



**WORKING PAPER**

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

**Auckland, New Zealand, 4 to 8 May 2009**

**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 2011/2012 Edition**

**STATE OF ORIGIN APPROVAL**

(Presented by G. A. Leach)

**SUMMARY**

This paper highlights requirements of the *Technical Instructions for the Safe Transport of Dangerous Goods by Air* (Doc 9284) which are subject to State of Origin approval and seeks discussion by the working group to determine whether those requirements should also be subject to approval of the State of the Operator.

Action by the DGP-WG is in paragraph 2.

**1. INTRODUCTION**

1.1 DGP-WG/08-WP/40 raised the issue of when some dangerous goods, which are forbidden for carriage by air in normal circumstances, may be permitted for carriage on passenger or cargo aircraft with only the approval of the State of Origin required. The majority of these approvals are granted under Special Provisions A1 and A2. It was suggested that the inability of the State of the Operator to have an input into whether the operator should be permitted to carry such goods was undesirable and effectively in conflict with Annex 6 — *Operation of Aircraft*. The working group accepted that further work on this subject should be undertaken.

1.2 In the appendix to this working paper is a list of all instances where approval of the State of Origin appears in both the Technical Instructions and the Supplement, together with suggestions as to what action should be taken with the applicable text. As a general rule, no change is suggested where the approval/decision of the State of the Operator is related to classification of packaging design.

**2. ACTION BY THE DGP-WG**

2.1 The DGP-WG is invited to consider the list attached to this working paper and indicate any changes which are deemed necessary.



APPENDIX

TI Reference	Summary	Change	Comments
1;1.1.2	In cases of extreme urgency, or when other forms of transport are inappropriate, or full compliance with the prescribed requirements is contrary to public interest, the States concerned may grant exemptions from the provisions of the Instructions provided that in such cases every effort is made to achieve an overall level of safety in transport, which is equivalent to the level of safety provided by these Instructions. The States concerned are the <u>States of Origin</u> , transit, overflight and destination of the consignment, and the State of the Operator. For the State of overflight, if none of the criteria for granting an exemption are relevant, an exemption may be granted based solely on whether it is believed that an equivalent level of safety in air transport has been achieved.	No change	
1;3.1.1	Definition of term 'Approval' (other than for Class 7)	Delete the Note	Majority will now be State of origin and operator, but in any event the benefit of the note is queried, because whether the approval is by the State of origin or other States will always be indicated in the Technical Instructions.
1;3.1.1	Definition of term 'Approval' (For the transport of Class 7 material)	No change	Class 7 design approval (2 references)
1;3.1.1	State of Origin definition	No change	
2;4.2.3.2.5	Classification of self-reactive substances (References UN 2.4.2.3.3)	No change	The reference is to the responsibility for classification
2;5.2.1.1	Classification of oxidizing substances	No change	More restrictive than UN 2.5.2.1.1 – WG may wish to consider whether this non-alignment should be retained.
2;5.3.2.5	Classification of organic peroxides	No change	Aligned with UN 2.5.3.2.5
2;7.2.4.6.1	Classification as Type B(U), Type B(M) or Type C packages	No change	Class 7 classification
2;9.2.1a)	EHS classification	No change	Classification

