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ECONOMIC COMMISSION FOR EUROPE

INLAND TRANSPORT COMMITTEE

Ad hoc Meeting of the Multidisciplinary
Group of Experts on Safety in Tunnels (rail)
(Second session, 25-26 November 2002,
agenda item 3)

A SUMMARY OF ACCIDENTS IN RAILWAY TUNNELS

Department of Transport, United Kingdom

Transmitted by the Government of United Kingdom

Note: The complete Annex containing accident reports referred to in the Summary will be available for consultation only in the meeting room.

ACCIDENTS IN RAILWAY TUNNELS

1. In response to the Chief Inspecting Officer of Railways questionnaire replies have been obtained from those Authorities listed at Appendix A.
2. The accident reports have been reduced to a common format suitable for computer filing and analysis, although this has not yet been attempted. Field 16 on the form has space for a 16 bit accident code to be applied to each accident. Accidents have been recorded in chronological order and each page identified by both page number and the country in which the accident occurred together with a sequential Identification number for that country. For example, GB 11—35 relates to the 11th accident in Great Britain reported for this survey and can be found on page 35.
3. The topical index has listed the accidents by type/cause showing the fundamental cause of the accident. It should be noted that in some cases accidents fall into 2 categories in which case the reader will find that particular accident appearing under both headings. For example, Canada 8—31 appears in both fire and derailment with the primary cause of the accident as broken rail. The accident number refers to the chronological numbering of accidents that are known to have occurred in the country of origin. The second digit refers to the page number of the summary sheet upon which the account is recorded.
4. It is intended to add further information as it becomes available; 11 of the 101 entries have “not specified” against causality and it is hoped that the originators of the reports concerned will be able to provide the additional detail. Furthermore some information was supplied against the format of UIC questionnaire 7/K/9 which has given considerable information about the tunnels maintained by the administrations concerned but no specific details of any accidents that have occurred within them except to report the numbers of accidents in each category per year that had occurred.
5. No conclusions have been drawn, that being left to the reader. It is felt appropriate, however to bring Out certain recurrent trends:
 - a. Human factors are significant; ranging from carelessness/thoughtlessness through negligence to deliberate acts of commission or omission. Several accidents reveal the needs for adequate training to cope with the unusual, as well as the routine, coupled to effective supervision and enforcement of standards. The education and positive direction of passengers should also be considered under this heading.
 - b. In a number of cases action by of both the emergency services and railway~ personnel exacerbated the situation, despite comprehensive emergency plans being in existence. Again the human response to ‘the plan’ requires some consideration.
 - c. The need for a central command post served by a reliable and adequate communications system directed by a competent person, with both a good knowledge of the system and sufficient personal authority, can be deduced from

the above points, and is evident from some of the American reports published by the National Transportation Safety Board.

- d. The choice of materials used, and the form of construction, in vehicles or 'structures' or of materials which may legitimately be stored therein need to be assessed against the risks generated by the various activities that may at any given time be carried out within them, for example The carriage of highly flammable liquids in work trains.
 - e. Design criteria and method statements for works subsequent to the original and the management of such projects are factors which have had significant bearing on the course of accidents, for example, Derailments in the New York Subway (ef USA 30—90/31—95 and GB 12—41).
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