BEA-TT
Land Transport Accident Investigation Bureau

reports

ACTIVITY REPORT

2006

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Ministry of Ecology
and sustainable Development

Ministry of Ecology and sustainable development

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Land Transport Accident
Investigation Bureau

ACTIVITY REPORT

2006

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Glossary

- **CETU** : Tunnel Research Centre
- **CMVOA** : Ministerial Unit of Operating Monitoring and Alerts
- **CNO** : National Operations Centre
- **COGIC** : Operational Centre for Inter-Ministerial Crisis Management
- **DDE** : Departmental Technical Services Directorate
- **DRE** : Regional Technical Services
- **DSCR** : Road Safety and trafic Divisions
- **EPSF** : Public Institute for Rail Safety
- **INRETS** : National Transport and Transport Safety Research Institute
- **HGV** : Heavy Goods Vehicle
- **SDIS** : Departmental Fire and Rescue Service
- **SIC** : Information and Communication Service
- **TDG** : Transportation of Dangerous Goods
- **RH** : Road Haulage

A review of 2006

2006 is the second year in which the BEA-TT was fully operational following its inception in 2004.

This year, as in the previous year, the BEA-TT published ten investigation reports into accidents and incidents. All the investigations started before 2006 were included in a published report.

In addition, the BEA-TT also embarked on fifteen new investigations in 2006, which has forced it to prepare for a significant increase in its work.

In addition to the technical investigations, two studies were conducted on road transport in 2006 (continuation of the study on spontaneous fires in lorries, and commencement of a study on fatal accidents involving lorries in 2004).

The reports produced are posted on the BEA-TT's website. At the end of 2006, twenty-five published reports were available on this website. The site received visits from 9068 surfers in 2006, 16% of whom were foreigners located in over fifty countries.

Changes in the institutional and regulatory framework of the BEA-TT were affected in particular in 2006 by the first stage of transposition of the European Directive on rail safety into the law and decree applicable to the BEA-TT.

This meant in particular that the decision-making power for launching rail investigations was transferred to the Director of the BEA-TT, providing at the same time an opportunity to simplify the decision-making process for other land transport modes. However, procedures to monitor the actual implementation of recommendations must still be introduced.

The very frequent investigations with an international dimension must be highlighted : of the investigations launched by the BEA-TT, the four most serious coach accidents and the three most serious rail accidents involved or concerned transport companies established in another country.

This situation obviously requires active international cooperation which the BEA-TT is attempting to set up whenever necessary, for instance by preparing partnership protocols with its cross-border counterparts, where they exist. It is also playing an active part in exchanges of experience and in the harmonisation of working procedures involving European rail transport investigation bodies under the aegis of the European Rail Agency as provided for in the Directive on rail safety. Lastly, it contributed in 2006 to seminars on rail transport safety held in Lithuania and Bulgaria, in the context of railway twinning activities and in the European Commission Group of Experts on investigations into rail accidents.

The experience thus acquired has brought to light certain domains in which the BEA-TT should pursue its discussions and proposals in order to ensure that its work is more effective and professional :

- completion of the introduction of the monitoring mechanism, in particular for rail, inland waterway and public transport ;
- introduction of a monitoring mechanism to ensure the effective implementation of recommendations, in conjunction with the EPSF (Public Institute for Rail Safety) for rail transport and with the competent central directorates of the Ministry of Transport for the other land transport modes ;
- improvement of the cooperation with the judicial authorities in order to reduce the time needed to obtain access to documents, parts and useful material elements ;
- strengthening of internal quality assurance procedures and establishment of sets of references for carrying out investigations and drawing up reports.

With regard to the BEA-TT's resources, its authorised, budgeted staff remained at the modest level of ten members in 2006, with the prospect of an increase in 2007 to underpin the increase in the work schedule. In addition there will be two doctors from the *Inspection Générale du Travail des Transports* (General Transport Labour Inspectorate) who are seconded to the BEA-TT.

Because of this, even though it makes considerable use of elements collected by judicial investigators which are an essential basis for its work, the BEA-TT is very often forced to find temporary investigators and experts as provided for in its founding regulations.

