

**DANGEROUS GOODS PANEL (DGP)****NINETEENTH MEETING****Montreal, 27 October to 7 November 2003****Agenda Item 2 Development of recommendations for amendments to the Technical  
: Instructions for incorporation in the 2005/2006 edition****PROTECTIVE BREATHING EQUIPMENT (PBE) SMOKEHOODS  
CONTAINING CHEMICAL OXYGEN GENERATORS**

(Presented by G.A. Leach)

**1. INTRODUCTION**

1.1 Following the Valujet accident in 1996, provisions were developed for the carriage by air of chemical oxygen generators. Although that accident involved the chemical oxygen generators which are fitted in Passenger Service Units (PSUs) (the equipment located above passengers which also contains air vents, no-smoking/ seat belt signs etc), the new provisions applied to all generators and so included protective breathing equipment (PBE) smoke hoods which rely on chemically produced oxygen, typically used by cabin crew/ flight attendants. The generators used in PBE are very different to those involved in the Valujet accident. They are much smaller and produce less oxygen, since they need only supply one person (the crew member) as opposed to three or four persons supplied by a PSU. Most significantly, when contained in a smoke hood, the temperature attained is considerably lower, not least because the smoke hood will be worn by cabin crew.

1.2 Smoke hood generators are typically wrapped in insulation material and fitted into the (flame proof) smoke hood itself. The hood is then packed in a vacuum-sealed bag (typically of tin foil) which is then placed in a rigid plastic container. It is hoped to show a short video to the Panel to demonstrate this. Panel members will recall that Packing Instruction 523 was amended to take into account the conditions under which smoke hood generators could be tested.

1.3 The lack of provisions for the carriage of smoke hoods on passenger aircraft is causing unnecessary operational difficulties for operators, as detailed to the UK CAA by a UK short-haul operator. That operator explained that if one of its aircraft suffered a smoke hood failure (or one was used) en-route to a destination away from the main operating base, the aircraft would have to be grounded until the smoke hood was replaced. However, the only way to transport a new smoke hood to the aircraft would be by cargo

aircraft, none of which would serve the route. The operator therefore has a choice, either the return journey is made with passengers and a lesser number of smoke hoods than required by operating requirements; or the aircraft is flown empty on the return journey and arrangements are made for another aircraft to make a special flight to collect the passengers off-loaded from the previous aircraft.

1.4 It is suggested that PBE smoke hoods containing small chemical oxygen generators should be permitted for carriage as cargo on passenger aircraft. However, it is important to make clear that such alleviation applies only to this type of generator and not to those fitted in passenger service units. It is suggested that this could be achieved by a new Special Provision, including a requirement for the shipper to state on both the Dangerous Goods Transport Document and the package that the package contains protective breathing equipment in accordance with the new Special Provision.

## 2. PROPOSAL 1

2.1 Amend Table 3-1 as follows:

1	2	3	4	5	6	7	8	9	10	11	12
Oxygen generator, chemical (including when contained in associated equipment, e.g. passenger service units (PSUs) portable protective breathing equipment (PBE) etc)	3 3 5 6	5.1		Oxidizer		A1 A111 A116 <u>AXXX</u>	II	FORBIDDEN		523	25 kg G

## 3. PROPOSAL 2

3.1 Add a new Special Provision as follows:

**AXXX** Protective Breathing Equipment (PBE) containing a small chemical oxygen generator for use by crew members may be transported on passenger aircraft in accordance with Packing Instruction 523 subject to the following conditions:

- a) the PBE must be in the manufacturer's original unopened inner packaging (i.e. vacuum sealed bag and protective container);
- b) the statement "Crew Protective Breathing Equipment (smoke hood) in accordance with Special Provision AXXX" shall be:
  - (i) included on the Dangerous Goods Transport Document; and
  - (ii) marked adjacent to the proper shipping name on the package.

All other requirements applicable to chemical oxygen generators remain.

4. **PROPOSAL 3**

4.1 Add a new Part 5;2.4.13 as follows:

**2.4.13 Special marking requirement for chemical oxygen generators**

When chemical oxygen generators contained in Protective Breathing Equipment (PBE) are being transported under Special Provision AXXX, the statement "Crew Protective Breathing Equipment (smoke hood) in accordance with Special Provision AXXX shall be marked adjacent to the proper shipping name on the package.

5. **PROPOSAL 4**

5.1 Amend Part 5; 4.1.5.4 as follows:

4.1.5.4 ~~Not used~~ *Chemical oxygen generators*

4.1.5.4.1 When chemical oxygen generators contained in Protective Breathing Equipment (PBE) are being transported under Special Provision AXXX, the statement "Crew Protective Breathing Equipment (smoke hood) in accordance with Special Provision AXXX shall be included on the Dangerous Goods Transport Document.

— END —