



WORKING PAPER

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

Memphis, 30 April to 4 May 2007

**REPORT OF THE MEETING OF THE
WORKING GROUP OF THE WHOLE**

1.1 The meeting of the Dangerous Goods Panel Working Group of the Whole was opened by Mr. Jack Muhs, Vice President, International Planning and Engineering, Federal Express Corporation on 30 April 2007. Mr. G. Leach was elected Chairperson of the meeting and Mr. Richard was elected Vice Chairperson. Mr. Leach, on behalf of the working group, thanked Messrs Muhs and Richard for the excellent hospitality provided by the Fedex Corporation and the U.S. Department of Transportation.

2. ATTENDANCE

2.1 The meeting was attended by the following panel members and advisers:

Member	Adviser	State/International Organization
R.E. Timmins	L. Willoughby	Australia
K. Vermeersch		Belgium
P.C.C. Guerreiro Lima	L. Horacio Jawerbaum	Brazil
	T.C. Vieira	
G. Branscombe	D. Evans	Canada
	L. Hume Sastre	
	R. Lessard	
	D. Sylvestre	
Jiang Rui	J. Abouchaar	China
	Xiao Ruping	
	Frank Yan	
	Li Yuhong	
	Qiu Zhenhua	
	Aldous Chung	Hong Kong, China
	Sze Wang Mok	
J. Le Tonqueze		France

Member	Adviser	State/International Organization
H. Brockhaus	P. Bluemel M. Philippi T. Seemann	Germany
M. Gelsomino	C. Carboni Hiromichi Kinoshita Kaoru Ohta Yasuhiro Ohno Shuichiro Saito Yukihiro Watanabe	Italy Japan
D.E. Raadgers	W. Hoogerhout T. Muller S. Oosterhoff	Netherlands
M.W. Evans	D. Kurdchenko L. Calleja Bárcena D. Cantalejo de la Mata	New Zealand Russian Federation Spain
G. Leach	M. Castle J. Hart R. McLachlan R. Wells	United Kingdom
R.A. Richard	J. McLaughlin D. Pfund	United States
D. Brennan	P. Jala R. Jessop P. Oppenheimer	IATA
M. Rogers	J. Haynes M. Wangler E. Sigrist R. Bauer E.A. Altemos S. Burkhart S. Lineham N. McCulloch J.T. Mulreed A. Stukas F. Wybenga V. Krampe R. Wichert Kerchner, G. Monahan, C.	IFALPA IAEA CEFIC DGAC FEA Fuel Cell Council PRBA

3. REVIEW OF REPORT

3.1 Report of the Meeting of the Working Group of the Whole (WG/06) Including Consolidated Proposed Amendments Agreed to at the Meeting (DGP-WG/07-WP/1)

3.1.1 The report of the WG06 meeting was agreed to, subject to A154 being added against Lithium batteries packed with equipment and the deletion of an editorial note after 5;1.1 h).

4. DEVELOPMENT OF PROPOSALS, IF NECESSARY, FOR AMENDMENTS TO ANNEX 18 — *THE SAFE TRANSPORT OF DANGEROUS GOODS BY AIR*

4.1 Refer to SMS discussion (paragraph 8).

5. 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

Amendments to Part 1 — General

5.1 Draft amendments to the Technical Instructions to align to the UN Recommendations — Part 1 (DGP-WG/07-WP/2)

5.1.1 Draft amendments to Part 1 Chapters 1, 2, 3, 5 and a new Chapter 6 were proposed to reflect the decisions taken by the UN. These were agreed to subject to the:

- a) deletion of “international” in 1;2.3 as appropriate;
- b) insertion of “For the transport of class 7 material” into definitions transferred from 2;7 (as appropriate);
- c) addition of “desensitized explosives” against Class 3 in Table 1-5;
- d) addition of 5;1.4 as a reference in 6.1.5.1 a); and
- e) retention of the original text from 1.4 in new 6.6 (the Secretary will advise the IAEA).

5.2 Excepted quantities (DGP-WG/07-WP/8)

5.2.1 The incorporation in the UN Model Regulations of a new chapter on excepted quantities and a new column for limited quantities in the List of Dangerous Goods was discussed. The requirements in the new chapter largely reflect those in 1;2.4 of the 2007-2008 Edition of the Technical Instructions with the exception of a new excepted quantities mark and a new format in which a code is assigned to

each entry in the List of Dangerous Goods with the corresponding quantity limits presented in a table the new chapter.

5.3 It was recalled that WG06 had agreed to adopt the UN provisions but it was queried whether the adoption of the new format should be deferred until after a decision was taken regarding the formatting of the packing instructions. Some members wished to align the provisions to the greatest extent practicable with those of the UN recommendations; others suggested it should be done in conjunction with the reformatting exercise.

5.4 It was agreed the UN text (excluding paragraph 3.5.1.6) would be adopted except that the additional column in Table 3-1 and the use of E-codes would not be incorporated until the 2011/2012 edition of the Instructions.

5.5 **Dangerous goods to provide medical aid in flight (DGP-WG/07-WP/36)**

5.5.1 A proposal to clarify the conditions under which dangerous goods may be carried to provide medical aid to a patient was discussed. The proposal was modified to refer to aircraft rather than aeroplane and to remove reference to medical evacuation.

5.5.2 It was agreed that the wording of Part 1;1.1.3.1 a) is intended to apply to dedicated air ambulance flights and also instances where, for example, an operator may remove seats from a conventional scheduled flight to carry a patient. One member suggested that the sub-paragraph should be further subdivided to clarify this. It was explained, however, that the wording has been interpreted by some as meaning one circumstance or the other, not both.

5.5.3 The paper was withdrawn; a revised proposal will be submitted for DGP/21.

5.6 **Definition of the term “specially designed for their transport” (DGP-WG/07-WP/39)**

5.6.1 Clarification was sought on the meaning of the term “specially designed for their transport” in Part1;2.2.2. It was noted by one member that in practice, the provisions of Part 1;2.2.2 tend to be used for items such as aircraft batteries where the operator does not possess the manufacturer’s original packaging nor any other suitable UN specification packagings. However, questions from the engineering departments of several operators led the member to believe that the meaning of this definition is not clear. Some operators manufacture their own wooden or plywood boxes as and when the need arises, but it is not clear whether this is what was intended when the provision was introduced.

5.6.2 It was agreed the term was vague and that clarifying text should be developed. One member suggested that reference to the relevant UN test requirements in Part 6 could be made, even if the packagings are not themselves UN specification packagings. It was noted that this phrase applied to packagings for many aircraft spare parts, not just those containing dangerous goods e.g. packagings designed to protect sensitive aircraft equipment. After discussion by the working group, the proposer withdrew the paper and said a revised proposal would be submitted for DGP/21.

5.7 **Training for security personnel (DGP-WG/07-WP/61)**

5.7.1 Following the outcome of discussions at the Eighteenth Meeting of the Aviation Security Panel (AVSECP/18), it was suggested that the focus of dangerous goods is not only a safety issue but also

one of security. The working group was requested to consider the need to instruct security personnel to a greater depth and to review the current training requirements. It was proposed that in addition to operational security staff such as screeners, supervisory staff and staff implementing security procedures will need to be trained on certain aspects of dangerous goods, allowing them to recognize and anticipate conflicts between security and dangerous goods regulations at an earlier stage.

5.7.2 There was general support for the proposal with a number of members noting the benefits to safety which would result. It was noted that basic classification was sometimes covered under general philosophy but since this was not always the case, it was believed it was necessary to clarify it by the addition of a note.

5.7.3 The proposal was agreed.

5.8 Training requirements for airlines not holding an approval to carry dangerous goods (DGP-WG/07-WP/68)

5.8.1 Concern was raised at DGP-WG/06 of operators who, when not possessing a licence to carry dangerous goods, believed they did not have to train their staff. Two proposals to refine the training requirements for operators not carrying dangerous goods as cargo were made at that meeting, and at that time the working group favoured the proposal for the development of an additional table in the Technical Instructions. Based on the discussion at DGP-WG/06, a proposal to add a new paragraph to 1;4.2 specifying that staff of operators not holding an approval to carry dangerous goods must be trained commensurate with their responsibilities and a new Table 1-5 indicating the subject matter with which the various categories of staff should be familiar with was made.