Thus it received assistance from members of the *Conseil Général des Ponts et Chaussées* (advisory board and inspectorate of the minister in charge of transport), from investigators at the BEAmer (Maritime Event Accident Investigation Bureau), from technical services and research bodies forming part of the Ministry of Transport's scientific and technical network, from the local State services (police stations, the Regional and Departmental Technical Services Directorates, the Transport Labour Inspectorate and emergency services), from private experts and consultants, and more generally from central services, infrastructure managers and transport companies which provide it with feedback and operate the monitoring mechanism.

I wish to express my heartfelt thanks to everyone for their contribution and commitment to the objective of prevention and improvement of safety in land transport.

Jean-Gérard KOENIG

Directeur du BEA-TT

1- Missions and organisation of the BEA-TT

1.1- Why conduct technical investigations into accidents ?

Transport accidents, with their human toll and sometimes spectacular or tragic nature, remind us that men, equipment and organisations are still fallible despite the progress made in safety.

Serious or complex accidents and incidents call for a specific preventive approach in the form of a technical investigation to determine the circumstances and causes, and then to issue as soon as possible useful preventive recommendations in order to avoid any recurrence.

Technical investigations must remain quite separate from judicial investigations, the aims (identifying responsibilities) and constraints (in particular deadlines) of which are quite different.

In order to work efficiently, technical investigators must have access to all data, testimonies and useful information, even that which is covered by judicial or professional confidentiality. These prerogatives must therefore be laid down by law.

Lastly, the need to have recourse at short notice to highly qualified, independent investigators in order to preserve the memory of events and to mine all lessons learned has led to such investigations being entrusted to a permanent specialised body.

1.2- Setting up the BEA-TT : the main steps

In France, the first technical investigating bodies to be created were in air transport (the BEA in 1946 for civil aviation) and maritime affairs (the BEAmer in 1997).

No equivalent structure had been set up for land transportation modes until 2004. In the case of a major accident such as the one in the Gare de Lyon in 1988 (56 fatalities) or the Mont Blanc Tunnel in 1999 (39 fatalities), the Minister for Transport set up an ad hoc investigating panel with the support of the *Conseil Général des Ponts et Chaussées* – CGPC (advisory board and inspectorate of the minister in charge of transport).

In the light of the experience thus acquired, it became clear that there was a need for an agency similar to those dedicated to aviation and maritime modes of transport, with equivalent legislative status, but focusing on land transport.

The Law of 3 January 2002[1], adopted in the aftermath of the tragic Mont Blanc Tunnel fire in which 39 people lost their lives on 24 March 1999, granted this legislative basis for all technical investigations investigations of land accidents. The Law provided for investigations to be carried out by a specialised standing body which would have a right to access all data relevant to the investigation, even confidential legal, medical or professional data.

[1] Law No 2002-3 of 3 January 2002 concerning in particular the safety of transport infrastructure and systems and investigations following transport accidents.

The Law also reaffirmed the principles of the independence of all investigators and of the publication of a final report.

Decree No ° 2004-85 of 26 January 2004, published pursuant to this Law, officially created the BEA-TT (Bureau d'Enquêtes sur les Accidents de Transport Terrestre – Land Transport Accident Investigation Bureau), defining the missions and conditions under which it should be run, as described below.

1.3- Missions and modes of response

The BEA-TT is a national service associated with the *Conseil Général des Ponts et Chaussées.* This position does not involve any hierarchical supervision that might undermine the independence of the BEA-TT's investigations.

The main mission of the BEA-TT is to carry out all technical investigations into serious land transport accidents and certain other accidents and incidents. It also has the mission of facilitating the circulation of facts and findings stemming from lessons learnt on accidents, and it can launch studies and research on feedback and accidentology.

The scope of the BEA-TT covers all types of railways, urban guided systems (light rail), cableways, road transport (in particular heavy goods vehicles and public passenger transport by coach or bus) and inland waterways, bearing in mind that each one of these areas is governed by its own specific regulations and its own economic, technical, professional and even cultural logic.

Decisions to launch technical investigations are taken by the Director of the BEA-TT at the request of or in agreement with the Minister for Transport. This last condition no longer applies to rail transport, however, since the Decree instituting the BEA-TT was amended with the transposition into French law of the European Directive on Rail Safety (2004/49 EC).

Each investigation must scrutinise a given event in all its aspects, including infrastructure, operation, rolling stock, training of staff, medical dimension, rules and regulations, etc.

Such a wide range of investigations means that the BEA-TT must identify and call upon the necessary expertise in each case.

