

ECONOMIC COMMISSION FOR EUROPE

INLAND TRANSPORT COMMITTEE

Working Party on the Transport of Dangerous Goods

(Seventy-eighth session, agenda item 7, Geneva, 9-13 May 2005)

SAFETY IN ROAD TUNNELS

Editorial comments on the consolidated text in Report TRANS/WP.15/181

Transmitted by the Government of the Netherlands

In document TRANS/WP.15/2005/8 the Netherlands has raised some substantial issues to improve the provisions regarding safety in road tunnels.

During further discussion on this subject in the Netherlands, concern has been expressed about the complexity of the proposal as it is in TRANS/WP.15/181.

In our opinion the text could be improved by redefining the 5 categories of tunnels by indicating for each tunnel which substances are forbidden. The advantage of this approach is that the hierarchy of groups of substances, which makes the proposal so complex, would disappear.

Moreover, we think that it would be recommendable to place the text in a new Chapter 8.6., except for a small piece of text in Chapter 1.9.. Placing the categorisation of tunnels in Part 2 does not seem to be appropriate for a categorisation of tunnels, because Part 2 concerns the classification of substances and therefore has a multi-modal character, whereas tunnel requirements are specific for road transport. For that reason it would be preferable to include this part in a new chapter in Part 8.

These ideas are elaborated in the annex to this INF document. They do not contain substantial changes to the categorisation system itself. In case the WP.15. would consider this to be an issue which should be presented in a formal document, the Netherlands would be willing to present that for the October session.

We would like to note that despite these editorial changes the tunnel provisions remain very complex. We fear serious problems with the enforcement and compliance of the requirements. Therefore we would suggest to carry out an evaluation when the provisions have been in force during two years.

Another proposal refers to an issue of inconsistency: in document TRANS/WP.15/181: in grouping C 5000 it is indicated that compatibility groups C and G are excepted and in column 15 of Table A the C 5000 is assigned to division 1.3 compatibility groups C and G. In our view there should be a restriction to 5000 kg for these groups of substances in grouping C in accordance with the indication in Table A.

Amendments in the text are indicated in bold. Many paragraphs have been renumbered. The "old" paragraph numbers in doc. TRANS/WP.15/181 are indicated in square brackets.

Annex

ALTERNATIVE TEXT AMENDMENTS TO ANNEXES A AND B OF ADR ADOPTED FOR ENTRY INTO FORCE ON 1 JANUARY 2007

PART 1

Chapter 1.9

Add the following paragraphs 1.9.5 to 1.9.5.7:

“1.9.5 Tunnel restrictions

- 1.9.5.1 When applying traffic restrictions to road tunnels in accordance with 1.9.3 (a), Contracting Parties shall indicate such restrictions by means of signs and signals. Road signs and signals are described in the Convention on Road Signs and Signals (Vienna, 1968) and the European Agreement supplementing the Convention on Road Signs and Signals (Geneva, 1971) [as interpreted by the Resolution on Road Signs and Signals (R.E.2) of the UNECE Inland Transport Committee’s Principal Working Party on Road Transport, as amended. (See also Chapter 8.6).]
- 1.9.5.2 Such restrictions shall also be published officially and made publicly available.
- 1.9.5.3 In order to facilitate international understanding of signs, the system of signs and signals prescribed in the Vienna Convention is based on the use of shapes, and colours characteristic of each class of signs and wherever possible, on the use of graphic symbols rather than inscriptions. Where Contracting Parties consider it necessary to modify the signs and symbols prescribed, the modifications made shall not alter their essential characteristics. Where Contracting Parties do not apply the Vienna Convention, the prescribed signs and symbols may be modified, provided that the modifications made shall not alter their essential intent.
- 1.9.5.4 When access to tunnels is restricted to specific **substances** as defined in Chapter **8.6** [2.4] signs shall be displayed with or without additional panels bearing letters B, C or D as appropriate for application in accordance with **8.6.4** [8.6.2].
- 1.9.5.5 When Contracting Parties apply specific operating measures designed to reduce the risks and related to some or all vehicles using tunnels, such as declaration before entering or passage in convoys escorted by accompanying vehicles, such operating measures shall be published officially and made publicly available.
- 1.9.5.6 Traffic signs and signals intended to prohibit access of vehicles carrying dangerous goods to road tunnels shall be accompanied with, or preceded by, signs and signals indicating or prescribing alternative itineraries.