5.8.2 Following comments on the absence of the term “approval” in the Technical Instructions in relation to operators, it was proposed to replace this with “operators not carrying dangerous goods as cargo”. It was queried whether ground handling staff should be identified separately but it was pointed out that persons employed contractually by an operator to act on their behalf would be subject to the requirements.

5.8.3 The proposal, as amended, was agreed.

Amendments to Part 2 — Classification

5.9 Draft amendments to the Technical Instructions to align to the UN Recommendations — Part 2 (DGP-WG/07-WP/3)

5.9.1 Draft amendments to Part 2 Chapters 2, 4, 5, 6, 7 and 8 were proposed to reflect the decisions taken by the UN. These were agreed to subject to the replacement of:

- a) “280 kPa” with “200 kPa” in 2;2.2.2; and
- b) “must require” with “require” in 2;7.2.2.2.

Amendments to Part 3 — Dangerous Goods List and Limited Quantities Exceptions

5.10 Draft amendments to the Technical Instructions to align to the UN Recommendations — Part 3 (DGP-WG/07-WP/4)

5.10.1 Draft amendments to Part 3 Chapters 2 and 3 were proposed to reflect the decisions taken by the UN. These were agreed to subject to the assignment of:

- a) A99 and A154 against UN 3480;
- b) A48 and A154 against UN 3481 (1st entry); and
- c) A88 and A154 against UN 3481 (2nd entry).

5.11 Special provisions (DGP-WG/07-WP/9)

5.11.1 At DGP-WG/06, the topic of intermodal harmonization was discussed (DGP-WG/06-WP/56), paragraph 7.6 refers). It was agreed that Table 3-2 would be analyzed so that those special provisions which were developed for air transport would be identified.

5.11.2 A distinction between those special provisions which were either developed for air transport or which have been significantly modified from their UN equivalent, those which are identical or have only a minor modification from their UN equivalent, and those which are “not used” in the current edition of the Technical Instructions was made.

5.11.3 Although support was expressed for the two methods proposed, it was agreed to have two tables of special provisions, one containing special provisions unique to air transport and the other containing special provisions identical to those in the UN Model Regulations, as this most closely aligned with the UN Recommendations. It was also agreed numbers assigned to the UN special provisions would be used in the latter table.

5.12 Special Provision A45 (DGP-WG/07-WP/11)

5.12.1 A proposal was made to delete “other provisions of” in the phrase “not subject to other provisions of these Instructions” in Special Provision A45 in order to align it with other special provisions. It was explained that the two phrases were causing confusion in translation since in some languages, one phrase conveyed both expressions.

5.12.2 The proposal was agreed. On the basis similar difficulties must exist in other regulations, it was agreed the UN should be informed of the decision.

5.13 New Entries for Fuel Cell Cartridges Adopted by the UNCOE (DGP-WG/07-WP/22)

5.13.1 Proposals to add fuel cell cartridges containing fuels of divisions 2.1 and 4.3, and class 8, as adopted by the UNCOE in December 2006, were discussed and agreed, subject to modifications resulting from the discussion. It was noted the quantity limit for UN 3473 in column 10 should be corrected to read 5 kg. It was noted the intent was to treat the fuel cell cartridges, when in finished

articles, as solids. It was also confirmed that the net quantity in columns 10 and 12 was the net mass of the finished article excluding packagings.

5.13.2 With regard to the entries in Table 3-1, it was agreed for UN 3477 (containing corrosive fuels) the quantity limit for passenger aircraft should be lowered to 5 kg and placed in square brackets on the basis the quantity should reflect how similar hazards were treated. Concern was expressed that borohydride substances, normally forbidden for transport on passenger aircraft, were being proposed for transport with a 15 kg quantity limit. It was agreed such water reactive substances should be permitted but at a reduced quantity limit of 5 kg, placed in square brackets. This would allow movement on passenger aircraft as many States had few, if any cargo only operators. A number of members queried the quantity of the division 4.3 chemical in the cartridge; industry was asked to provide the relevant data. Industry would also be able to comment on whether these proposed quantity limits were practicable.

5.13.3 With regard to the proposed entries in Table 3-2, the issue of which performance tests the fuel cells, transported as cargo, should be subjected to, was raised. It was noted additional tests were specified only for those fuel cells which were intended to be carried by passengers. It was also noted some large fuel cells, particularly those developed for military use, would be too heavy to be permitted for transport on passenger aircraft. It was also noted fire testing applied to UN 3479 and not to UN 3476. It was explained the UN had not considered it necessary to include a fire test for UN 3476. It was noted the requirements for cartridges containing flammable gas were based on those for receptacles small, flammable – these were not subject to a fire test.

5.13.4 With regard to A334 (applicable to both fuel cells containing corrosive or water reactive materials), the issue of the physical state of the activator was queried. It was explained the activator could be water plus a small amount of another chemical but that the design of the cartridge required two independent means of preventing unintentional mixing with the fuel during transport.

5.13.5 With regard to A338, it was queried whether cartridges, when installed in equipment, had design features to prevent the cartridge from leaking. It was noted the drop test applied to the cartridge alone which could result in less specific protection for the cartridge when contained in (or packed with) equipment. However, it was explained the requirement for the cartridge to be leakproof, including when contained in equipment, had been added to A146. In addition, it was agreed to delete the phrase “for each unit placed in transport”.

5.13.6 It was also noted that the final sentence in A146 and A339 duplicated earlier text. It was agreed to delete the sentence and to advise the UN.

5.13.7 With regard to the proposed packing instructions, it was agreed standard terminology referring to packing group II performance standards would be used. It was noted that although the equivalent UN packing instructions included requirements for large robust equipment, this was inappropriate for inclusion in the Technical Instructions and should be deleted. This was agreed.

5.13.8 A number of members requested a quantity limit per article should be included in PI 4XX (for UN 3476) and PI 8XX (for UN 3477); a 1 kg limit was agreed.

5.13.9 One member advised the working group of tests on all fuel cartridges which were to be done in his State before DGP/21. The issue of fire propagation on board aircraft needed to be assessed.

5.14 **Lithium batteries (DGP-WG/07-WP/33)**

5.14.1 This paper was withdrawn on the basis of the adoption by the UN Sub-Committee of provisions for excepted quantities which excluded UN3090 .

5.15 **Additional Amendment to A45 (DGP-WG/07-WP/19) Comments on Proposed Amendment to Special Provision A45 (DGP-WG/07-WP/72)**

5.15.1 In DGP-WG/07-WP/19, it was suggested that recent amendments to special provision A45 have resulted in the transport of lithium cells and batteries being given quasi-regulatory treatment. A member noted how the requirements included a specific marking to, a telephone number for emergency response, a drop test, packaging requirements, and a quantity limitation. However, unlike dangerous goods not shipped under this special provision, he noted all of the markings are in English and differ from the internationally recognized diamond labels associated with dangerous goods. There is also no notification to the pilot-in-command. He noted these batteries were originally classed as division 4.3 then as class 9 and now were subject to the special provision.

5.15.2 In light of the number of incidents involving lithium metal and lithium ion batteries occurring outside the regulatory scheme, the member proposed that the exemptions gained under A45 for these batteries is not justified. He proposed that the batteries should be shipped fully in accordance with the provisions of the Technical Instructions. The only exception should be for batteries shipped in or with equipment, where some level of protection to the batteries is afforded.

5.15.3 Comments from industry in DGP-WG/07-WP/72 focused on the excellent safety record involving the transport of such lithium cells and batteries. It was also noted the significant restrictive amendments made by the UNCOE to the relevant provisions in the UN Recommendations and suggested this would adequately deal with the issue.