Following each investigation or research carried out, the BEA-TT publishes its reports on its website : www.bea-tt.equipement.gouv.fr.

All safety recommendations are sent to the relevant recipients who in turn inform the BEA-TT of any action they intend to take. The BEA-TT can publish both its safety recommendations and the answers, but it is not in charge of monitoring or inspecting actual implementation.

1.4- Transposition of the Rail Safety Directive

In the rail transport sector, European Directive 2004/49/EC lays down the roles of the various actors and in particular those of investigating bodies working on accidents and incidents.

In France, the investigating body is the BEA-TT. Transposition of the Directive as regards the aspects relating to it was started in 2006. This concerns three points in particular :

- granting to the Director of the BEA-TT the decision-making powers regarding the launching of rail transport investigations, which until then had been under the competence of the Minister of Transport ;
- reporting to the BEA-TT, via the infrastructure manager and rail transport companies, any accidents and incidents in relation to which it may take action ;
- monitoring the effective implementation of the recommendations issued by the BEA-TT, to be applied by the national safety authority (the EPSF in France).

In relation to the first point, transposition has been completed with the publication of Law No 2006-10 of 5 January 2006 (Art. 18) and of Decree 2006-1279 of 19 October 2006 (Art. 65).

In relation to the second point, the obligation of reporting an accident or incident is laid down in the aforementioned Decree, however the list of events to be reported must still be determined.

In relation to the third point, transposition still had to be carried out at the time of publication of this activity report.

1.5- Organisation and resources

The BEA-TT is organised to deal with its main mission, the carrying out of technical investigations into accidents and incidents. To this end it calls upon three types of agents :

- first, its own permanent investigators.
- second, temporary investigators hired for an investigation by the Director of the BEA-TT who are given the legal status of technical investigator. They may be active or retired staff members from a transport company, infrastructure manager or civil service body entrusted with inspection and control missions.
- lastly, experts appointed to deal with specific matters.

In addition, the BEA-TT may, under the terms of its founding decree, call upon all the State services competent in its domain : this happens in particular in relation to monitoring and reporting of accidents.

In practice, the permanent investigators organise investigations with the help, where appropriate, of temporary investigators and experts chosen to contribute all the external skills deemed necessary for each investigation.

In 2006, the BEA-TT's authorised staff consisted of ten members : two management executives, five permanent investigators (one of whom was taken on only in 2007), and three administrative officers. Two doctors from the General Transport Labour Inspectorate are also seconded to it to deal with medical aspects.

Nine non-permanent investigators also contributed to the work of the BEA-TT in 2006.

The BEA-TT's operating budget amounted to EUR 400 000 in 2006.

2- The investigations performed in 2006 : overview

2.1- Investigations performed in 2006

Ten investigations were performed in 2006 with the publication of a report and recommendations by the BEA-TT, thus the same number as in 2005. These accidents resulted in the death of nine victims, all of whom died in road accidents.

Five of these investigations concerned rail or guided rail transport, two of which included accidents at level crossings. The other five concerned road accidents. They are described in the following chapters.

The biggest investigation, into the fire in the Fréjus tunnel on 4 June 2005, made heavy demands on the road investigation team.

2.2- Causes and factors

The human factor was the immediate cause of the accident in at least five cases (decision error, loss of control, drowsiness, excess speed and driving errors). It played an aggravating role in two cases, because of an inappropriate response to the start of a fire and to a breakdown.

Factors linked to vehicles were the direct cause of the accident in four investigations. They concerned a breakdown in the compressed air supply of a heavy goods vehicle and three fires (defect in the electrical system of an underground rail train, spontaneous fire in a heavy goods vehicles and electrical short-circuit on a bus).

The lack of seatbelts was an aggravating factor in two accidents (a heavy goods vehicle and a coach).

Factors linked to the infrastructure were decisive in only one case (outdated track which caused the derailment of a train). However they constituted an aggravating factor in at least four cases (narrowness of the road, worksite, heavy traffic zone and tunnel).

Organisational factors were also highlighted, in particular in three cases where they contributed to the accident or hindered the response by the emergency services. Insufficient training of drivers and insufficient information for users were also underlined.

2.3- Recommendations made

Following these ten investigations, 71 recommendations (27 for rail or guided rail transport and 44 for road transport) were made. Since some of them were worded in the same way and sent to several recipients at the same time, they correspond to 90 individual recommendations (41 for rail and guided rail transport and 49 for road transport).