1.9.5.7 Tunnel restrictions shall not apply to vehicles carrying dangerous goods in accordance with 1.1.3.6.”

(Reference document: TRANS/WP.15/179/Add.1, appendix, as amended)

Chapter 8.6

Add a new Chapter 8.6 to read as follows:

“CHAPTER 8.6

ROAD TUNNEL RESTRICTIONS FOR THE PASSAGE OF VEHICLES CARRYING DANGEROUS GOODS

8.6.1 General provisions

8.6.1.1 [8.6.1] [In accordance with 1.9.3 (a), Contracting Parties may decide to restrict the circulation of vehicles carrying dangerous goods in tunnels.]

8.6.1.2 [8.6.2] **For the purpose of passage of vehicles carrying dangerous goods, road tunnels are divided in five categories. Depending on the tunnel characteristics, the transport of dangerous goods may be restricted.**

8.6.1.3 [2.4.2] **The categorisation** is based on the assumption that in tunnels there are three major dangers which may cause numerous victims and possibly serious damage to the tunnel structure:

- (a) Explosions;
- (b) Release of toxic gas or volatile toxic liquid;
- (c) Fires.

8.6.1.4 [2.4.6] **The prohibition of dangerous goods for carriage in** a tunnel category is based on the intrinsic dangerous properties of the dangerous goods carried, the type of containment and the quantity carried per transport unit.

[Note: Reference to OECD/PIARC work ?]

8.6.2 Tunnel categories.

8.6.2.1 Tunnels shall be divided into 5 categories as follows:

Tunnel A: No restrictions for the transport of dangerous goods.

Tunnel B: Restriction for dangerous goods which may lead to a very large explosion;

Tunnel C: Restriction for dangerous goods which may lead to a very large explosion, a large explosion or a large toxic release.

Tunnel D: Restriction for dangerous goods which may lead to a very large explosion, to a large explosion or a large toxic release and to a large fire.

Tunnel E: Restriction for all dangerous goods other than UN Nos. 2919, 3291, 3331 and 3373.

8.6.2.2 [2.4.4] Dangerous goods exempted in accordance with 1.1.3.2 to 1.1.3.5 are not subject to the tunnel restrictions.

8.6.2.3 [2.4.5] When the quantity carried on board a transport unit is such that the provisions of 1.1.3.6.2 apply the carriage is not subject to the tunnel restrictions.

8.6.3 Restrictions for the transport of dangerous goods through tunnels.

8.6.3.1 [2.4.8] Substances forbidden in tunnel categories are indicated by tunnel codes B, B1000, B1, C, C5000, C1, D or D1 in Column (15) of Table A of Chapter 3.2 as follows:

Tunnel A

No restrictions.

Tunnel B

Categories of dangerous goods prohibited through a Tunnel B:

B	Class 1: Compatibility groups A and L; Class 3: Classification code D (UN Nos. 1204, 2059, 3064, 3343, 3357, 3379); Class 4.1: Classification codes D or DT; Self-reactive substances, type B (UN Nos. 3221, 3222, 3231, 3232); Class 5.2: Organic peroxides type B (UN Nos. 3101, 3102, 3111, 3112).
B 1000	Dangerous goods of Divisions 1.1, 1.2 and 1.5 (except compatibility groups A and L), when the total net explosive mass per transport unit is greater than 1,000 kg.
B1	When carried in tanks, dangerous goods of: Class 2: Classification codes F, TF and TFC; Class 4.2: Packing Group I; Class 4.3: Packing Group I; Class 5.1: Packing Group I.

