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Working Party on the Transport of Dangerous Goods
(Seventy-sixth session, agenda item 6,
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SAFETY IN ROAD TUNNELS

Report of the ad-hoc ADR Expert Meeting on Dangerous Goods Groupings
for Road Tunnel Regulations
(Feldkirch, 12-14 May 2003)

Transmitted by the Government of Germany

ATTENDANCE

1. The ad-hoc ADR Expert Meeting on Dangerous Goods Groupings for Road Tunnel Regulations held a session in Feldkirch (Austria) from 12 to 14 May 2003. Experts from the following countries and organizations took part in its work: Austria, Finland, France, Germany; Netherlands; Norway, Portugal, Sweden, Switzerland, United Kingdom, the European Chemical Industry Council (CEFIC); the International Federation of Freight Forwarders Associations (FIATA) and the International Express Couriers Conference (IECC).

2. Mr. G. Kafka from Austria acted as Chairman for the meeting.

MANDATE OF THE EXPERT MEETING

3. The mandate given to the Expert Group by the Working Party (see TRANS/WP.15/172, para. 59) contained the following items:

- (a) To define in greater depth the substances and types of load (packages, bulk, tanks) to be included in each group, taking into account the OECD/PIARC criteria;

- (b) To introduce provisions explaining more clearly the meaning of the table;
- (c) Possibly to introduce these provisions into other sections, e.g. Part 8, so as to facilitate their implementation by drivers;
- (d) Possibly to provide the Working Party on Road Traffic Safety (WP.1) with a system of road signs and signals at the entrance to tunnels so as to enable the groups permitted in the tunnel to be identified;
- (e) To provide a system to allow checks, e.g. by vehicle marking, documentation, or otherwise.

WORKING DOCUMENTS

4. The deliberations were based on ADR 2003, the OECD/PIARC study on Transport of Dangerous Goods through Road Tunnels and document TRANS/WP.15/2002/21 from Austria as well as written comments and proposals submitted in advance by Finland and Norway, and during the meeting by the Netherlands and Switzerland.

GENERAL DEBATE

5. The Chairman referred to the history and present status of the issue of Dangerous Goods Groupings for Road Tunnel Regulations addressing in particular Chapter 1.9 of the ADR, the OECD / PIARC study, the recommendations of the Ad hoc Multidisciplinary Group of Experts on Safety in Tunnels (AC.7) and the ongoing work on the EU Commission's proposal for a Directive on Minimum Safety Requirements for Tunnels in the Trans-European Road Network. He reviewed document TRANS/WP.15/2002/21 and underlined its two main intentions, namely to implement, in an updated form, the system of Dangerous Goods Groupings recommended in the OECD / PIARC study and to promote a minimum degree of harmonization with regard to the types of dangerous goods subject to national tunnel regulations in the framework of Chapter 1.9 of ADR.

6. The expert from Finland, in her document, asked several general questions. As to the question about the relationship of the OECD/PIARC models [Quantitative Risk Assessment Model (QRAM) and Decision Support Model (DMS)] to the risk analysis and categories of tunnels (I-V) proposed in the EU directive, it was pointed out that there is no direct relationship of these Models to the categories (equipment classes) in Annex I of the draft directive. The Chairman also informed the meeting that it is not yet clear whether or not these provisions of the Annex I in the Commission Draft will be replaced by those of an alternative Annex I proposed by Austria, France, Germany and Italy which does not link measures to equipment classes but specifies measures applicable for all tunnels and others applicable only to tunnels with certain characteristics.

7. The consequence of the application of the OECD/PIARC models, which should be generally available shortly, would be a classification of tunnels only with regard to restrictions on the passage of transport units carrying dangerous goods. Therefore, the answer to the second question posed by Finland, whether the risk analyses according to OECD and PIARC are

recommended to be done before using the table proposed by Austria, is affirmative. The regulations, in which it is stated which dangerous goods grouping (A-E) are allowed to be transported in different kind of tunnels, would always be the national regulations covered by Chapter 1.9 of the ADR. However, these national regulations could, in future, be based on the dangerous goods groupings appearing in Chapter 1.9. Carriers of dangerous goods would then know from Chapter 1.9 which dangerous goods belong to certain dangerous goods groupings referred to in national tunnel regulations. An indication of the relevant grouping for a tunnel on a road sign and/or additional panel would give support to the implementation of such national regulations.

8. The meeting noted the importance to carriers of the ready availability of information on local transport conditions, as required in section 1.9.3. It was hoped that the UNECE website could provide links to the sources of such information.

9. The expert from Switzerland regretted that the groupings recommended did not cover the possibility of banning dangerous goods below the threshold of grouping E.

DEFINITION OF SUBSTANCES AND TYPES OF LOAD TO BE INCLUDED IN EACH GROUP

10. The meeting carefully examined the table from OECD/PIARC as developed in the Austrian proposal and finally agreed on a comprehensively revised version, whilst maintaining the principles of the OECD/PIARC grouping system based on accident scenarios (see annex).