5.15.4 Whilst recognising the economic consequences of the proposed changes, it was argued safety justification had to be the over-riding concern. It was also suggested that although transporting these cells and batteries was a multi-modal issue, the consequences were higher in air transport.

5.15.5 On the basis the relevant regulations had changed frequently, a number of members stated their belief that a comprehensive analysis and strategy to deal with these cells and batteries was now needed, whilst recognizing the need to reflect the UN provisions for multi-modal harmony. It was agreed an informal working group should meet to discuss any amendment to the Technical Instructions and any non-regulatory actions which might be necessary to ensure lithium battery transport safety across the entire scope of the passenger and transport communities. A member offered to host an ad hoc working group in Montreal from 4 to 5 October 2007 to discuss the issues raised. To facilitate the meeting, he asked for those interested in attending to contact him by e-mail (brennand@iata.org).

5.16 **Prohibition of transport of certain types of lithium metal batteries aboard passenger and cargo aircraft (DGP-WG/07-WP/18) Prohibition of Lithium Metal Batteries on Passenger Aircraft (DGP-WG/07-WP/56)**

5.16.1 A proposal was made (in DGP-WG/07-WP/18) to adopt a new special provision prohibiting the transport of lithium metal batteries as cargo on passenger and cargo aircraft with an

exception allowing for small lithium metal batteries shipped in or with equipment. The proposed special provision would not affect provisions for carriage in the cabin of a passenger aircraft by passengers and crew. The proposal was made following agreement to the prohibition in principle at DGP-WG/06. The prohibition is based on the flammability characteristics of lithium metal batteries and the inability of onboard equipment to suppress a fire involving these batteries.

5.17 Taking into account the decisions taken by the UN at its 30th Session, in particular amendments to Special Provision 188 of the UN Model Regulations and the revision of the lithium battery proper shipping names to differentiate between lithium metal and lithium ion batteries, a new proposal was submitted in DGP-WG/07-WP/56. A new special provision was also proposed for inclusion in Table 3-1 which would prohibit the transport of lithium metal batteries on passenger aircraft except when packed with or installed in equipment under specified conditions. Batteries not meeting the conditions of this Special Provision were proposed to be marked to indicate that they are forbidden for transport aboard passenger aircraft.

5.18 One member stated he could not support the proposal to prohibit these batteries for transport on passenger aircraft without the participation of industry to advise on the economic consequences. Keeping in mind the failure of halon to suppress fires involving lithium metal, another member supported the prohibition on the basis passengers had the right to expect the highest level of safety whereas there was an element of informed consent on the part of flight crew on cargo aircraft.

5.19 The proposed marking indicating the prohibition of lithium metal batteries as cargo on passenger aircraft was discussed. Some believed a pictogram would be preferable than a manufacturers mark; others suggested a CAO label might be used.

5.20 It was agreed all issues pertaining to the transport of lithium cells and batteries should be discussed at the proposed ad hoc working group. It was noted this meeting could be expected to be just the first in a series of discussions on the issue.

5.21 Special Provision A66 (DGP-WG/07-WP/25)

5.21.1 This paper was withdrawn on the basis it had already been dealt with in WP/4.

**5.22 Special Provision A144 (DGP-WG/07-WP/27)
Special Provisions A144 and A1 (DGP-WG/07-WP/49)**

5.22.1 Difficulties encountered when using Special Provision A144 were discussed. One member described how a consignment on a passenger aircraft was rejected on the basis that even though both the package and the dangerous goods transport document were annotated with a statement “Aircrew Protective Breathing Equipment (Smoke Hood) in accordance with Special Provision A144”, the dangerous goods transport document, the dangerous goods information to the pilot in command, and the air waybill were marked as “Cargo Aircraft Only”. The consignment also complied with the last paragraph of A144 in that the “cargo aircraft only” label was not displayed. In addition, clarification was sought on whether A144 nullified the requirements of A1 or whether A1 took precedence.

5.22.2 It was explained that the intent underlying A144 was to facilitate the transport of aircrew smoke hoods and that all references to cargo aircraft only should be removed. Some members suggested it would be preferable to amend the wording of A144 so as to clarify the intent rather than to assign a new ID number, as had been suggested.

5.22.3 The papers were withdrawn; a revised proposal will be submitted to DGP/21.

5.23 **Special Provision A67 (DGP-WG/07-WP/28)**

5.23.1 The working group discussed the placing of a further restriction in Special Provision A67 so as to prevent **Batteries, wet, non-spillable** finding their way into passengers checked baggage. The discussion was based on the fact that when **Batteries, wet, non-spillable**, meet the requirements of Special Provision A67 and Packing Instruction 806, there is no restriction on the battery being carried in passengers checked baggage.

5.23.2 It was recalled that A67 had been developed specifically to allow passengers to carry such batteries. A general discussion on the meaning of the phrase “not subject to these Instructions”, contained in several special provisions, then ensued. It was queried whether the issue was one of an item being regulated and then excepted (providing certain qualifying conditions were met) or whether it was one of an item being considered fully non-regulated.

5.23.3 The paper was withdrawn. A revised proposal will be submitted to DGP/21.

5.24 **UN 3166 Engines, Internal Combustion, Flammable Liquid Powered (DGP-WG/07-WP/38)**

5.24.1 A proposal was made to amend Special Provision A70 in order to clarify that if a fuel that powers an engine does not meet the classification criteria as a flammable liquid, the engine can be considered as not subject to the Technical Instructions.

5.24.2 A number of members, whilst supporting the general intent, expressed difficulty with the incorporation of the phrases “when tested” and “defining criteria”. Others thought the proposal was unnecessary and were unable to see the benefit of the proposal. The proposer explained the criteria were those for classification; on modifying the proposal to reflect this and on deletion of the phrase “when tested”, it was agreed.

5.25 **Special Provision A123 (DGP-WG/07-WP/45) Incident Involving Wheelchair Battery (DGP-WG/07-IP/6)**

5.25.1 Special Provision A123 specifies the measures which must be taken with regard to the protection against short circuit of electric storage batteries (included when fitted in equipment) which have the potential of a dangerous evolution of heat. However, a number of incidents have occurred not because of short circuit but rather because of unintentional activation, particularly in the case of power tools.

5.25.2 A proposal was made at DGP-WG/06 to amend Special Provision A123 to reflect this. Although several members supported the objective, they queried whether the proposal would rectify the problem of inadvertent activation for such batteries. The placing of A123 only against **Batteries, electric storage** was noted as both regulated as well as non-regulated batteries in equipment needed to be considered.

5.25.3 A new proposal was formulated for WG07 after identifying all battery entries in Table 3-1. Identifying the batteries revealed that simply applying an amended A123 to each of these entries would not work because other aspects had to be taken into account, e.g. batteries not subject to the requirements of the Technical Instructions and duplications which arise due to existing requirements for

protection against short circuit contained in Packing Instructions. Consequently, the batteries were treated as follows:

- a) for “Batteries, electric storage”, an amendment to A123 was proposed;
- b) for **Batteries, wet, filled with acid** electric storage (UN 2794), **Batteries, wet, filled with alkali**, electric storage (UN 2795), **Batteries, wet, non-spillable**, electric storage (UN 2800), **Battery-powered equipment** (UN 3171), **Battery-powered vehicle** (UN 3171), **Lithium batteries** (UN 3090), **Lithium batteries contained in equipment** (UN 3091) and **Lithium batteries packed with equipment** (UN 3091) it was proposed to add a new special provision to Table 3-2;
- c) for **Batteries, wet, non-spillable**, electric storage (UN 2800), the need to address batteries which are not subject to the requirements of the Technical Instructions in accordance with Special Provision A67 was discussed and consequentially an amendment to A67 was proposed;
- d) For **Lithium batteries** (UN 3090), **Lithium batteries contained in equipment** (UN 3091) and **Lithium batteries packed with equipment** (UN 3091), there was also the need to address batteries which are not subject to the requirements of the Technical Instructions in accordance with Special Provision A45 and consequently, an amendment to A45 was proposed.