Tunnel C

Categories of dangerous goods prohibited through a Tunnel C:
Dangerous goods prohibited through a tunnel B and in addition:

- C Class 1: Division 1.1, 1.2, 1.5 (except compatibility groups A and L);
 Class 1: Compatibility groups H and J;
 Class 7: UN Nos. 2977, 2978.
- C 5000 Dangerous goods of Division 1.3 (except compatibility groups C and G), when the net explosive mass per transport unit is greater than 5,000 kg.
- C1 When carried in tanks, dangerous goods of:
 Class 2: Classification codes T, TC, TO, TOC;
 Class 3: Packing Group I of classification code FC and FTC;
 Class 6.1: Packing Group I of classification codes TF1 and TFC;
 Class 8: Packing Group I of classification code CT1.

Tunnel D

Categories of dangerous goods prohibited through a Tunnel D:
 Dangerous goods prohibited through a tunnel C and in addition:

- D Dangerous goods of:
 Class 2: Classification codes F, FC, T, TC, TP, TFC, TOC;
 Class 4.1: Self-reactive substances, types C, D, E, F, and UN Nos. 2956, 3241, 3242, 3251;
 Class 5.2: Organic peroxides, type C, D, E, F;
 Class 6.1: Packing Group I of classification code TF1 and TFC;
 Class 8: Packing Group I of Classification code CTI;
 Class 9: Classification code M10 (UN 3258).
- D1 When carried in bulk or in tanks dangerous goods of:
 Class 3: Packing Group I or II or classification code F2;
 Class 4.2: Packing Group II;
 Class 4.3: Packing Group II;
 Class 6.1: Packing Group I of classification codes TF2 and TW1;
 Packing Group II of classification codes TF1, TF2, TFC and TW1;
 Class 8: Packing Group I of classification codes CF1, CFT and CW1;
 Class 9: Classification codes M2 and M3.

Tunnel E

Categories of dangerous goods prohibited through a Tunnel E:
 Dangerous goods prohibited through a tunnel D and in addition:

All dangerous goods, except UN Nos. 2919, 3291, 3331 and 3373.

8.6.3.2. [2.4.10] **No Restrictions.** UN 3291 CLINICAL WASTE, UNSPECIFIED, N.O.S. or (BIO)MEDICAL WASTE, N.O.S. or REGULATED MEDICAL WASTE, N.O.S. and UN 3373 DIAGNOSTIC SPECIMENS are not subject to any tunnel restriction. UN Nos. 2919 and 3331 are subject to carriage under special arrangement approved by the competent authority.”

8.6.4 **Signalisation of tunnels** **[special] provisions concerning traffic** **restrictions in tunnels**

8.6.4.1 [8.6.1] If Contracting Parties decide to restrict the circulation of vehicles carrying dangerous goods in tunnels, they may use signs C, 3h and D, 10a, 10b and 10c and signals according to the Vienna Convention on Road Signs and Signals (Vienna, 1968) and the European Agreement supplementing the Convention on Road Signs and Signals (Geneva, 1971) in accordance with 1.9.5.1, or equivalent signs and signals in accordance with 1.9.5.3.

[8.6.4.2 [8.6.2] The signs prohibiting the access of vehicles to road tunnels or indicating or prescribing alternative itineraries may appear with or without additional panels bearing letters B, C or D.

8.6.4.3 [8.6.3] **Signalisation of tunnel categories**

Tunnel A: no sign, no restriction

Tunnel B: sign according to 8.6.4.1 [8.6.1] with an additional panel bearing the letter B

Tunnel C: sign according to 8.6.4.1 [8.6.1] with an additional panel bearing the letter C

Tunnel D: sign according to 8.6.4.1 [8.6.1] with an additional panel bearing the letter D

Tunnel B: sign according to 8.6.4.1 [8.6.1] without an additional panel.

”

(Reference Document: TRANS/WP.15/179/Add.1, appendix as amended).

(Reference Document: TRANS/WP.15/179/Add.1, appendix, as amended)

PART 3

Chapter 3.2

3.2.1 Explanations for Column (15): Amend to read as follows:

“‘Transport category/Tunnel code’

Contains at the top of the cell a figure indicating the transport category to which the substance or article is assigned for the purposes of exemption related to quantities carried per transport unit (see 1.1.3.6).