INTRODUCTION OF EXPLANATORY PROVISIONS TO THE TABLE

11. In the proposal from Austria, explanations to the table were given in two "NOTES" and the table was preceded by an introductory sentence. Both were revised (see annex).

INTRODUCTION OF THE PROVISIONS REFERRING TO THE TABLE IN OTHER PARTS E.G. PART 8

12. There was agreement among the experts that Chapter 1.9 was the right place for the table. It could be envisaged to add new provisions in Part 8 in order to make carriers and drivers more aware of the provisions in Chapter 1.9. However, in order to pursue such an approach written proposals to WP15 would be necessary.

RECOMMENDATION FOR WP.1 ON ROAD SIGNS AND SIGNALS AT THE ENTRANCE TO TUNNELS

13. It was recalled that prohibition of entry for vehicles carrying dangerous goods can be expressed by the signs C 3h, C 3m or C 3n covered by the Vienna Convention on Road Signs and Signals and the European Agreement supplementing that Convention. This signing is also mentioned in Annex III, 2.1 of the draft Directive on Minimum Safety Requirements for Tunnels in the Trans-European Road Network. A new sign and/or additional plate containing one of the capital letters A, B, C, D or E on an orange background could express the scope of the prohibition or restriction with regard to the dangerous goods concerned. Since the issue is

connected to the ongoing work in Geneva (WP1) and in Brussels (tunnel safety directive), no explicit recommendation for a standardized additional plate was to be made at present.

PROVISIONS IN SUPPORT FOR CHECKS E.G. VEHICLE MARKING, DOCUMENTATION OR OTHERWISE

14. The majority of the experts could not imagine any practical provisions in this regard.

ADOPTION OF THE REPORT

15. The Expert Meeting adopted the report and its annexes.

Annex

Draft text proposed by the Expert Meeting for introduction into chapter 1.9

Renumber existing section 1.9.4 as 1.9.5 and insert a new section 1.9.4 as follows:

"1.9.4 Where additional provisions concerning carriage of dangerous goods through road tunnels, in accordance with 1.9.3 (a), are applied, reference [shall] be made to the groupings of dangerous goods loadings in the table in 1.9.4.1.

1.9.4.1 <TABLE>

NOTE 1: The groupings in this table are based on accident scenarios modelled for the purposes of the joint OECD/PIARC Report on the Transport of Dangerous Goods through Road Tunnels (ITRD number: E 110101). A quantitative risk assessment model and decision support model are proposed in the Report to determine the groupings.

NOTE 2: The table reads across with the least restrictive grouping A to the most restrictive grouping E.

1.9.4.2 Where a transport unit carries dangerous goods of more than one class, the most restrictive grouping shall apply to the whole load. When a transport unit carries dangerous goods below the transport category thresholds of sub-section 1.1.3.6, the most restrictive grouping shall apply to the whole load after application of the provisions of 1.1.3.6.4 and 1.1.3.6.5. Empty uncleaned tanks/tank containers shall be treated as if full or part full."

Class	Groupings (see NOTES 1 and 2)				
	A	B	C	D	E
1	Unrestricted	Restricted for <ul style="list-style-type: none"> • Divisions 1.1, 1.2 and 1.5 above [1000] kg maximum permissible net mass of explosives and • explosives belonging to compatibility groups A, K and L, above ADR subsection 1.1.3.6 threshold 	Restricted for <ul style="list-style-type: none"> • Divisions 1.1, 1.2 and 1.5 above ADR subsection 1.1.3.6 threshold • division 1.3 above [5000] kg maximum permissible net mass of explosives and • explosives belonging to compatibility groups A, H, J, K and L above ADR subsection 1.1.3.6 threshold 	Restricted for <ul style="list-style-type: none"> • Divisions 1.1, 1.2, 1.3 and 1.5 above ADR subsection 1.1.3.6 threshold • explosives belonging to compatibility groups A, H, J, K and L above ADR subsection 1.1.3.6 threshold 	Restricted for <ul style="list-style-type: none"> • goods of this class above ADR subsection 1.1.3.6 threshold
2	Unrestricted	Restricted for <ul style="list-style-type: none"> • flammable gases (classification codes F, TF and TFC) in tanks 	Restricted for <ul style="list-style-type: none"> • loadings in grouping B and • toxic gases (classification codes T, TC, TO and TOC) in tanks 	Restricted for <ul style="list-style-type: none"> • loadings in grouping C and • flammable and toxic gases (classification codes F, FC, T, TC, TF, TO, TFC and TOC) in packages above ADR subsection 1.1.3.6 threshold 	Restricted for <ul style="list-style-type: none"> • goods of this class above ADR subsection 1.1.3.6 threshold
3	Unrestricted	Restricted for <ul style="list-style-type: none"> • classification code D [UN numbers XXXX] above ADR subsection 1.1.3.6 threshold 	Restricted for <ul style="list-style-type: none"> • loadings in grouping B • PG I of classification code FC and FTC in tanks 	Restricted for <ul style="list-style-type: none"> • loadings in grouping C and • PG I and II in tanks and • classification code F2 in tanks 	Restricted for <ul style="list-style-type: none"> • goods of this class above ADR subsection 1.1.3.6 threshold