5.25.4 Members warmly supported the general objectives of preventing short circuits and unintentional activation in batteries, noting the issue of battery safety was the subject of large outreach programmes in a number of States.

5.25.5 Reference to removal of circuit breakers was queried. It was agreed that this example could be deleted as users might believe this was the only method to prevent short circuits in equipment. It was noted that the phrase “packed for transport” was inappropriate, bearing in mind the addition of battery-powered vehicles to the provision; it was agreed to replace it with the standard phrase “prepared for transport”.

5.25.6 The proposal was agreed as modified.

5.26 Xenon Lamps (DGP-WG/07-WP/50)

5.26.1 At DGP-WG/06, clarification was sought as to which UN number and packing instruction number should be assigned to lamps containing xenon with a pressure greater than 280 kPa. One member indicated that information from industry suggested that different gases could be present in similar lamps and that a more general entry would be preferable to that proposed in the paper. Another suggested these lamps should be considered for classification as **Receptacles, small, containing gas** if an amendment to the 50 ml exception was made. The proposer at the time withdrew the paper and said he would work with other members to produce a revised proposal for WG07.

5.26.2 The proposer explained that since WG06, a 1.8m drop test for PG I, a 3m stacking test for 24 hours and a compulsory destruction test were performed on six types of fibreboard box containing xenon lamps, and the test results were all satisfactory. Based on these results and the fact that there have been no irregularities or incidents in transporting the lamps, a new proposal to amend Special Provision A98 was made.

5.26.3 Some members queried whether this problem was a multi-modal one and should be addressed first by the UN Sub-Committee. A number of members suggested that these lamps should be considered as non-regulated articles and that a note clarifying this could be developed for incorporation in the Technical Instructions.

5.26.4 It was agreed an information paper would be submitted to the July meeting of the UNSCOE. Depending on the outcome of the discussion, a revised proposal might be submitted to the DGP/21 meeting.

5.27 **Balls Used for Playing Sports (DGP-WG/07-WP/51)**

5.27.1 The issue of whether table tennis balls should be classified as dangerous goods was discussed. It was suggested the allocation of UN 2000 — **Celluloid** to such items was incorrect and that the proposed special provision was unnecessary.

5.27.2 With regard to the broader issue related to sporting balls when inflated or when containing compressed gases, it was suggested Note 1 in 2;2 could be amended to clarify they were not subject to the Technical Instructions. The proposal, as modified, was agreed.

5.28 **Assignment Of Special Provision A69 To Substances Treated as Inert Gas (DGP-WG/07-WP/52)**

5.28.1 A proposal to assign Special Provision A69 to all inert gases was agreed.

5.28.2 A second proposal to amend the proper shipping name of UN 2036 to read **Xenon, compressed** in order to align the name with the other inert gas substances was not agreed. It was noted the expert from Japan would raise the issue at the UN SCOE meeting.

5.29 **Prescribed Conditions for Substances and Articles to be Considered Non-Restricted (DGP-WG/07-WP/57)**

5.29.1 At WG06, the working group considered a proposal to require consignors to indicate on the air waybill when a substance or article was excepted from the requirements of the Technical Instructions by the prescribed conditions of a special provision. A list of special provisions was provided as an appendix and included the substances to which the provisions were assigned.

5.29.2 Taking into account comments from WG06, a new list of eight articles to which the provisions should be assigned was provided. The list included only those special provisions which require some action on the part of the shipper in order to ensure that the substance or article as prepared for transport meets the prescribed conditions of the Technical Instructions and is safe for transport.

5.29.3 A number of members supported the intent of the proposal but queried how the requirement could be legally enforced in instances when no documentation accompanied the dangerous goods. It was also queried who would complete the air waybill as this was not routinely done by the shipper. Others noted this requirement could only apply to cargo but not to excepted dangerous goods carried by passengers. It was suggested that a safety enhancement would be achieved when shippers understood the benefits they would gain in having their shipment accepted as being non-dangerous only after specific action had been taken.

5.29.4 The proposer withdrew the paper and said a revised proposal would be submitted to DGP/21, in which it would be clarified it applied to cargo only.

5.30 **Special Provision A136 (DGP-WG/07-WP/64)**

5.30.1 The working group discussed the requirements of Special Provision A136 and, by extension, of Special Provision A20, particularly the lack of a statement on the dangerous goods transport document and application of the “keep away from heat” label for substances subject to A136.

5.30.2 It was explained that UN 2208 and UN 2880 presented different hazards than those presented by organic peroxides and that A136 might not be relevant for air transport. Incidents had occurred when they had been placed on top of fuel oil, resulting in casualties. With regards to organic peroxides, it was suggested incidents had occurred in the maritime mode when large quantities of peroxides, contained in freight containers with an adequate circulation of air, had been subjected to heat.

5.30.3 The paper was withdrawn; a revised proposal will be submitted to DGP/21.

Amendments to Part 4 — Packing Instructions

5.31 **Draft Amendments to the Technical Instructions to Align to the UN Recommendations — Part 4 (DGP-WG/07-WP/5)**

5.31.1 Draft amendments to Part 4, Chapters 1, 4, 6, 8, 9, 10 and 11 were proposed to reflect the decisions taken by the UN. These were agreed to subject to the deletion of:

- a) proposed new text in Packing Instruction 200, 3 b); and
- b) paragraph 9.1.12.

5.32 **Chemical Kits (DGP-WG/07-WP/13)**

5.32.1 Packing instruction 915 requires that kits must not be packed with other dangerous goods; however, in some cases, dry ice must be added for cooling purposes. A proposal was made to amend the packing instruction to permit dry ice.

5.32.2 Although it was noted overpacks containing one or more packages of chemical or first aid kits could contain dry ice, it was explained a better cooling effect was achieved when dry ice was placed within the package. It was suggested detailed reference in the proposed new paragraphs to both dry and wet ice was confusing, and unnecessary, if reference to other applicable requirements were included. Following a modification to the original proposal to ensure all other applicable requirements in Packing Instruction 904 must be met, it was agreed to amend the fourth paragraph.

5.33 **Dangerous Goods in Non-Pressurized Cargo Holds (DGP-WG/07-WP/16)**

5.33.1 An amendment to the pressure variation note in the introductory chapter of Part 4 to help distinguish differences in pressure reduction values in pressurized cargo holds versus non-pressurized cargo holds was proposed at WG06. Although there was some sympathy for the issue at that time, it was

suggested the proposal was not practical on the basis that shippers would have no knowledge of the aircraft type and its compartment holds which would be used. A revised amendment was presented to WG07.

5.33.2 It was suggested that a preferable location to address the issue would be in Part 7, Chapter 2 where operators could be reminded that consideration should be given to packagings subjected to increased pressure differentials when placed in non-pressurised cargo holds. The paper was withdrawn; a revised proposal will be submitted to DGP/21.

5.34 New Entries for Fuel Cell Cartridges Adopted by the UNCOE (DGP-WG/07-WP/22)

5.34.1 See section 5.13 for discussion of this item.

5.35 UN 1037 – Ethyl Chloride (DGP-WG/07-WP/24)

5.35.1 A proposal was discussed to delete the provision in Packing Instruction 200 which permits the transport of UN 1037 in glass ampoules. It was suggested this item was not presented for transport in such a packaging and it would also align the instruction with the UN Model Regulations.

5.35.2 Some members disagreed with this view on the basis that similar provisions (but with different quantities) were included in some regional and national regulations and were therefore reluctant to delete the provision for the air mode.

5.35.3 The paper was withdrawn; the proposer said he would take up the issue with the UN Sub-Committee.

5.36 Packing Instruction 650 (DGP-WG/07-WP/32)

5.36.1 An amendment to paragraph 11 b) of packing instruction 650 to remove a contradiction regarding the application of the proper shipping name and UN number was proposed and agreed to.

