number of alternatives:

- a) do nothing;
- b) remove accessibility; or
- c) modify the current provisions.

1.3.7 The first two options were discounted and it was believed that the way forward is to look at modifying the current provisions.

1.3.8 A summary of the UK meeting was provided, these being:

- a) revise the list of CAO dangerous goods that have to be accessible. The recommendation being that Class 2, Class 8 and potentially Div. 4.3 should not need to be accessible;
- b) remove the requirement for the CAO and hazard labels to be visible. It was felt that this did not contribute to safety;
- c) allow loading in a Class C compartment as an alternative to accessibility;
- d) request the Annex 8 Panel to consider developing a requirement for specific fire-fighting equipment; and
- e) the DGP must agree a clear philosophy on why increased per package limits apply to CAO.

1.3.9 Following the presentation a number of cargo operators provided comments on the application of the accessibility provisions.

1.3.10 One operator advised that their company policy is that on 2-man aircraft flight crew are expressly directed not to leave the cockpit in the event of emergency. Another operator advised that his company has developed and does use active fire-suppression systems for CAO dangerous goods on a

number of aircraft types. These systems were not part of the original aircraft equipment, but had been developed specifically by that operator.

1.3.11 One member advised that there had been at least one documented incident where flight crew had used the accessibility to successfully fight a fire and the aircraft was able to land safely. It was advised that accessibility does provide the ability for the flight crew to conduct an additional check on CAO dangerous goods. He also supported the view that development of active main deck fire suppression systems should be a priority.

1.3.12 A view was expressed that there should be a risk-based approach to determine the basis for the accessibility provisions. It also appears that the primary consideration is for fire-fighting and therefore dangerous goods that don't pose a fire risk may not need to be part of the consideration.

1.3.13 One regulator advised that they do not approve the carriage of CAO dangerous goods requiring accessibility for single pilot operations.

1.3.14 It was recommended that there were a number of key considerations that should be discussed to be able to move the discussion forward to be able to make some recommendations.

1.3.15 There was some discussion regarding the potential for increased risk as the number of individual packages increased. It was believed that this was a more philosophical issue and was not limited to the transport and loading of CAO dangerous goods.

a) **What is the basis for requiring CAO dangerous goods to be accessible?**

One member commented that having accessibility offers the ability for additional inspection by the flight crew prior to departure. It also allows for the crew to potentially move CAO dangerous goods away from a fire, fight the fire or to take some other action based on circumstances.

b) **Review the list of dangerous goods requiring accessibility**

There was a suggestion that Class 2 gases should be considered as not requiring stowage in an accessible location. A counter view was expressed that cylinders if exposed to fire pose an explosion risk and for that reason should be kept as accessible.

There was some discussion about having a risk-based approach before any change was made to the list of items requiring stowage in an accessible location.

As there was no support for amending the list of dangerous goods requiring accessibility this item was closed.

c) **Look at Class C hold / ULD or accessible**

It was suggested that being able to load CAO dangerous goods in a Class C compartment or in a ULD that meets the Class C fire detection/suppression criteria could be an alternative to requiring the packages to be accessible.

There was some support for this proposal, although it was stressed that there should still be the ability for the flight crew to be able to inspect the packages prior to, during and/or after loading.

Some possible wording regarding the use of Class C compartments / ULD in 7;2.4.1 was submitted for consideration:

“...must be loaded in a Class C cargo compartment or in a fire resistant ULD that meets the Class C cargo compartment requirements. When requested, packages or overpacks of dangerous goods bearing the “cargo aircraft only” label must be made available to the crew for inspection prior to departure. This provision does not apply to...”

d) Clarify why greater quantities

The question was posed as to why greater quantities were allowed as CAO dangerous goods compared to those allowed on passenger aircraft. It was pointed out that there were also a number of substances that were only permitted as CAO.

It was believed that passenger operations must be conducted using the highest level of safety. However, it was recognised that for cargo operations, while there may be a small increase in risk, it is not so high as to be unacceptable for flight crew.

A statement was made that in effect the transport of passengers and the transport of cargo were two separate industries, notwithstanding that much of the cargo was being transported on passenger aircraft. It was for this reason that CAO dangerous goods were treated differently.

e) Approach Annex 8 Panel

The question was posed as to whether the DGP should recommend to the Annex 8 Panel that the Annex 8 Panel consider:

- 1) additional requirements for fire-fighting and other emergency response equipment for flight crew on cargo aircraft; and
- 2) development of main deck systems that provide fire detection, fire suppression equivalent to Class C cargo compartments.

It was suggested that cargo operators be surveyed to identify what best practice may exist in the area of main deck fire detection/suppression systems. The group is aware of at least one operator that has developed a fire detection/suppression system for the main deck.

Based on the response from this survey a working paper will be prepared for DGP-WG/07. The DGP Secretary also undertook to identify the schedule for the Annex 8 Panel.

f) Visibility of labels

The provisions requiring that the CAO labels be visible on every package was questioned and the group was asked if there was really a need for every single CAO package to be visible. Because of this requirement it may mean that the operator may have to spread the CAO packages throughout the aircraft to make every package “visible”.

One operator commented that this was an everyday problem and caused difficulties in being able to load the aircraft and may create an additional problem where the CAO packages are exposed to greater risk.

An opinion was expressed that this requirement was introduced for a reason and care should be taken to understand the basis for the requirement before the provision is removed or modified. There was agreement that the basis for the provision would be researched and provided at WG/07.

It was suggested that it may be better to have the CAO loaded in one place provided that the ULD is clearly identified as being CAO.

g) Accessibility to the compartment or ULD, i.e. the loading position

A comment was provided that the terminology and understanding of just what is intended by being “accessible” actually means. For example if the packages are contained in a ULD with a door there has been some interpretations given that these packages can’t be “seen”.

It was suggested that the wording currently in 49 CFR, which instead of using the word “seen” uses “access” instead. There was some support for this amendment although there was concern that the visibility of the hazard labels and CAO labels must still apply.

2. GENERAL DISCUSSION

2.1 Following the discussions on CAO dangerous goods there was a general discussion on the philosophy of the Technical Instructions with respect to allowing an unlimited number of individual packages. It was suggested that there are some substances where the characteristics are such that there should be a limit on the aggregate quantity per aircraft. There may be a proposal to this effect at a future meeting of the DGP.