Class	Groupings (see NOTES 1 and 2)				
	A	B	C	D	E
4.1	Unrestricted	Restricted for <ul style="list-style-type: none"> classification code D, DT [UN numbers XXXX] above ADR subsection 1.1.3.6 threshold self-reactive substances Type B [UN 3221, 3222, 3231 and 3232] above ADR subsection 1.1.3.6 threshold 	Restricted for <ul style="list-style-type: none"> loadings in grouping B 	Restricted for <ul style="list-style-type: none"> loadings in grouping C and self-reactive substances of Type C to F above ADR subsection 1.1.3.6 threshold [related substances to self-reactive substances above ADR subsection 1.1.3.6 threshold] 	Restricted for <ul style="list-style-type: none"> goods of this class above ADR subsection 1.1.3.6 threshold
4.2	Unrestricted	Restricted for <ul style="list-style-type: none"> PG I in tanks 	Restricted for <ul style="list-style-type: none"> loadings in grouping B 	Restricted for <ul style="list-style-type: none"> loadings in grouping C [PG II in bulk/tanks] 	Restricted for goods of this class above ADR subsection 1.1.3.6 threshold
4.3	Unrestricted	Restricted for <ul style="list-style-type: none"> PG I in tanks 	Restricted for <ul style="list-style-type: none"> loadings in grouping B 	Restricted for <ul style="list-style-type: none"> loadings in grouping C and [PG II in bulk/tanks] 	Restricted for goods of this class above ADR subsection 1.1.3.6 threshold
5.1	Unrestricted	Restricted for <ul style="list-style-type: none"> PG I in tanks 	Restricted for <ul style="list-style-type: none"> loadings in grouping B 	Restricted for <ul style="list-style-type: none"> loadings in grouping C 	Restricted for goods of this class above ADR subsection 1.1.3.6 threshold
5.2	Unrestricted	Restricted for <ul style="list-style-type: none"> Type B [UN 3101, 3102, 3111 and 3112] above ADR subsection 1.1.3.6 threshold 	Restricted for <ul style="list-style-type: none"> loadings in grouping B 	Restricted for <ul style="list-style-type: none"> goods of this class above ADR subsection 1.1.3.6 threshold 	Restricted for <ul style="list-style-type: none"> goods of this class above ADR subsection 1.1.3.6 threshold

Class	Groupings (see NOTES 1 and 2)				
	A	B	C	D	E
6.1	Unrestricted	Unrestricted	Restricted for <ul style="list-style-type: none"> PG I of classification codes TF1 and TFC in tanks 	Restricted for <ul style="list-style-type: none"> loadings in grouping C PG I of classification codes TF2 and TW1 in tanks PG I of classification codes TF1 and TFC in packages above ADR subsection 1.1.3.6 threshold PG II of classification codes TF1, TF2, TFC and TW1 in tanks 	Restricted for <ul style="list-style-type: none"> goods of this class above ADR subsection 1.1.3.6 threshold
6.2	Unrestricted	Unrestricted	Unrestricted	Unrestricted	Restricted for <ul style="list-style-type: none"> UN 2814 and 2900 above ADR subsection 1.1.3.6 threshold.
7	Unrestricted	Unrestricted	Restricted for <ul style="list-style-type: none"> UN 2977 and 2978 	Restricted for <ul style="list-style-type: none"> loadings in grouping C 	Restricted for goods of this class above ADR subsection 1.1.3.6 threshold
8	Unrestricted	Unrestricted	Restricted for <ul style="list-style-type: none"> PG I of classification code CT1 in tanks 	Restricted for <ul style="list-style-type: none"> loadings in grouping C and PG I of classification codes CF1, CFT and CW1 in tanks PG I of classification code CT1 in packages above ADR subsection 1.1.3.6 threshold 	Restricted for <ul style="list-style-type: none"> goods of this class above ADR subsection 1.1.3.6 threshold

Class	Groupings (see NOTES 1 and 2)				
	A	B	C	D	E
9	Unrestricted	Unrestricted	Unrestricted	Restricted for <ul style="list-style-type: none">• classification code M2 (UN 2315, 3151 and 3152) in tanks• classification code M3 (UN 2211 and 3314) in bulk/tanks• classification code M10 (UN 3258)	Restricted for <ul style="list-style-type: none">• goods of this class above ADR subsection 1.1.3.6 threshold