The recipients

The recipients of the 90 recommendations issued fall into the following categories :

- 39 to the infrastructure managers or public utility road companies ;
- 30 to regulatory or control authorities (central government) ;
- 12 to the transport organising authorities or main road transport contracting authority ;
- 4 to transport companies ;
- 3 to control agencies ;
- 2 to other recipients (Construction Company, emergency services).

2.4- Action following the recommendations

Action taken or planned by the recipients

The Decree of 26 January 2004 states that recipients of recommendations must inform the director of the BEA-TT, within 90 days, of the action they intend to take and, where appropriate, the time needed to implement it : this response is usually made public in the same way as the recommendations themselves.

Out of the 90 recommendations sent to recipients :

- in 70 cases, the recommendation was accepted and its implementation confirmed, sometimes with a condition concerning time or financing ;
- in 3 cases, the recommendation was not accepted or strong reservations were expressed ;
- in 17 cases, there was no response to the recommendations.

It should be noted that the BEA-TT has no authority to check that action has actually been taken to comply with the recommendations.

For railways, Directive 2004/49 on railway safety provides that this role will be taken in future by the national safety authority (EPSF) which will inform the BEA-TT of these actions. For the other modes of land transport, the BEA-TT is ready to examine, with the central government departments concerned, how this might be done.

2.5- Investigations started in 2006

Fifteen investigations were started in 2006 (a list of which can be found in Appendix 3) compared with nine in 2005. This rise is not linked to an increase in the number of accidents, but to the increased mobilisation of the BEA-TT's operational capacity.

The fifteen investigations concerned :

- in the **rail transport / guided rail transport sector,** seven incidents including three derailings, one train collision, one collision on a level crossing, one passenger accident and one case in which one train caught up with another on the same track and crashed into it ;
- in the **road transport sector,** six accidents including one pile-up on a motorway, three accidents involving HGVs including one fuel tanker fire, and two accidents involving buses ;
- in the **inland waterway sector,** two passenger boat accidents.

Between 2002 (when the procedure to set up the BEA-TT started) and the end of 2006, forty-two investigations had been performed (cf. Appendix 3). They can be classified as follows in the different modes of land transport :

Rail transport : 16 (including three accidents on level crossings)

Guided transport : 3

Cableways : 1

Road transport : 16

Inland waterways : 6

It is clear that the two main areas are rail and road transport accidents, however inland waterways are also frequently involved, which challenges their image of a "peaceful" mode of transport. However this breakdown does not have statistical significance in terms of accidents since the thresholds for holding investigations differ considerably from one mode to another.

3- The investigations performed : rail and guided transport

3.1- Investigations performed in 2006

Five reports on investigations were issued in 2006 in the rail transport sector. These investigations concerned the following accidents :

Date	Accident	Deaths	Mode
24.11.2004	Accident at level crossing between train and articulated lorry at Millau	0	Rw/R
27.05.2005	Train collision at Francardo	0	Rw
09.06.2005	Accident at level crossing at St Laurent de Blangy (62)	0	Rw/R
06.08.2005	Fire on underground trains at Simplon station (75)	0	GT
25.02.2006	Derailing of a train at Saint-Flour	0	Rw

Rw : railway ; R : Road ; Rw/R : Level crossing accident ; GT : Guided Transport ; W : Waterways ; CW : Cableways

3.2- Recommendations made

Twenty-seven recommendations were made following these five investigations. Some of them were sent with the same wording to several recipients, making 41 separate recommendations.

Purpose of the measures recommended

The 27 separate recommendations are divided into the following categories (while taking into account the fact that they have very variable importance) :

- three concern rail transport operating regulations ;
- one concerns rail infrastructure regulations ;
- seven concern improvements to rail infrastructure ;
- ten concern staff training and the organisation of work ;
- three concern the organisation of checks ;
- three concern the organisation of rolling stock and infrastructure maintenance.

The recipients

The recipients of the 41 recommendations issued fall into the following categories :

- twenty-four to the rail infrastructure manager ;
- four to rail transport companies ;
- eight to the transport organising authority ;
- three to the regulatory or control authorities (central government departments) ;

- one to the control agencies ;
- one to other recipients (municipal authorities).

3.3- Action taken or planned by the recipients

The following table shows the action taken or planned by the recipients of the recommendations.

