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INLAND TRANSPORT COMMITTEE

Working Party on the Transport of Dangerous Goods
(Sixty-eighth session,
agenda item 4 (a),
Geneva, 5-19 May 2000)

PROPOSALS FOR AMENDMENTS TO ANNEXES A AND B OF ADR

Tank-vehicles

Report on the meeting of the informal Working Group on tank-vehicles

Transmitted by the Government of Germany

1. The informal Working Group on tank-vehicles (see TRANS/WP.15/159, para. 29) met in Berlin on 11 and 12 January 2000 to consider questions concerning the updating of Annex B to ADR.

2. The meeting was chaired by Mr. K. Ridder (Germany).

3. Representatives of the following countries participated: France, Germany, Italy, Netherlands, Poland, Portugal, Spain and the United Kingdom.

4. It was the aim of the meeting of the Working Group to have some in-depth discussions on the technical background of a number of questions which, owing to the proposals submitted by Germany, could not be solved at the sixty-seventh session of WP.15 in Geneva. It was intended to prepare decisions (some of them once again) to be taken on the German proposals at the sixty-eighth session in May 2000.

5. The main proposals put up for discussion were those that had been transmitted for the sixty-seventh session; they were included in documents:

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TRANS/WP.15/1999/49 and
TRANS/WP.15/1999/51.

Document TRANS/WP.15/1999/48 contained additional explanations relating thereto.

6. Mr. Ludwig (Germany) led the discussions on technical issues.

7. The discussions centred on document TRANS/WP.15/1999/51 dealing with “alternative arrangements”.

8. For the purposes of justification from the technical point of view, Mr Ludwig gave some explanations on the differences between the requirements for the minimum wall thicknesses of tank vehicles. Reductions of the wall thickness are basically permitted if compensating measures to protect the tank are provided at the same time. Reference to this is made in marginal 211 127 (3) and (4).

9. Marginal 211 127 (5)(b) gives four examples of measures designed to compensate for the reduction of the wall thickness, of which however only two actually serve the purpose of compensation: these are the measures described under item 2 (double walls, the space between being vacuated of air) and item 3 (double walls having an intermediate layer of solid materials).

10. The protective measures indicated in item 1 (strengthening members) and item 4 (longitudinal reinforcement) do not fully compensate for the permitted reduction of the wall thickness.

11. If the existing transport regulations are applied, this will inevitably result in the fact that there are different safety levels in the case of tanks with reduced wall thickness.

This opinion was shared by the participants.

12. Germany referred to the “alternative arrangements” included in the UN Recommendations and in the IMDG Code. An assessment of the safety provided by the solutions (in the sense of “alternative arrangements”) that are described there should be made by the competent authorities (discretionary decision).

13. The German proposal to incorporate these “alternative arrangements” in the provisions of ADR makes it necessary from the German point of view to develop a risk-oriented and safety-related method of assessment so that it will be possible to measure the compensation for certain safety-related tank elements (e.g. wall thickness) provided by other safety-related tank elements.

14. The Working Group recommended to put into practice this part of the proposal, that is to develop an assessment method (in the appendix to document 51, Germany only described such a method which was intended as a basic example without claiming that it should be considered as an integral part of the proposal); this should, however, be done independently of the decision to include “alternative arrangements” in ADR (by CEN/TC 296/WG 2, if appropriate).

15. A basic decision in the sense as mentioned above is however required in this connection. If WP.15 gives the green light for the amendment to ADR, there will be sufficient reason to carry out corresponding standardization work.

For this purpose, document TRANS/WP.15/1999/51 will have to be revised appropriately and submitted at the sixty-eighth session.

16. Mr. Ludwig gave an introduction into document 49 in connection with document 48 which comprised both the justification from the safety point of view with respect to the modification of the equivalence formula (cubic-root formula) and the deduction of the alternative (new) equivalence formula from the laws of engineering mechanics.

17. In this connection, reference was also made to the results of the Working Group meetings in the previous years as regards the equivalence formula. The participating countries did not come to an agreement. Mr. Ludwig emphasized that this was, in particular, due to economic considerations. A new cubic-root formula such as that suggested by Germany was not adopted.

18. At the end of the discussions, it remains to be said that the majority of the members of the Working Group considered the "equivalent wall thickness formula" suggested by Germany as applicable taking into account its results, that is the wall thicknessess derived from it for different metals.

19. Only the United Kingdom was not prepared to agree to the results of the discussions because the accidents occurring in the United Kingdom did not appear to require such amendment to ADR.

20. The Working Group, however, recommended that Germany change the justification in document TRANS/WP.15/1999/49, that is the excessive details given with respect to the technical background of the proposal would be unnecessary for the decision to be taken by WP.15.

21. Mr. Ludwig recommended to the Italian representative that, in view of the proposal for "alternative arrangements", document TRANS/WP.15/R.405 (polycentric tanks) should be combined with this proposal and, if appropriate, be assessed by CEN/TC 296/WG 2. At present, it will not be possible for WP.15 to decide on this paper because a decision is due to be taken on document 51, that is to say that Italy might defer R 405 for the time being.

22. Germany still does not consider it to be advisable to deal with the German proposal for the reinforcement of the rear tank end (rear impact protection) before a decision is taken on the proposals contained in documents TRANS/WP.15/1999/49 and TRANS/WP.15/1999/51.

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