Contains at the bottom of the cell the code(s) (between brackets) **indicating that the substance or article is forbidden for carriage in specific tunnel categories (see 1.9.5 and Chapters 8.6 [2.4]).** When no tunnel group code has been assigned, this is indicated by the mention ‘(-)’.

When two codes are indicated, the applicable one is the one corresponding to the conditions of carriage, e.g. (B1000, C) indicates that the **substance or article is forbidden for carriage in a tunnel of category B** if the total net explosive mass on board of the transport unit is greater than 1,000 kg, otherwise **the substance is forbidden for carriage in tunnel category C.** (C1, D) means that the **substance**

is forbidden for carriage in a tunnel of category C if the substance is carried in tanks, otherwise the substance is forbidden for carriage in tunnel category D.

NOTE. *[Remark: reason for this note is userfriendliness]*

If in the table tunnel codes are indicated it means that there is a restriction for the passage of transport units in tunnel categories A,B,C,D or E as follows:

Tunnel codes	Forbidden in tunnels of category	Signalisation of the tunnel
B B1000 B1	B, C, D and E	Sign according to 8.6.4.1 with additional letter B
C C 5000 C 1	C, D and E	Sign according to 8.6.4.1 with additional letter C
D D 1	D and E	Sign according to 8.6.4.1 with additional letter D
E	E	Sign according to 8.6.4.1 without an additional letter

Table A: Amend the heading of Column (15) to read:

“Transport category
(Tunnel code)
1.1.3.6
(8.6 [2.4])”.

Table A, Column (15): Add, between brackets, the tunnel code(s) **indicating that the substance or article is forbidden for carriage in specific tunnel categories.**

Class 1:	Division 1.1 compatibility groups A and L	(B)
Class 1:	Division 1.1 compatibility groups B, C, D, E, F, G and J	(B1000, C)
Class 1:	Division 1.2 compatibility group L	(B)
Class 1:	Division 1.2 compatibility groups B, C, D, E, F, G, H and J	(B1000, C)
Class 1:	Division 1.3 compatibility group L	(B)
Class 1:	Division 1.3 compatibility groups H and J	(C)
Class 1:	Division 1.3 compatibility groups C and G	(C5000)
Class 1:	Division 1.4	(E)
Class 1:	Division 1.5, compatibility group D	(B1000, C)
Class 1:	Division 1.6	(E)
Class 1:	UN No. 0190	(E)
Class 2:	Classification codes with letters: F, TF, TFC, FC	(B1, D) (D)
	T, TC, TO, TOC	(C1, D)
	A, O	(E)

Class 3:	Classification code D	(B)
	Packing Group I, classification code FC, FTC	(C1, E)
	Packing Groups I and II, classification code F2	(D1, E)
	Others	(E)
Class 4.1:	Classification codes D and DT	(B)
	UN Nos. 3221, 3222, 3231, 3232	(B)
	Self-reactive substances, types C, D, E, F	(D)
	UN Nos. 2956, 3241, 3242, 3251	(D)
	Others	(E)
Class 4.2:	Packing Group I	(B1, E)
	Packing Group II	(D1, E)
	Others	(E)
Class 4.3:	Packing Group I	(B1, E)
	Packing Group II	(D1, E)
	Others	(E)
Class 5.1:	Packing Group I	(B1, E)
	Others	(E)
Class 5.2:	Type B	(B)
	Types C, D, E, F	(D)
Class 6.1:	Packing Group I of classification codes TF1, TFC	(C1, D)
	Packing Group I of classification codes TF2	
	and TW1	(D1, E)
	Packing Group II of classification codes TF1, TF2,	
	TFC and TW1	(D1, E)
	Others	(E)
Class 6.2	UN Nos. 2814 and 2900	(E)
Class 7	UN Nos. 2977, 2978	(C)
	Others except UN Nos. 2919 and 3331	(E)
Class 8:	Packing Group I of classification code CTI	(C1, D)
	Packing Group I of classification codes CF1, CFT,	
	and CW1	(D1, E)
	Others	(E)
Class 9:	Classification codes M2, M3	(D1, E)
	M10	(D)
	Others	(E)

(Reference Document: TRANS/WP.15/179/Add.1, appendix, as amended).