Investigation	Recommendations			
	Number	Accepted	Not accepted	No reply
Millau	4	3	1	
Francardo	13	9		4
St Laurent Blangy	6	6		
Simplon	11	11		
St Flour	7	7		
Total	41	36	1	4

The recommendation which was not accepted (study to improve the visibility of a level crossing) was not regarded as requiring immediate action since the current situation complied with regulations.

It must also be pointed out that the above figures are based on the initial responses which the recipients of recommendations must normally send to the BEA-TT within 90 days. Thus they do not concern the monitoring of effective implementation of BEA-TT recommendations. This monitoring, required by Directive 2004/49 on rail safety, should be introduced as of 2008 by the EPSF when transposition of this Directive is completed.

3.4- Summary of investigation reports published

Appendix 1 contains a summary presentation of investigations with a brief reminder of the recommendations issued in each case.

4- The investigations performed : road transport

4.1- Investigations performed in 2006

Five reports of investigations were issued in 2006 in the road transport sector. They concerned the following accidents :

Date	Accident	Deaths
19.04.2005	Accident involving a training HGV RD8 at Saint Nicolas du Tertre (56)	2
25.04.2005	Coach at Bouafle on the A13 (78)	3
04.06.2005	Fire in a HGV in the Fréjus tunnel (73)	2
August 2005	Fires on natural gas-fuelled bus in Nancy and in Montbéliard	0
01.02.2006	Pile-up on the A25 at Météren	2

4.2- Recommendations made

Forty-three recommendations were made following these five investigations. Some of them were sent with the same wording to several recipients, making forty-nine separate recommendations.

Purpose of the measures recommended

The forty-three separate recommendations are divided into the following categories :

- six concern vehicle regulations ;
- three concern road transport regulations ;
- twelve concern improvements to infrastructure or facilities ;
- two concern the organisation of infrastructure operations ;
- four concern the training of professional drivers ;
- six concern technical controls of vehicles and related installations ;
- three concern the organisation of road checks and checks in companies ;
- three concern the organisation of feedback ;
- three concern communications with users ;
- one concerns another domain (organisation of emergency assistance).

The recipients

The forty-nine recommendations are divided into the following categories :

- fifteen to the infrastructure or public utility manager ;
- four to the contracting authority or body which granted the public utility licence ;
- twenty-seven to regulatory authorities (central government departments) ;
- two to the control authorities (police headquarters, IGTT – transport labour inspectorate) ;
- one to a car manufacturer.

4.3- Action taken as a result of the recommendations

The following table shows the action taken or planned by the recipients of the recommendations.

Investigation	Recommendations			
	Number	Accepted	Not accepted	No reply
St Nicolas du Tertre	5			5
Bouafle	2	1		1
Fréjus	20	16		4
NGV bus	15	13	2	
Météren	7	4		3
Total	49	33	2	14

NGV : Natural Gas Vehicle

The two recommendations which were not accepted or with respect to which serious reservations were expressed concerned :

- the need to ensure that engines in a series of buses were reliable ; in this respect the manufacturer is awaiting the outcome of judicial proceedings currently in progress ;
- the conducting of a comprehensive risk study prior to introducing any new generation of vehicles fueled by gas, since the DSCR (Road Safety and Traffic Divisions) considered that this measure could only be taken at Community or international level.

4.4- Summary of the 2006 investigation reports

Appendix 2 contains a summary presentation of the investigations with a brief reminder of the recommendations issued in each case.

5- Studies and feedback

Alongside its primary task of carrying out technical investigations, the BEA-TT also has the task of investigating feedback concerning accidents listed in the accidentology because of their gravity or because of the factors which caused them. It therefore continued in 2006 with the establishment of a data base on the road accidents reported, and carried out two investigations into accidents and fires involving HGVs and coaches.

5.1- Data base of reported incidents

Notification of accidents and incidents

To follow up incidents linked to safety, the BEA-TT receives information of two kinds :

- first, notification of accidents which are directly sent to it by the management and operators concerned ;
- second, the daily bulletins written and issued by major operators, emergency services or crisis management services.

Direct notification covers only some of the operators concerned. In 2005, corresponding procedures were set up with the SNCF and the RATP (the Paris region railway service) and with the gendarmerie and the police for public transport accidents and those involving dangerous goods. They must still be extended to the other transport networks mentioned in the Decree setting up the BEA-TT and in particular to urban transport outside Paris.