5.37 Packing Instructions 905 and 200 (DGP-WG/07-WP/44)

5.37.1 An editorial amendment to delete reference to packing instruction 200 contained in packing instruction 905 was agreed.

5.37.2 A proposal to permit cylinders, intended for life jackets and life rafts that are not fitted with pressure relief devices was discussed. Some members suggested this was unnecessarily over-complicated and that such small cylinders would normally be transported as gas cartridges, which themselves did not have pressure release devices.

5.37.3 The second proposal was withdrawn; a revised proposal will be submitted to DGP/21.

5.38 Shipper Loaded Units (DGP-WG/07-WP/65)

5.39 A proposal to identify the shipper's responsibility when presenting a unit load device or other type of pallet containing consumer commodities or magnetized materials was agreed.

5.39.1 A proposal to identify in 7.4.1.1 that for shipper loaded unit load devices the operator may show the average gross mass per package for consumer commodities on the written information to the pilot-in-command was also agreed.

5.40 Packing Instruction 916 (DGP-WG/07-WP/66)

5.40.1 A proposal to address inconsistencies in the provisions of Packing Instruction 916 was made. It was suggested the majority of cylinders contained in equipment would not generally meet UN specifications; allowing cylinders containing flammable gases in equipment should be considered carefully.

5.40.2 The Secretary was asked to reissue the paper for DGP/21.

5.41 Proposed Amendment to Packing Instruction 202 to Allow for the Use of Glass Receptacles for the Transport of Certain Cryogenic Liquids (DGP-WG/07-WP/67)

5.42 A proposal was made at WG06 to allow a new concept of a container for the transport of liquid nitrogen (DGP-WG/06-WP/47). Although there was general consensus for the principle, comments were made that the requirements should be as short and prescriptive as possible. A new proposal taking into account the comments made by WG06 was made.

5.43 It was noted a paper would be presented to the July UNSCOE meeting on the issue of cryogenic liquid receptacles, based on the requirements in the Instructions and the ADR regulations.

5.44 The working group agreed to a modified proposal, which clarified that packagings must meet packing group II performance test requirements.

5.45 Packing Instruction 918 (DGP-WG/07-WP/69)

5.46 A proposal to amend Packing Instruction 918 in order to clearly identify applicable marking and labelling requirements was agreed.

Amendments to Part 5 — Shipper's Responsibilities

5.47 Draft Amendments to the Technical Instructions to Align to the UN Recommendations — Part 5 (DGP-WG/07-WP/6)

5.47.1 Draft amendments to Part 5, Chapters 1, 2 and 3 were proposed to reflect the decisions taken by the UN. These were agreed to subject to the replacement of “shall” with “must” in 5.1.6.3.

5.48 Label Marking (DGP-WG/07-WP/30)

5.48.1 The working group was invited to discuss the establishment of a standard hazard label font size for the label text, given that text on hazard labels are appearing with a font size of 3 millimetres.

5.48.2 Some members noted the issue had been raised earlier at the UN Sub-Committee where it had been explained the font size could vary significantly, depending on the size of the packaging. It was queried to which label text was being referred in the working paper since the only mandatory requirements for text to appear on a label was that for class 7.

5.48.3 The paper was withdrawn.

5.49 **"Cargo Aircraft Only" Label (DGP-WG/07-WP/34)**

5.49.1 A proposal was made at WG06 to amend the design of the Cargo Aircraft Only label in order to address what was seen as some shortcomings with the existing label design. Although there was some support for the proposal, there was also support for a complete redesign of the label to remove all words and to have a pictogram that conveyed the required meaning.

5.49.2 The working group was informed that attempts had been made since WG06 to design a new label using only pictograms which would clearly convey the required message. However, difficulties were encountered in that there was no clear outline or image which could unambiguously be identified as being a "Cargo Aircraft". The working group was therefore requested to consider the original re-design which was presented at WG06 as the new Cargo Aircraft Only label.

5.49.3 Some members thought the change was not significant enough to warrant the introduction and associated costs of a new label. Others believed it to be an improvement but noted training remained the key to understanding whichever label was used.

5.49.4 The proposal was agreed on condition a long transitional period was adopted, thus minimizing the cost to industry.

5.50 **Marking For Limited Quantities (DGP-WG/07-WP/42)**

5.50.1 A proposal to add a reference in 5;3.5.2 to ISO Standard 780-1985 in relation to orientation labels was agreed. The proposal was made on the basis that although 5;3.2.11 b), 5;3.3.2 and Packing Instruction 916 allow for labels that meet the specifications of ISO Standard 780-1985 to be used as an alternative to the package orientation labels shown in the TIs, 5;3.5.2 does not currently provide reference to the ISO Standard.

5.50.2 One member pointed out, however, that a contradiction existed in so far as the ISO Standard did not specify a minimum standard size and thus permitted smaller labels than those prescribed in the Technical Instructions; a paper proposing deletion of this reference will be submitted to DGP/21.

5.50.3 The proposal was agreed.

5.51 **Packing Marking Requirements (DGP-WG/07-WP/43)**

5.51.1 Minor proposed amendments to the headings of 5;2.4.1 and 5;2.4.10 in order to clarify the package marking requirements were agreed to.

5.52 **Declared Quantity on Dangerous Goods Transport Document (DGP-WG/07-WP/63)**

5.52.1 The working group discussed a proposed amendment to 5;4.1.5.1 e). The proposal referred to an amendment made at DGP/20 which provided a list of articles where the quantity shown on the dangerous goods transport document should be the gross mass of the article when Table 3-1 shows "No limit" in column 10 or 12, and all other substances should be the net mass or volume. It was suggested that the original list of numbers was incomplete.

5.52.2 It was agreed to specify that the quantity must, rather than should, be the net mass or volume for substances and the gross mass followed by the letter “G” for articles and to include relevant UN numbers as examples for each.

5.52.3 The proposal, as amended, was agreed.

5.53 **Recent Incidents Involving Radioactive Materials (DGP-WG/07-WP/71)**

5.53.1 Two recent incidents involving radioactive materials were reported to the working group. The first involved a consignment of radioactive material which was generating heat flux and was transferred from one air operator to another. The consignment was then placed in a soft overpack, which resulted in an accumulation of heat and resulted in a call to emergency services. The second involved cargo acceptance staff refusing a consignment of Krypton 85 due to an incomplete description on the shipping document.

5.53.2 With regard to the first incident, the IAEA representative suggested this was potentially a training problem in so far as handlers appeared to be inadequately trained to deal with packages generating heat flux. With regard to the second incident, he suggested a note could be developed for incorporation in the technical Instructions with specific wording regarding the physical form requirement.

5.53.3 Some members advised similar incidents had occurred in their State and said they would communicate with the proposer so that a new paper could be presented to DGP/21.

Amendments to Part 6 — Packaging Nomenclature, Marking, Requirements and Tests

5.54 **Draft Amendments to the Technical Instructions to Align to the UN Recommendations — Part 6 (DGP-WG/07-WP/7)**

5.54.1 Draft amendments to Part 6, Chapters 1, 2, 4, 5, 6 and 7 were proposed to reflect the decisions taken by the UN. These were agreed to subject to the:

- a) replacement of “Chapter 1 through 3” with “Chapters 1 to 6” in 6;5.2.7.1; and
- b) amendment of Chapter 6 title to “Packagings for infectious substances of category A”.

5.54.2 The Secretary was asked to bring to the attention of the UN the amendment to the Chapter 6 title.

5.55 **Puncture Test for Infectious Substances Packagings (DGP-WG/07-WP/14 (Revised))**

5.55.1 Clarification was requested on the intent and the requirements of the puncture test for infectious substances described in 6;6.3 of the Technical Instructions and similarly in the UN Model Regulations. It was explained differing interpretations had been provided regarding the required test equipment as well as some of the requirements.

