**COMMITTEE OF EXPERTS ON THE TRANSPORT OF DANGEROUS GOODS AND ON THE GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS**

**Sub-Committee of Experts on the Transport of Dangerous Goods**

# REPORT OF THE SUB-COMMITTEE OF EXPERTS ON ITS TWENTIETH SESSION

**(Geneva, 1-10 July 2002)**

## Report of the Working Group on Additional Provisions for the Transport of Gases

### General

1. The Working Group on Additional Provisions for the Transport of Gases met from 1 July to 3 July 2002 under the chairmanship of Mr. H. Puype (EIGA). Representatives of, Canada, France, Germany, Sweden, Switzerland, the United Kingdom, the United States of America, ISO, AEGPL, CGA, and EIGA participated.

2. The objective of the Working Group was to review the following documents: the base text in ST/SG/AC.10/C.3/40/Add.1; new proposals, 2002/36 (United States of America), 2002/37 (Canada) and informal documents INF.36 (CGA), INF. 38 (ISO), INF.43 (United Kingdom), INF.46 (EIGA), INF. 49 (Secretariat) and a paper (no numbers) from United States of America. Also, the paper on the definition of flammable gases (2002/53 (EIGA)) was introduced.

3. The annex to this report gives the text agreed by the Working Group. It is based on the ST/SG/AC.10/C.3/40/Add.1 and on the amended Canadian proposal on periodic inspection (2002/7) . Changes from the text in the twelfth revised edition of the Recommendations on the Transport of Dangerous Goods, Model Regulations, are shown by underlining of new text.

2002/36 (USA)

4. Issues in this paper not dealt with later in the agenda were discussed. Several members of the working group did not see the need to have separate standards for LPG in the Model Regulations.

5. The ISO standard on pressure drums will not be ready for inclusion in this biennium. The Working Group noted that the ISO/TC 58 standard has a scope of up to 3000 litres capacity. Sweden pointed out that pressure drums above 1000 litres did exist and that a standard would be helpful for designers. An increase in the size of pressure drums would necessitate a review of the substances permitted in pressure drums in the P200. An eventual inclusion of this standard might limit its applicability in the Model Regulations to 1000 litres

6. The USA expressed appreciation for the work already accomplished in ISO TC 220 on transportable cryogenic equipment. The TC was asked to complete its design standards in time for inclusion in the 14th Revision of the Model Regulations.

Work on Filling Ratios in P200

7. The US DoT has placed a contract with NIST to review filling ratios for pure substances and to develop new formulae for mixtures. The consensus between CGA and DoT will be communicated to BAM and when they have reached an agreement, recommendations will be made to the Gases Working Group.

8. The US DoT is also sponsoring work on LC50 values and will provide any new information in due course.

INF. 36 (CGA)

9. The proposal to refer to the standards ISO 11119-1, -2 and -3 was accepted. After lengthy discussion on the life expectancy of these composite cylinders, it was agreed to add a provisional limitation to the life of these cylinders of 15 years. In the case of ISO 11119-1, this provision was placed in square brackets pending further review by the USA, which may lead to its deletion in December. The reference to ISO 11119-3 was placed in brackets pending its publication and further study by the USA.

10. Similarly, the standard ISO 11623: 2002 on the periodic inspection of composite cylinders was included in the referenced standards in square brackets pending further study by the USA which should lead to lifting of the brackets in December.

11. ISO was asked to consider marketing a CD ROM containing a package of the standards referenced in the UN Model Regulations. This would be helpful to regulators, inspection bodies and industry. Also, they were asked to consider providing electronic copies of Draft International Standards and Final Draft International Standards which were candidates for inclusion in the Model Regulations (on a restricted circulation) to assist the work of the Gases Working Group.

2002/37 (Canada) and INF. 43 (UK)

12. The Canadian proposal was recognised by the Working Group as a very good document which served as a base for discussion and further elaboration.

13. The proposal from the UK given in INF. 43 to amalgamate the texts for manufacturing inspection and periodic inspection bodies was provisionally set aside for future consideration, until the specific text in 2002/37 had been agreed. Technical considerations contained in INF. 43 were, however, taken into account.

14. A paper presented during the meeting by Switzerland raised issues and questions concerning the Canadian proposal on periodic inspection and test bodies. These were discussed at length during the examination of the text and led to some clarifications.

15. The Working Group realised that there were far too many national systems of delegation, approval and surveillance of periodic inspection and test bodies in place to enable the formulation of a single fully detailed system. Hence, the principle adopted was to leave the decisions on delegating the various functions up to the competent authorities as and if they see fit, without giving detailed prescriptions. Thus, the system accommodates the main existing approaches.