TI Reference	Summary	Change	Comments
2;9.2.1c)	GMO classification – “.....GMMOs or GMOs are not subject to these Instructions when authorized for use by the appropriate national authorities of the <u>States of Origin</u> , transit and destination.”	No change	Classification
3;2.1.1 (column 13)	Cargo aircraft – maximum net quantity per package	Add State of the Operator if agreed to amend Part S-4 Chapter 12	
SP A1	“This commodity may be transported on passenger aircraft, only with the prior approval of the appropriate authority of the <u>State of Origin</u> ...”	Add State of the operator	Note – State of Origin appears twice in A1 and needs to be changed both times
SP A2	“This commodity may be transported on passenger aircraft and on cargo aircraft, only with the prior approval of the appropriate authority of the <u>State of Origin</u> ...”	Add State of the operator	Note – State of Origin appears twice in A2 and needs to be changed both times
SP A17	These substances must not be classified and transported unless authorized by the appropriate authority of the <u>State of Origin</u> on the basis of results from Series 2 tests and a Series 6(c) test on packages as prepared for transport.	Delete ‘transported’ from A17 and add A1 against UN3357.	Only applies to UN3357, Nitroglycerin mixture, desensitized, liquid, n.o.s. See UN SP 288
SP A49	Other inert material or inert material mixture may be used at the discretion of the appropriate authority of the <u>State of Origin</u> , provided this inert material has identical phlegmatizing properties.	Change ‘discretion’ to approval?	Only applies to UN 2907, Isosorbide dinitrate mixture. What does ‘discretion’ mean? This is the only instance in the Technical Instructions – equates to UN SP127.
SP A62	This designation must be used only when no other appropriate designation exists in the list and then only with the approval of the appropriate authority of the <u>State of Origin</u> .	Suggest change “must” to “may”	Classification of Class 1. Applies to UN 0349, UN0351, 0352, 0353, 0471, 0383, 0384, 0479, 0480, 0481, 0485. Once classified by the State of Origin, they can all be carried on a Cargo Aircraft, with UN0349, 0384 and 0481, also being permitted on a passenger aircraft.

TI Reference	Summary	Change	Comments
SP A78	Radioactive material with a subsidiary risk of Division 4.2 (Packing Group I) must be transported in Type B packages. Radioactive material with a subsidiary risk of Division 2.1 is forbidden from transport on passenger aircraft, and radioactive material with a subsidiary risk of Division 2.3 is forbidden from transport on passenger or cargo aircraft except with the prior approval of the appropriate authority of the <u>State of Origin</u> under the conditions established by that authority. A copy of the document of approval, showing the quantity limitations and the packaging requirements, must accompany the consignment.	Add State of the Operator	
SP A88	Prototype lithium batteries and cells to be tested that are packed with not more than 24 cells or 12 batteries per packaging that have not been tested to the requirements in subsection 38.3 of the UN <i>Manual of Tests and Criteria</i> may be transported aboard cargo aircraft if approved by the appropriate authority of the <u>State of Origin</u> and the following requirements are met:	Add State of the Operator	
SP A99	Irrespective of the limit specified in column 13 of Table 3-1, a lithium battery or battery assembly that has successfully passed the tests specified in the UN <i>Manual of Tests and Criteria</i> , Part III, subsection 38.3, and that meets the requirements of Packing Instruction 903 as prepared for transport may have a mass exceeding 35 kg G, if approved by the appropriate authority of the <u>State of Origin</u> . A copy of the document of approval must accompany the consignment.	Add State of the Operator	Large lithium batteries – permitted on Cargo Aircraft Only.  <i>(Note - reference to PI 903 should be to packing instructions 968 and 965.)</i>
A106	They may be transported on a passenger or cargo aircraft providing prior approval has been granted by the appropriate authority of the <u>State of Origin</u> or the Director General of the Organization for the Prohibition of Chemical Weapons and providing the samples comply with the requirements shown against the entry for chemical samples in Table S-3-1 of the Supplement.	Add State of the Operator	