5.55.2 It was agreed that the UN should be advised of the problem.

Amendments to Part 7 — Operator's Responsibilities**5.56 Detection and Fire Suppression in Cargo Holds
(DGP-WG/07-WP/10)**

5.56.1 The group was informed of a fire which occurred in a cargo hold before departure and the investigation that followed which revealed that the fire was caused by the shipment of a lithium battery; in this incident, the fire detection system of the cargo hold issued a warning when the aircraft was still on the taxiway. The working group was asked to consider whether cargo holds should be required to be equipped with a fire detection system when dangerous goods of classes or divisions 1, 2.1, 3, 4, 5 and lithium batteries are carried on aircraft.

5.56.2 The importance of fire suppression systems in cargo holds containing certain dangerous goods was noted. However, it was also noted that some fleets do not have Class C compartments and to retrofit existing compartments would place a huge burden on the airline industry. It was agreed that industry should be asked to comment on the potential financial impact.

5.56.3 The Secretary was asked to coordinate discussion of the issue with the Airworthiness Panel (AIRP) Working Group of the Whole Meeting (8 to 17 May 2007).

**5.57 Retention of Rejected Transport Documents
(DGP-WG/07-WP/15)**

5.57.1 This paper was withdrawn before the meeting.

5.58 Passenger's Exposure Dose Limits (DGP-WG/07-WP/17)

5.58.1 A potential problem of passengers using portable dosimeters on board aircraft which has radioactive material in the cargo hold was raised. It was suggested that such passengers, on seeing a reading greater than background on the meter, might panic. It was proposed to add text relating to the maximum acceptable dose rate in 7;2.9.1.

5.58.2 The representative of the IAEA explained that the tables of separation distances contained as requirements in the Technical Instructions were presented as guidance by the Agency, as one means of complying with the dose value requirements. He further noted that the table is based on a radiation dose-rate criterion of 0.02mSv/h to a passenger. Some members observed that that the dose values were sufficiently restricted and were, in fact, very conservative. Others believed the proposed text was confusing in so far as it raised additional questions e.g. how high a value was acceptable and what measures should be taken. The representative of the IAEA suggested that a note could be drafted that explains that the separation distances are based on the aforementioned criterion. This value could be used as a check to ensure that the proper separation distances in the hold of the aircraft are maintained.

5.58.3 The proposal was not agreed, but the use of the note was accepted.

5.59 Transport Index Limit Under Exclusive Use (DGP-WG/07-WP/46)

5.59.1 It was suggested that the provision in Par 7;2.9.3.3 b) could be misinterpreted to mean that limits on transport indexes as a result of the separation requirements do not apply. A proposal was

made to clarify that there may be a limit on the sum of transport indexes as a result of separation distances.

5.59.2 The proposal was agreed to with amendments to clarify the minimum segregation distances apply.

5.60 Acceptance (DGP-WG/07-WP/47)

5.60.1 At WG06 discussed were held on whether the requirements of Part 7;1.1.2 was clear in respect of what an operator is expected to verify during an acceptance check. There was general support of the idea of clarifying the existing text, without being too prescriptive. Discussions continued at WG07 based on a new a proposal to for amendment to 7;1,.1.1 and 7;1.3.

5.60.2 The working group was asked to consider what the purpose of the acceptance check is. It was suggested that the purpose for the operator is to establish, as far as is reasonable, that the external condition of, and quantity declared as being contained in the package complies with the Technical Instructions and also that the documentation meets the requirements. It was also suggested that the lack of clarity in the Technical Instructions has given rise to overly burdensome and complicated checklists, so as to cater for most possible interpretations of the requirements by States, and thus avoid possible enforcement action. The proposal was to list those items an operator could reasonably be expected to check for safety reasons.

5.60.3 Many members expressed strong support for the proposal, welcoming the additional clarity and specificity contained within it. Recognizing the detailed checklists had evolved over time in the absence of more specific requirements, it was suggested this amendment would benefit both operators and regulators. Some reservations were expressed relating to the proposed 1.2 d) and suggested more general text might be preferable.

5.60.4 One member suggested the sequence of paragraphs might be rearranged so that general requirements were at the start, followed by more detailed requirements.

5.60.5 Following the placing of 1.2 d) in square brackets, the proposal was agreed. The proposer agreed to review the paragraph order before DGP/21.

5.61 Reporting of Incidents Involving Batteries (DGP-WG/07-WP/55)

5.61.1 At WG06, it was proposed that incidents involving batteries of any type should be required to be reported in accordance with Part 7;4.4. A list of incidents was provided for information and it was noted that in a number of cases, the batteries were of a type that are excepted from the Technical Instructions when certain prescribed conditions are met and as such it is not clear whether the reporting requirements of Part 7 apply.

5.61.2 It was agreed that the incidents demonstrated a need to gather appropriate information in order to determine whether any improvements could be made to the requirements of the Technical Instructions to prevent such incidents from occurring. However, it was questioned whether the ICAO Technical Instructions could require reporting of incidents involving batteries that in some cases are in and of themselves not subject to the Technical Instructions. Several views were expressed and it was agreed that the Secretary would coordinate a legal review with the ICAO Legal Bureau.

5.61.3 After further review, it was noted that electric storage batteries are only considered not subject to the Technical Instructions on the basis of compliance with the provisions in Special Provision A123 which includes prohibitions against batteries which have the potential of dangerous evolution of heat or are inadequately protected against short-circuit. It was also noted that 1;2.1 also contains a general prohibition against articles that can dangerously react or produce a flame or dangerous evolution of heat.

5.61.4 The proposer therefore concluded that a battery which may otherwise be non-restricted but has caused an incident due to generation of a flame or heat is subject to the ICAO Technical Instructions and is in fact *prohibited* from carriage. As such, incidents involving flame or excessive heat generation should be reported. It was therefore proposed that specific language in 7;4.4 be added to clarify that all incidents involving batteries should be reported.

5.61.5 The proposal was agreed, subject to a modification to clarify the text and the amendment being placed in square brackets.

Amendments to Part 8 — Provisions Concerning Passengers and Crew

5.62 Carriage of Fuel Cells by Passengers and Crew (DGP-WG/07-WP/23)

5.62.1 At DGP/20, a decision in principle was taken that no fuel could be accepted as a passenger exception if the substance was not already acceptable for transport as cargo on a passenger aircraft. One member asked to reopen the decision, suggesting that packaged goods present a different hazard to those in the passenger cabin; he asked that the issue be reconsidered on a case-by-case basis. A number of members supported this proposal and agreed that the original principle should be taken as a consideration, not as an over riding principle. A proposal to extend the provisions for fuel cells permitted for carriage by passengers and crew was then discussed. It was noted this would reflect what had been approved for transport as cargo (see 5.13).

5.62.2 It was noted the issue of quantity limits was not just one of safety but also security in so far as 100 ml quantity limits were prescribed for security reasons. Members were awaiting the outcome of discussion with security colleagues who were deciding whether this limit was inappropriate for articles.

5.62.3 Some members wished to await the results of tests which were to be carried out before taking a decision. Others suggested they had five years experience transporting such fuel cells as cargo and suggested the proposed text be placed in square brackets; this would act as an incentive to those interested in facilitating their use. This was agreed.

5.63 Small Oxygen Cylinders Carried by Passengers (DGP-WG/07-WP/26)

5.63.1 During the Working Group on Passenger Provisions that met prior to WG06 there was a discussion on the current provision in Part 8;1.1.2 c) that permits passengers or crew to carry “with the approval of the operator(s), small gaseous oxygen or air cylinders required for medical use;” The Working Group had agreed that how many “cylinders” an operator could approve a passenger to carry should be specified and also that defining “small” as the maximum size for the cylinder is a very subjective term. It was also agreed that there should be some text added to the provision to require that the cylinder, valve and regulator be protected from damage.

5.63.2 The working group was informed of research done with two major medical oxygen supply companies to determine if there was an international standard size that equated to a portable cylinder suitable for carriage in the passenger cabin or in checked baggage. It was identified that there is no single standard size but rather a range of cylinder sizes. Within the ranges, however, 5 kg seemed to be the upper limit for a filled oxygen cylinder that would be suitable for carriage by passengers.

