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ECONOMIC COMMISSION FOR EUROPE

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Ad hoc Multidisciplinary Group of Experts
on Safety in Tunnels
(Second session, 10-11 October 2000)

FRENCH PROPOSALS ON MATTERS TO BE CONSIDERED

Transmitted by the delegation of France

The table on the following pages gives a list of subjects concerning safety in road tunnels which the French delegation would like to see discussed by the Multidisciplinary Group of Experts on Safety in Tunnels which has just been established by the United Nations Economic Commission for Europe. The subjects considered to be of greatest importance have one or more asterisks (*) against them.

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The work of the Group of Experts could lead to the following results ("Follow-up" in the table):

- Recommendations for amendments to the Vienna Conventions on Road Traffic and Road Signs;
- Recommendations for amendments to the European Agreement on Main International Traffic Arteries (AGR);
- Recommendations for amendments to the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR);

- Recommendations for amendments to the regulations on the construction of vehicles (“RV” in the table);
- Proposal for a resolution on all points which do not directly come under ECE-managed agreements or regulations.

Other abbreviations:

Ref.	Document from which the measure in the table is taken or on which it is based
MB	Recommendation of the Joint Report of the French and Italian Task Forces on the fire in the Mont Blanc Tunnel (30 June 1999)
Ofrou	Final report (23 May 2000) of the Federal Road Bureau of Switzerland
OECD/PIARC	Joint OECD/PIARC project on the carriage of dangerous goods in road tunnels (final report scheduled for autumn 2000)
Circ. Sécurité	Draft French circular on safety in road tunnels
IT	Draft French technical instruction on provisions for safety in road tunnels
Reco	Recommendation
CEN/ISO	European Committee for Standardization/International Organization for Standardization
Lausanne	PIARC/ITA seminar of 23 and 24 March 2000 (informal document No. 2)

1. TRAFFIC REGULATIONS AND USER BEHAVIOUR	Ref.	Follow-up
1.1. Harmonization of signs and signals (or information as the case requires) for safety devices in tunnels *** Concerns: lay-bys, emergency exits (including shelters), extinguishers, telephones, radio frequencies on which safety information can be transmitted		Vienna Convention
1.2. Harmonization of desired behaviour of tunnel users in the event of a breakdown, an accident or a fire *** and implementation through driver training (driving permit, continuous training for heavy vehicle drivers) and information campaigns	MB 35 Ofrou 1.1, 1.2, 1.4	Vienna Convention Resolution

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| 1.3. Spacing of vehicles in tunnels where this is realistic and can be monitored
Concerns long non-urban tunnels, particularly two-way tunnels
Involves information for drivers and a monitoring system | MB 22 | Vienna
Convention
Resolution |
| 1.4. Monitoring compliance with traffic regulations and punishment of offences in long tunnels (in particular, through the use of automatic systems) | MB 23 | Vienna
Convention
Resolution |
| 1.5. At the entrance to large tunnels, user information on the equipment available and proper conduct | MB 36 | Resolution |
| 2. OPERATION | | |
| 2.1. Emergency plans ***
To include the response of all the services concerned | MB 30,
32 | Vienna
Convention
AGR
Resolution |
| 2.2. Single control centre *
In any kind of tunnel, even if it is international | MB 10 | AGR
Resolution |
| 2.3. Training (initial and continuing) of operating personnel and holding of drills at regular intervals ** | MB 27, 34
IT 5 | Resolution |
| 2.4. Taking stock of experience of significant accidents and fires **
Systematic collection of data to be made available internationally | Circ.
Sécurité
IT 5
Ofrou 2.5 | Resolution |
| 2.5. Inspection (or automatic check) of heavy vehicles at the entrance to long tunnels when the level of risk so justifies
Concerns long non-urban tunnels, particularly two-way tunnels | MB 24
Ofrou 1.3 | Resolution |
| 2.6. Presence of emergency response teams at the two extremities of long two-way tunnels with heavy traffic | MB 29,
IT 5 | Resolution |
| 2.7. Inspections at several year intervals of the state of installations and the quality of operation, and at longer intervals of the overall level of safety, by an expert or commission independent of the operator | Circ.
Sécurité | Resolution |