TI Reference	Summary	Change	Comments
A109	<p>This commodity may be transported on cargo aircraft, only with the prior approval of the appropriate authority of the <u>State of Origin</u> under the written conditions established by that authority. The conditions must include the quantity limitations and packing requirements and these must comply with S-3;1.2.4 of the Supplement. A copy of the document of approval, showing the quantity limitations and packing requirements, must accompany the consignment.</p> <p>Where States, other than the <u>State of Origin</u>, have notified ICAO that they require prior approval of shipments made under this special provision, approval must also be obtained from these States, as appropriate.</p>	Add State of Operator to first reference.	Applies to UN Nos 0059, 0065, 0099 all 1.1D
4; introductory note 6	With the approval of the appropriate authority of the <u>State of Origin</u> , certain dangerous goods may also be carried on cargo aircraft in portable tanks in accordance with the provisions of Part S-4, Chapter 12 of the Supplement.	Add State of Operator	Consequential change to the Supplement
4; introductory note 7	With the approval of the appropriate authority of the <u>State of Origin</u> , of Destination and of the Operator, for the purpose of providing life support to aquatic animals during transport, a cylinder containing Oxygen compressed, UN 1072, may be carried to oxygenate the water in accordance with the provisions of Table S-3-1 and Special Provision A202 (which appear in the Supplement).	No change – approval of operator and destination already required	
4; introductory note 10	With the approval of the appropriate authority of the <u>State of Origin</u> , or transit (where applicable), of Destination and of the Operator, lamps fuelled by UN 1223 — <b>Kerosene</b> or UN 3295 — <b>Hydrocarbons, liquid, n.o.s.</b> , carried by a passenger to transport a symbolic flame (e.g. Olympic flame, Peace flame) may be carried in accordance with the provisions of Special Provision A224 (which appears in the Supplement to this document).	No change – approval of operator and destination already required	
4;2.8	The appropriate authority of the <u>State of Origin</u> may approve the use of a packaging alternative to those provided in a particular packing instruction indicated in Table 3-1 for listed dangerous goods provided:	No change	Equivalent packagings

TI Reference	Summary	Change	Comments
4;2.9	The appropriate authority of the <u>State of Origin</u> may approve the transport of large and robust articles which cannot be packaged in accordance with the requirements of 6;1 to 6;4, where they have to be transported empty, uncleaned and unpackaged, providing they comply with the requirements in Part S-4, Chapter 3 of the Supplement.	Add State of Operator	
PI200	5) Gas mixtures containing any of the following gases must not be offered for transport in aluminium alloy cylinders unless approved by the appropriate national authority of the <u>State of Origin</u> : UN 1037 <b>Ethyl chloride</b> UN 1063 <b>Methyl chloride</b> UN 1063 <b>Refrigerant gas R 40</b> UN 1085 <b>Vinyl bromide, stabilized</b> UN 1086 <b>Vinyl chloride, stabilized</b> UN 1860 <b>Vinyl fluoride, stabilized</b> UN 1912 <b>Methyl chloride and methylene chloride mixture</b>	Addition of State of Operator in the process of being carried out by addendum.	
PI 216 (Fuel Cells)	On passenger aircraft, each fuel cell system and each fuel cell cartridge must conform to IEC PAS 62282-6-1 Ed. 1 or a standard approved by the appropriate authority of the <u>State of Origin</u> .	No change	
PI 375 (Fuel Cells)	On passenger aircraft, each fuel cell system and each fuel cell cartridge must conform to IEC PAS 62282-6-1 Ed. 1 or a standard approved by the appropriate authority of the <u>State of Origin</u> .	No change	
PI 496 (Fuel Cells)	On passenger aircraft, each fuel cell system and each fuel cell cartridge must conform to IEC PAS 62282-6-1 Ed. 1 or a standard approved by the appropriate authority of the <u>State of Origin</u> .	No change	
PI 874 (Fuel Cells)	On passenger aircraft, each fuel cell system and each fuel cell cartridge must conform to IEC PAS 62282-6-1Ed. 1 or a standard approved by the appropriate authority of the <u>State of Origin</u> .	No change	