5.63.3 It was suggested that limiting the number of cylinders was unnecessary since the operator had to give approval, based on the journey duration and health of the passenger concerned. Specifying the dimensions was also considered unnecessary on the basis a quantity limit was proposed.

5.63.4 The proposal, modified to remove reference to number and dimensions of cylinders, was agreed.

5.64 Packaging Standard for Liquids and Gels (DGP-WG/07-WP/29)

5.64.1 A proposal to add a standard packaging requirement to the provisions for dangerous goods carried by passengers or crew was made. It was suggested that security-enforced limitations for liquids, aerosols and gels now in place may result in many passenger carry-on dangerous goods being driven out of manufacturers' packaging and into lesser standard packaging.

5.64.2 There was some support for the concept but it was suggested it should not be as regulatory text. Other members suggested it should be the subject of outreach programmes in States.

5.64.3 The paper was withdrawn; a revised proposal will be submitted for DGP/21.

5.65 Clarifications Concerning Carriage of Fuel Cells by Passengers and Crew (DGP-WG/07-WP/31)

5.65.1 Proposals to amend the provisions for the carriage of fuel cells by passengers were made. It was suggested that the current wording of r) took focus away from the fuel cell and the fuel cell cartridges and a re-worded paragraph was provided to clarify this. The working group agreed with the proposal.

5.65.2 It was suggested that the current wording of 8;1.1.2 r) 5) and 6) is inconsistent and repetitious. It was proposed to reword the two sentences and combine them into one. The working group agreed with the proposal. It was also suggested that the text in paragraph 8;1.1.2 r) 2) is redundant as it is covered in 8;1.1.2 r) 5). It was agreed to delete the paragraph.

5.65.3 A proposal to amend Packing Instruction 313 was withdrawn because it was superseded by amendments to align the packing instruction with the UN Model Regulations.

5.66 The Transport of Baggage Separated From its Owner (DGP-WG/07-WP/35)

5.66.1 An amendment to 8;1.1.2 to permit operators other than the originating operator to carry separated passenger baggage was proposed. Some members agreed with the principle but suggested the use of the word "the" could be interpreted as applying to more than one operator. Others pointed out the text "transported by the operator" was unnecessary since it would always be an operator who would transport misplaced baggage in any case.

5.66.2 The proposal was amended to remove the phrase “transported by the operator”; this was agreed.

5.67 Secretariat Study Group on the Carriage and Screening of Liquids, Gels and Aerosols (DGP-WG/07-WP/41)

5.67.1 The meeting was informed of the outcome of the discussion which had taken place at the first meeting of the ICAO Secretariat Study Group on the Carriage and Screening of Liquids, Gels and Aerosols (26 to 27 February 2007). Working papers detailing instances of disharmony between the new security provisions and the Technical Instructions had been submitted but had received minimal discussion.

5.67.2 Members agreed better coordination with security personnel, both in ICAO and in national administrations, was important. The Secretary agreed to provide the list of members of the Aviations Security (AVSEC) Panel to the DGP members in order to facilitate discussion.

5.67.3 It was suggested the DGP should remain focused on safety justifications when deciding quantity limits rather than basing them on security considerations. It was queried whether the 100 ml quantity limit, imposed by security requirements, would remain.

5.67.4 The working group agreed the paper should be reissued for DGP/21.

5.68 Batteries Carried by Passengers or Crew (DGP-WG/07-WP/54)

5.68.1 The working group was asked to consider enhancing protection against short-circuit of batteries carried by passengers and crew by adding text to 8;1.1.2 q) explaining how the batteries can be protected.

5.68.2 An amended proposal was agreed.

5.69 Comments on Carry-on Provisions for Lithium Ion Batteries Carried by Passengers or Crew (DGP-WG/07-WP/73)

5.69.1 At WG06, the working group decided to remove the provision from Part 8 for lithium ion batteries with an aggregate lithium content of more than 8 grams (100 watt-hours) but not more than 25 grams (310 watt-hours). It was suggested that many batteries of up to 16 grams (160 watt-hours) are needed (by, amongst others, the professional audio/video industry and by some users of the portable oxygen concentrators) and that these are currently being sold. It was proposed to reinstate the provision but to amend the upper quantity to a watt-hour rating of not more than 100 watt-hours.

5.69.2 Following a short discussion on the safety aspects of carrying one larger rather than two smaller ones, it was agreed the ad hoc working group on lithium batteries should include this issue in its discussion.

6. DEVELOPMENT OF RECOMMENDATIONS FOR AMENDMENTS TO THE SUPPLEMENT TO THE TECHNICAL INSTRUCTIONS FOR THE SAFE TRANSPORT OF DANGEROUS GOODS BY AIR (DOC 9284) FOR INCORPORATION IN THE 2009/2010 EDITION

6.1 Identification of Toxic by Inhalation Liquids in the Supplement (DGP-WG/07-WP/53)

6.1.1 WG06 considered a proposal to identify materials in the Supplement which are toxic by inhalation. It was suggested that this would assist States in prescribing appropriate requirements when such substances are transported under approval by the appropriate national authority. There was general support for the proposal, however it was agreed that a revised proposal should be submitted on the basis of comments received.

6.1.2 A revised listing of toxic by inhalation liquids with supporting data was provided; the proposal to add a special provision was agreed. The working group further agreed that the table should be placed in the Supplement along with introductory text to be developed.

7. AMENDMENTS TO THE *EMERGENCY RESPONSE GUIDANCE FOR AIRCRAFT INCIDENTS INVOLVING DANGEROUS GOODS* (DOC 9481)

7.1 Guidance for Portable Electronic Device Fires in Aircraft Cabins (DGP-WG/07-WP/21)

7.1.1 A proposal was made to amend the Emergency Response Guidance document checklist for Dangerous Goods Incidents in the Passenger Cabin to include guidance for fires involving passenger electronic devices. It was suggested that because of the unique characteristics of battery fires, guidance specific to addressing a fire involving portable electronic devices in the cabin was needed.

7.1.2 The proposal was agreed.

8. RESOLUTION, WHERE POSSIBLE, OF THE NON-RECURRENT WORK ITEMS IDENTIFIED BY THE AIR NAVIGATION COMMISSION OR THE PANEL

Principles governing the transport of dangerous goods on cargo only aircraft

**8.1 Loading of "CAO" Dangerous Goods (DGP-WG/07-WP/20)
Accessibility Requirements For Cargo Aircraft Only
Dangerous Goods (DGP-WG/07-WP/37)**

8.1.1 A working group met to discuss the issues raised in the above papers. There was general agreement for the proposal in both papers to permit loading of Cargo Aircraft Only dangerous goods in

Class C compartments as an alternative to having them accessible to flight crew. Differing opinions were expressed with regard to the requirements for handling.

8.1.2 The proposers agreed to coordinate their discussions so that a revised, joint proposal might be submitted to DGP/21.

Reformatting of the packing instructions

8.2 Comments on Proposed Reformatted Packing Instructions (DGP-WG/07-WP/48, DGP-WG/07-WP/62, DGP-WG/07-IP/4) Report of the Packing Instruction Working Group (DGP-WG/07-Flimsy 3)

8.2.1 A working group on the reformatting of the packing instructions (PIWG) had met prior to WG07 to review comments which had been received, in the form of working papers or via the website survey. Comments on the proposed reformatted packing instructions from a meeting held with various interested parties from industry in the United Kingdom and comments from the DGAC were presented.

8.2.2 With regard to WP/48, consultation had taken place with a large cross-section of industry and the following comments were offered:

- a) there was general support for separation of the packing instructions between passenger and cargo aircraft;
- b) it was thought the proposed numbering system was overly complex;
- c) suggestions were made for a different layout and structure;
- d) concerns had been expressed over the expansion of the absorbent material requirements; and
- e) transitional arrangements required discussion.