The daily bulletins currently come from four sources :

- the *Centre National d'Information Routière* : daily summary
- the SNCF : daily summary by the Centre National des Opérations (CNO)
- the Ministry of Home Affairs (Civil Defence – COGIC)
- the Ministry of Transport (CMVOA bulletin and SIC press review).

Using this information, sometimes supplemented by a qualification investigation, the BEA-TT selects those for which a technical investigation seems appropriate.

Data base on reported accidents

In addition to covering accidents giving rise to a technical investigation, it is worthwhile describing and recording some incidents uncovered during monitoring. This is because, when they fall within the categories which are often covered by technical investigations, they can clarify the context and the possible scenarios of similar accidents, provide feedback to the BEA-TT and guide decisions regarding the performance of subsequent technical investigations.

In 2006, the data base set up in 2005 concerned the 3976 road accidents reported mainly by the CNIR (National Road Information Centre), of which 1318 were fatal accidents in which 1591 people were killed. It mainly deals with some of the categories involved (public passenger transport, HGVs, dangerous

goods, etc.) and certain types of accidents.

The table below shows accidents reported to the BEA-TT, which cover approximately 30% of fatal road accidents.

		Type of transport					Total
		PT	RH	DG	PC	Other	
Number	Accidents	155	1344	136	2034	307	**3976**
	Fatal accidents	34	243	7	888	146	**1318**
	Deaths	38	292	7	1098	156	**1591**
%	Accidents	3,90%	33,80%	3,42%	51,16%	7,72%	**100,00%**
	Fatal accidents	2,58%	18,44%	0,53%	67,37%	11,08%	**100,00%**
	Deaths	2,39%	18,35%	0,44%	69,01%	9,81%	**100,00%**
Fatal accident rate for this type of data				33,1%			

PT : Public transport ; RH : Road haulage ; DG : Dangerous Goods ; PC : Private Car
NB : classified according to transport type using this hierarchy : PT, RH (DG), RH, PC and other

Appendix 4 contains a breakdown of these accidents according to different characteristics.

Drowsiness at the wheel, another factor requiring special attention, is still difficult to identify in detail in the data available to the BEA-TT.

It is envisaged that similar data bases will be set up for other modes of land transport or to use data bases that already exist (such as for inland waterways).

5.2- Study on spontaneous fires in heavy goods vehicles

In 2006, the specific monitoring of spontaneous fires in heavy goods vehicles (public transport and road haulage) enabled 111 accidents to be identified, on the basis of the data we collected and information from the gendarmerie. This figure includes a fire in an agricultural vehicle not taken into account in the analysis below.

Frequency

The 110 spontaneous fires identified and related to annual traffic (2004 data in 10^8 vehicle km) result in an average coefficient of 0.28 fires per 10^8 vehicle km. This figure is ten times lower than for total accidents of all kinds. However, it includes an unexpected difference between vehicles registered in France and those registered abroad : 0.22 for vehicles registered in France and 0.56 for those registered abroad.

Breakdown according to type of road and location

Out of the 110 cases analysed, 58 were on a motorway, 37 on a national road, 11 on a departmental road, 3 on a municipal road and one in a railway tunnel.

It emerges that it is usually long continuous journeys, in particular on motorways, which cause spontaneous fires.

It is clear from an examination of the location of incidents, focusing in particular on the type of roadway where they occurred, that they take place mainly on hilly terrain, in the Alps and nearby. However, this idea must be examined in more detail. There is no evidence for it as yet because of the low number of cases processed and the vagueness of the relevant data. The importance of the Rhone-Alps region (18 cases) is significant however.

Breakdown between HGVs and public transport vehicles

Out of the 110 cases, 8 concerned public transport (public transport including an NGV bus), 8 concerned transport of dangerous goods (road haulage with transport of dangerous goods) and 94 concerned goods transport (road haulage without transport of dangerous goods). The number of events per 10^8 vehicle km for vehicles registered in France was 0.23 for public transport and 0.22 for road haulage (with and without dangerous goods), hence an equivalent risk. However, an analysis of the component at the origin of the fires shows that they were not caused by the same reasons.

Origin of fires

In order to take account of the large number of articulated lorries involved, it proved useful to identify the vehicle at the origin of the fire which could be either the trailer or the towing vehicle. The component which caused the fire concerns the part of the vehicle involved in the start of the fire.