TI Reference	Summary	Change	Comments
PI 965 (lithium ion or lithium polymer batteries)	Lithium ion batteries with a mass of 12 kg or greater and having a strong, impact-resistant outer casing, or assemblies of such batteries, may be transported when packed in strong outer packagings and protective enclosures not subject to the requirements of Part 6 of these Instructions, if approved by the appropriate authority of the <u>State of Origin</u> . A copy of the document of approval must accompany the consignment.	Possible addition to require State of Operator	Not sure whether State of Operator is required
PI 968 (lithium metal or lithium alloy batteries)	Lithium batteries with a mass of 12 kg or greater and having a strong, impact-resistant outer casing, or assemblies of such batteries, may be transported when packed in strong outer packagings and protective enclosures not subject to the requirements of Part 6 of these Instructions, if approved by the appropriate authority of the <u>State of Origin</u> . A copy of the document of approval must accompany the consignment.	Add State of Operator	
5;2.5	In addition to the languages which may be required by the <u>State of Origin</u> , English should be used.	No change	
5;4.3.5	When dangerous goods are shipped under exemption (see 1;1.1.2), a copy of the exemption must accompany the consignment. Where more than one State has granted an exemption for a particular consignment, the documents that need to accompany it are the exemptions granted by the <u>States of Origin</u> , transit (if relevant) and destination.	No change – State of Operator not relevant since the aircraft would only be on the ground at either the origin, transit or destination (which may include the state of operator).	
6;4.1.6.3	In addition to the languages which may be required by the <u>State of Origin</u> , English should be used for the dangerous goods transport document.	No change	
6;7.21.1b)	each design that meets the requirements of 7.5.1 to 7.5.3 must require unilateral approval by the competent authority of the <u>State of Origin</u> of the design, unless multilateral approval is otherwise required by these Instructions.	No change	
6;7.22.2	Multilateral approval may be by validation of the original certificate issued by the competent authority of the <u>State of Origin</u> of the design or shipment.	No change	



TI Reference	Summary	Change	Comments
7;2.1.2	Under the conditions specified in S-7;2.2 of the Supplement, the <u>State of Origin</u> may approve the transport of dangerous goods in main deck cargo compartments of passenger aircraft that do not meet the requirements in 2.1.1.	Add State of Operator	Consequential change to Supplement
8;1.1.2r)10)	in addition to the languages which may be required by the <u>State of Origin</u> for the markings specified above, English should be used.	No change	
S-3;1.2.2	In the case of Special Provision A1, dangerous goods may be transported on passenger aircraft with the prior approval of the appropriate authority of the <u>State of Origin</u> provided that the quantity per package does not exceed the quantity shown in Table S-3-1 and the packing is in accordance with the packing instruction indicated by Table S-3-1. The detailed requirements of the packing instruction are given in Part S-4, unless they already appear in the Technical Instructions. A copy of the document of approval showing the quantity limitations and packing requirements must accompany the consignment. Approval is not required for transport on cargo aircraft in these cases	Add State of Operator (if agreed for Technical Instructions change)	
S-3;1.2.3	In the case of Special Provision A2, dangerous goods may be transported on passenger and cargo aircraft with the prior approval of the appropriate authority of the <u>State of Origin</u> provided that the quantity per package does not exceed the quantity shown in Table S-3-1 and the packing is in accordance with the packing instruction indicated by Table S-3-1. The detailed requirements of the packing instruction are given in Part S-4, unless they already appear in the Technical Instructions. The consignment must be accompanied by a copy of the document(s) of approval showing the quantity limitations and packing and labelling requirements.	Add State of Operator (if agreed for Technical Instructions change)	

TI Reference	Summary	Change	Comments
S-3;1.2.4	In the case of Special Provision 109, dangerous goods may be transported on cargo aircraft with the prior approval of the appropriate authority of the <u>State of Origin</u> provided that the quantity per package does not exceed the quantity shown in Table S-3-1 and the packing is in accordance with the packing instruction indicated by Table S-3-1. The detailed requirements of the packing instruction are given in Part S-4, unless they already appear in the Technical Instructions. The consignment must be accompanied by a copy of the document(s) of approval showing the quantity limitations and packing and labelling requirements.	Add State of Operator (if agreed for Technical Instructions change)	
SP A215	In certain circumstances, this substance may exhibit explosive behaviour and if so is forbidden for carriage by air under any circumstances. The appropriate national authority must be satisfied on the basis of test results that the substance as packaged does not exhibit explosive behaviour under normal conditions of transport. This, together with the appropriate packaging and the quantity limitation, must be certified by the appropriate authority of the <u>State of Origin</u> .	No change	Classification
S-4;3.1.1	The appropriate authority of the <u>State of Origin</u> may approve the transport of large and robust articles which cannot be packaged in accordance with the requirements of Part 6, Chapters 1 to 4 of the Technical Instructions where they have to be transported empty, uncleaned and unpackaged.	Add State of Operator (if agreed for Technical Instructions change)	
S-4;3.1.2	In doing so, the appropriate authority of the <u>State of Origin</u> must take into account that:	Add State of Operator if S-4;3.1.1 is changed.	
S-4;12.1.2	approval of the appropriate authority of the <u>State of Origin</u> is obtained;	Add State of Operator	
S-4;12.5	The requirements concerning the dangerous goods transport document in Part 5;4.1 of the Technical Instructions must be met. When dangerous goods are shipped in portable tanks under the approval of the appropriate authority of the <u>State of Origin</u> , the consignment must be accompanied by a copy of the document of approval showing all relevant transport conditions.	Consequential change if S-4;12.1.2 is changed.	