16. Given the similarity between the provisions for approval of inspection bodies and the periodic inspection and testing body, the UK will study the agreed text and consider whether to make a refined proposal to combine the relevant texts.

17. Discussion led to the proposal of minor changes to the existing text in 6.2.2.5 ***Conformity assessment system and approval for manufacture of pressure receptacles***

18. The Working Group believes that it has provided a framework to establish a reliable system of control for periodic inspection and test and likewise for the approval of manufacture of receptacles. Whilst these provisions allow transport of UN receptacles, further liberalisation to allow UN receptacles to be filled and used in any particular country other than the country of manufacture and periodic inspection will require mutual recognition agreements which are outside the scope of the Gases Working Group. The Working Group would welcome a debate amongst the competent authorities as to how such agreements could be facilitated.

INF. 46 (EIGA)

19. The proposal from EIGA for a pressure check midway between the 5 year periodic inspections was welcomed by the Working Group as a response to the little known safety problems associated with UN 1052 Hydrogen fluoride, anhydrous. Occasionally, and for unknown reasons, pressure build-up may occur due to the generation of hydrogen caused by a reaction between the substance and the steel of the receptacle which could, if unchecked, potentially lead to failure of the receptacle. Some reservations were expressed about the enforceability of EIGA's text, but it was added in square brackets pending better solutions at the next meeting. CGA agreed to further investigate this matter. The Secretariat will be consulted as to the appropriate position in the Model Regulations for this substance-related special packing provision; either in P200 or in Chapter 3.3.

20. Holding time has not hitherto been required for closed cryogenic receptacles, but the Working Group debated this in response to a query raised at the 20th Plenary Session. The debate concluded that it was neither practicable nor necessary to impose this new additional requirement on the design of closed cryogenic receptacles up to a capacity of 1000 litres.

21. The meaning of the text on the installation of a frangible disc was clarified by the insertion of 'may' to show that fitting is not mandatory, only an option to give sufficient discharge capacity. The square brackets around the setting of the frangible disc were lifted and the wording revised to avoid misunderstanding.

22. It was agreed to make an editorial change to assist the user by inserting in the P200 tables the ranges of $LC_{50}$ values for the toxic N.O.S. entries and also for UN 2600.

23. There was general support to drop the technical names required in special provision 274 for UN 1956 Compressed gas, N.O.S. and UN 3163 Liquefied gas, N.O.S. CGA suggested extending this derogation to the equivalent flammable entries. EIGA will make an official proposal.

24. The query on the $LC_{50}$ value for UN 3057 Trifluoroacetyl chloride was referred to experts for further investigation.

25. The requirement to provide pressure receptacles with the capability of being electrically earthed was placed in square brackets to enable experts to gather further information on the potential risks involved with full composite cylinders.

26. Editorial corrections proffered by Canada and EIGA were adopted.

INF.49 (Secretariat)

27. The editorial corrections proposed by the Secretariat related to gases were agreed with the exception of the suggestion concerning the fitting of pressure-relief devices to MEGCs (6.7.5.4.3). The latter suggestion would have changed the meaning of the requirement so that it no longer met the intention of the Working Group.

ST/SG/AC.10/C.3/40/Add.1

28. The text in this document still in square brackets was reviewed. This lead to a lengthy debate on the added value of a periodic inspection of closed cryogenic receptacles. It was agreed that such an inspection did not increase the level of safety of the equipment since the requirements imposed by the filling provisions cover similar, if not identical, checks on a routine basis. The text in brackets in Chapters 4.1 and 6.2 was accordingly deleted.

29. The experts agreed to lift the brackets in the stampmarking section, confirming the sequence proposed and adopted by ISO.

30. New wording was added to P 203 to clarify that its instructions referred to closed cryogenic receptacles and that open (pressureless) cryogenic receptacles conforming to the construction, testing and filling requirements approved by the competent authority are authorized.

2002/53 (EIGA)

31. EIGA hoped that its proposal to simplify the definition of flammable gases would avoid misinterpretation of the classification of ammonia according to the source of flammability ranges. The proposal would result in ammonia remaining in division 2.3, (8) with special provision 23.

Any other business

32. The expert from the USA pointed to an omission concerning high strength alloys in the ISO 7866 Seamless Aluminium Cylinders. He mentioned that the matter would either be handled satisfactorily in the relevant ISO working group or he would propose an additional restriction in the UN text.

---