8.2.3 With regard to WP/62, the view was expressed by a representative from industry that whilst inconsistencies existed in the present packing instructions, there was no need to change the system. In particular, the cost to industry associated with renumbering and training was not justified since no measurable increase in safety had been shown. The issue of transition was also raised, with the suggestion it could not be implemented overnight.

8.2.4 Finally, with regard to IP/4, further comments received from industry, supporting those in WP/62, were also presented. It was suggested should the reformatted packing instructions be adopted, ample time should be given for implementation.

8.2.5 Following the introduction of these papers, the report of the PIWG was presented. After reviewing all comments and deciding sufficient support had been expressed, the following areas were identified for discussion:

- a) Inner packaging types. It was clarified a misunderstanding had led some commentators to believe some of the existing inner packagings would no longer be

authorized. It was explained that an earlier decision of the panel to rationalise inner packagings had been made on condition it would only be implemented when reformatting of the packing instructions took place. This decision was consistent with the approach taken in the UN Model Regulations. The working group further suggested all references to “IP” codes could be deleted from the Technical Instructions.

- b) Outer packagings. It was noted an error had been made in the preparation of the draft packing instructions; a correction had been placed on the website.
- c) Additional packaging materials. Taking into account the concerns raised by industry whilst ensuring safety in air transport, the PIWG discussed the proposal to require a liner, and in some cases absorbent material for liquids. The group agreed that absorbent material requirement should apply to all combination packagings containing liquids of Packing Group I on the basis the hazard posed by such a liquid warrants retaining the additional safety measure. Recognizing a significant incidence of leaking inner receptacles, the PIWG determined the capability of the closure system to be the key and proposed the addition of a second means of securing closures as a solution.
- d) Structure and format. A suggestion to simplify the presentation of the packing instruction was agreed.
- e) Number scheme. recognizing the increased costs which would result from the adoption of an alpha-numeric system, the maintenance of a three digit number was supported.
- f) Cost to transition. The PIWG believed the overall benefits of the new system would outweigh the cost of transition,. It was noted major outreach programmes would have to be developed to support the change.

8.2.6 Support for continuing the work of the PIWG was expressed by several members; those who had contributed to the work were thanked in recognition of the task they had accomplished. It was suggested a decision in principle was now needed, noting that many of the problems had now been resolved or accommodated. It was also noted the advantages of the new system should be stressed, in particular the number of additional packagings which would now be authorised. It was said there was widespread support from the airlines; it was recognised the much simpler packing instructions would make it easier to comply with all the requirements.

8.2.7 Following requests from industry, it was agreed the comments received to the survey would be made available. In addition, the incident data which had been reviewed by the PIWG would also be made available.

8.2.8 Regarding the issue of cost which had been identified by industry as being of serious concern, the working group requested that industry research the matter and provide data for the panel to review and consider.

8.2.9 The working group agreed that sufficient time should be given for formal working papers to be developed for DGP/21. The Secretary noted the PIWG would develop a final draft based on the format suggested in DGP-WG/07-WP/48 which would be placed on the website in August; an extended

deadline of 21 September 2007 for working papers commenting on the reformatting exercise was proposed. All other working papers would be subject to a deadline of 7 September 2007.

Review of provisions for dangerous goods carried by passengers and crew

8.3 No papers submitted.

Intermodal harmonization

8.4 No papers submitted.

Safety management systems

8.5 Safety Management Systems (DGP-WG/07-WP/58)

8.5.1 At DGP-WG/06, the need to establish a safety management system (SMS) for the transport of dangerous goods by air was discussed. WG07 was provided with material for further discussion on the need to establish an SMS. The material also clarified the distinction between ICAO's definitions for safety programmes and safety management systems.

8.5.2 Strong support for developing provisions related to SMS was expressed. Some members suggested, however, such provisions should be recommendatory in nature on the basis implementation of a mandatory programme would be difficult to achieve. Others stressed the importance of a systems based approach, especially in relation to the transport chain, noting that shippers are one of the most important components in transport safety.

8.5.3 The working group agreed that material should be sent to the Secretary for development of a proposal for DGP/21.

Competency based training

8.6 No papers submitted.

9. DISCUSSION OF MISCELLANEOUS DANGEROUS GOODS ISSUES

9.1 Layout of the ICAO Technical Instructions (DGP-WG/07-WP/12)

9.1.1 A proposal to amend the numbering system in the Technical Instructions to include the part number was discussed. Some members believed that this approach would be more user friendly and noted this was more closely aligned to the UN Recommendations. One member thought the ISO system used in the UN recommendations was overly cumbersome. It was pointed out it was not just a case of renumbering the Technical Instructions but rather a much wider exercise when all national regulations and training material containing references to specific paragraphs were taken into account. It was suggested a cost benefit analysis should be carried out before a decision was made.

9.1.2 The Secretary agreed to discuss the feasibility of the proposal with the English Editorial Unit and to provide sample text for DGP/21.

9.2 ISO Standards Referred to in the Technical Instructions (DGP-WG/07-WP/40)

9.2.1 The difficulties encountered by enforcement agencies when attempting to obtain out of date ISO standards, referenced both in the Technical Instructions and the UN Recommendations, was explained. It was noted it was not simply a case of amending the references to the revised ISO standard but a more complex issue of checking each individual standard to see if all requirements still applied.

9.2.2 It was agreed this was a multimodal issue; the proposer offered to notify the UN of the problem.

9.3 Miscellaneous Issues Arising From DGP-WG06 (DGP-WG/07-WP/59)

9.3.1 The working group noted the information provided in the paper.

9.4 Dangerous Goods Issues Raised With Other ANC Panels (DGP-WG/07-WP/60)

9.4.1 The working group noted the information provided in the paper, with regard to the decision of the AP not to consider the matter for consideration in Annex 14 but rather as a facilitation matter. The Secretary informed the working group of the potential involvement of Airports Council International (ACI). One member suggested all civil aviation authorities should work collectively to do more to educate passengers regarding what they can or cannot carry.

9.5 Electronic Dangerous Goods Transport Data (DGP-WG/07-WP/70)

9.5.1 The working group was reminded of discussions at WG06 on the development of provisions to permit the electronic transmission of information required in the dangerous goods transport document and the potential removal of the requirement to have a copy of the dangerous goods transport document accompanying every consignment. The working group was asked to continue discussions on what steps needed to be taken to be able to remove the mandatory requirement for a physical dangerous goods transport document and instead permit the use of electronic data interchange (EDI) as an alternative to a document. It was suggested that in order to be able to move toward EDI as an alternative to a document there would need to be amendments made to certain provisions in the TIs to recognize EDI as meeting the current provisions.

9.5.2 Members welcomed the initiative and considered this to be an important item. It was noted an information paper would be presented at the July UNSCOE meeting, recognizing this was a multimodal issue. General discussion on how technology could be used to expedite shipments then ensued; it was noted advance information systems and electronic data exchanges could be used for safety, facilitation and security reasons.

9.5.3 It was agreed that the working group by correspondence continue work on this subject.

9.6 **UN Working Papers for July 2007 Meeting (DGP-WG/07-WP/74)**

9.6.1 Comments were sought from the working group on proposed amendments to the UN Model Regulations contained in working papers for the thirty-first session of the UNSCOE.

9.6.2 Members were invited to submit comments to the originator of the paper for onward submission to the UN.

9.7 **Report to ICAO on the IAEA's safety of transport of radioactive material programme (DGP-WG/07-IP/5)**

9.7.1 A report by the IAEA representative was noted; particular stress was placed on the harmonization work being done by the UN and the IAEA and on the establishment of the Steering Committee on denial of shipments of radioactive material.

9.8 **Enhanced requirements for transport of oxygen, oxygen generators, and oxidizing gases (DGP-WG/07-IP/7)**

9.8.1 Information was provided by one member on proposed enhancements for packaging and cylinder requirements for oxygen and oxidizing gases in his State. It was noted similar proposals would be submitted to DGP/21.

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