TI Reference	Summary	Change	Comments
S-6;1	The transport of such a packaging by air is subject to the written approval of the <u>State of Origin</u> .	No change	Packaging certification
S-7;2.2.1	Part 7;2.1 of the Technical Instructions provides that dangerous goods may only be carried in a main deck cargo compartment of a passenger aircraft that meet the certification requirements for a Class B or C cargo compartment. There may be occasions when there is a need to carry dangerous goods on passenger aircraft that do not have these cargo compartments, such as on those serving remote areas where there is no other transport available. In such circumstances, the <u>State of Origin</u> may approve the transport of dangerous goods in accordance with the following paragraphs.	Change if changed in Technical Instructions	
S-7;4.2.1	The State in which a dangerous goods accident occurs must forward a notification of the accident with a minimum of delay and by the most suitable and quickest means available to: a) the <u>State of Origin</u> ; b) the State of Registry; and c) the State of the Operator.	No change	
S-7;4.2.3	Upon receipt of the notification, the <u>State of Origin</u> must, as soon as possible, provide the State in which the accident occurred with any relevant information it has available relative to the dangerous goods involved in the accident. The <u>State of Origin</u> must also inform the State in which the accident occurred whether it intends to be represented at any investigation and, if so, it should indicate the probable date of arrival of its accredited representative.	No change	Perhaps discuss whether relevant due to the responsibility of the operator to notify the emergency services which may have superseded the current text in the Supplement.
S-7;4.3.1	The State in which a dangerous goods accident occurs involving goods originating in or destined for another State must institute an investigation into the circumstances of the accident. That State must also be responsible for the conduct of the investigation, but it may, by agreement, delegate the whole or any part of the conduct of such investigation to the State of Registry, State of the Operator or the <u>State of Origin</u> . The State in which a dangerous goods accident, other than as described above, occurs should institute an investigation into the circumstances of the accident.	No change	

<b>TI Reference</b>	<b>Summary</b>	<b>Change</b>	<b>Comments</b>
S-7;4.3.3a)	The State of Registry, State of the Operator and <u>State of Origin</u> are entitled to appoint an accredited representative to participate in the investigation of a dangerous goods accident.	No change	Not relevant
S-7;4.3.3b)	The State of Registry, State of the Operator and <u>State of Origin</u> must provide an accredited representative when the State in which the accident occurs specifically requests their participation.	No change	Not relevant
S-7;4.4.2	The dangerous goods accident/incident report form must be sent with a minimum of delay by the State conducting the investigation to: a) the State in which the accident occurred; b) the <u>State of Origin</u> ; c) the State of Registry; d) the State of the Operator; e) any other State which provided relevant information; and f) ICAO.	No change	
SP A202	For the purpose of providing life support for aquatic animals during transport, the appropriate authority of the <u>States of Origin</u> , of Destination and of the Operator may approve the carriage of a cylinder containing oxygen compressed, UN 1072, with the valve(s) open to supply a controlled quantity of oxygen through a regulator into water containing the aquatic animals. The cylinder or cylinder valve must be fitted with a self-sealing device to prevent uncontrolled release of oxygen should the regulator malfunction or be broken or damaged. The oxygen cylinder must meet those parts of Packing Instruction 200 which apply, except for the need for valves to be closed. In addition, the following conditions apply as a minimum:	No change	