3. INFRASTRUCTURE

- 3.1. Harmonization of the types of safety equipment available to users (extinguishers, telephones, radio communications)**** AGR
- 3.2. Installation of devices (signs and signals and others, if necessary), so that users can be stopped:** MB 16 AGR Resolution
- at the tunnel entrance **
 - in long tunnels, at regular intervals inside the tunnel
- In addition to signs and signals, these devices may include variable message signs (VMS), radio messages, remote-controlled barriers at the entrances, etc.
- 3.3. Need for exits to evacuate users and to permit access of the emergency services **** MB 19, 20 AGR
- Depending on the case, a choice between several possibilities (in decreasing order of the service rendered): direct communication with the outside, communication between bores, safety tunnel, shelters accessible from the outside)
- 3.4. Need for safety equipment in keeping with the characteristics of the tunnel and its traffic*** IT PIARC AGR
- This could be the subject of lengthy developments (cf. IT or PIARC), but it would probably be more appropriate to keep to the principles set out in AGR
- 3.5. Design of electrical, measurement and control circuits so that a local fault (due to a fire, for example) does not lead to the loss of the circuits not affected** MB 14 AGR? Resolution
- 3.6. Introduction into European and international standardization of an additional time-temperature curve, representative of a violent fire in a tunnel, so as to ensure adequate resistance to fire of structures which it is indispensable to maintain intact for safety purposes** PIARC ITA IT Resolution (concerns CEN and/or ISO)

4. TRANSPORT OF DANGEROUS GOODS

- 4.1. Creation of five dangerous goods cargo groups which will be used to regulate the authorization of the transport of dangerous goods in road tunnels ***** OECD/PIARC ADR
- This is the basis for the harmonization of regulations recommended by the OECD/PIARC project

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| 4.2. | Creation of five signs to be placed at tunnel entrances prescribing the transport of prohibited or permitted dangerous goods with reference to the five dangerous goods cargo groups to be created *** | OECD/
PIARC | ADR or
Vienna
Convention |
| 4.3. | Recommendation that a comparative study of risks should be made, taking into account both the itinerary that includes the tunnel and any alternative itinerary or itineraries, before the decision is taken to authorize or not all or part of the transport of the dangerous goods **
The tools developed in the context of the OECD/PIARC project include a risk analysis model and an aid to decision-making model. They will be made available to anyone who wishes to use them | OECD/
PIARC | ADR or
Resolution |
| 4.4. | Study of the possible classification as dangerous goods of certain liquids or easily liquefied substances with calorific values comparable to that of hydrocarbons | MB 41 | ADR? |
| 4.5. | Recommendation of case-by-case consideration of the importance of operating measures for reducing the risk of the transport of dangerous goods in tunnels (declaration before entering, escort, etc.) | OECD/
PIARC
Ofrou 1.7 | Resolution |
| 4.6. | Study of the possibility of introducing automatic detection of the transport of dangerous goods (e.g. by electronic devices carried on vehicles) | OECD/
PIARC | Resolution |
| 5. | VEHICLES | | |
| 5.1 | Fuel tanks: reduction of the maximum quantity of fuel carried *** | MB 38 | ADR
RV 70/221 |
| 5.2 | Fuel tanks: study of appropriateness and conditions for minimum fire resistance requirements for fuel tanks * | MB 38 | RV 70/221 |
| 5.3 | An end to the increase in the width, length and permissible maximum weight of heavy vehicles and road trains | MB 39 | Resolution
(referring
to Directive
96/53/EC) |
| 5.4 | Study of measures to avoid the use in the construction of vehicles, particularly refrigerated vehicles, of extremely combustible materials which release highly toxic vapours or accelerate the transmission of the fire to other vehicles | MB 38 | RV |

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| 5.5 | Study of the possibility of inspecting heavy vehicles at regular intervals, in particular as regards fire risk | Lausanne
4.02 | RV
Resolution |
| 5.6 | Study of the possibility/timeliness of equipping heavy vehicles with heat-detection equipment, or possibly automatic extinguishing equipment (the indispensable minimum being an extinguisher)
Certainly requires prior study | Lausanne
4.03 | RV
Resolution |