For coaches and buses, it was the engine which was at the origin of the fire in every case.

However, for heavy goods vehicles, in the cases where the part which started the fire could be clearly identified, the axle was identified 2.2 times more often than the engine. The other components (passenger compartment, equipment or load) were at the origin of the fire in only a few cases.

It is rarely possible from the information collected to identify precisely the component which triggered the fire if it comes from the engine (the terms “turbo, oil or fuel leak, electrical circuit” are mentioned together fourteen times). However it is possible to observe that these incidents occur in conjunction with hilly areas and, in particular, at the end of a climb.

The fires which started in the axle (only in heavy goods vehicles) were caused by blockage of the bearing, overheating of brakes or a burst tyre.

These axle fires, which were the main cause (55), indicate overheating due to long and/or hilly journeys. When looked at in relation to the place where the incident occurred, the hypothesis of excessive use of the brakes is also evident on hilly terrain, involving successive descents (cf. the INRETS 1992 study on “the danger of heavy goods vehicles in long descents” concerning the Fayet descent).

It was not possible, in relation to either the axle or the engine to assess the real level of maintenance of the vehicle in terms of the main components. However, the frequency of fires in axles of trailers clearly indicates a lack of maintenance of the element being towed.

It should be noted that the lack of axle fires in coaches and buses points to the fact that this type of vehicle must normally be equipped with a transmission

brake and that this obligation obviously has something to do with the absence of a problem here. While information on the equipping of heavy goods vehicles with transmission brakes is rarely communicated to us, or we receive only partial information, it seems that heavy goods vehicles are rarely equipped with such a device, and when they do have one, it is an exhaust brake. In the cases of axle fires examined, none of the offending heavy goods vehicles were equipped with a transmission brake.

APPENDICES

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- Appendix 3 : List of technical investigations performed or started since 2002
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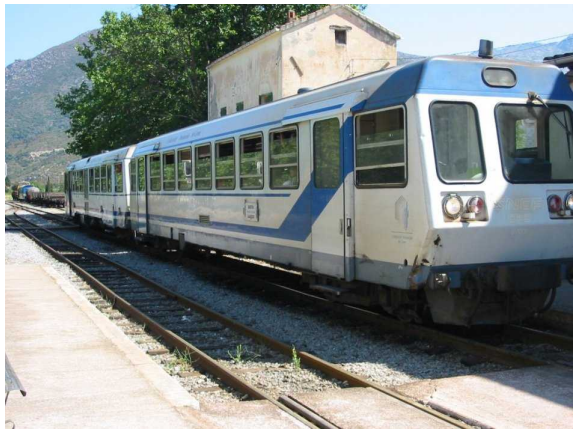
Appendix 1 : Rail and guided transport : summary of the investigation reports

- collision between two trains between Ponte-Leccia and Francardo on 27 May 2005
- collision between a heavy goods vehicle and a train on a level crossing at Saint-Laurent-Blangy on 6 June 2005
- fire on two underground trains at Simplon station on 6 August 2005
- derailing of a train at Saint-Flour on 25 February 2006
- collision between a heavy goods vehicle and a train on a level crossing at Millau on 24 November 2006

Collision between two trains

between Ponte-Leccia and Francardo

on 27 May 2005



On Friday 27 May 2005 at around 19.30 hours, train 51 running from Bastia (Upper Corsica) to Corte (Upper Corsica) and train 8 running from Ajaccio (Southern Corsica) to Bastia (Upper Corsica) were engaged in a head-on collision at kilometre point (KP) 53,200 between Francardo and Ponte-Leccia stations.

The two trains should have crossed tracks on a straight section at Francardo.

Train 8 was making up for being late. Since it was stopped at Francardo and the train driver of train 8 could not see train 51 coming, he suggested to the Ponte-Leccia station inspector to postpone the Francardo track crossing to Ponte-Leccia. The latter gave his consent, even though he had already sent train 51 to Francardo. Train 8 left Francardo station, and a frontal collision was inevitable.

Each of the train drivers saw the other train shortly before the collision. They applied the emergency brakes, thus limiting the intensity of the collision. Neither one of the railcars was derailed. Fourteen people were slightly injured.

This accident was the result of human error (sending a train along a section of track that was still occupied), combined with a defective exchange of dispatches (the text received was understood differently from the text sent, lack of read back of dispatches by the recipient, etc.).

The investigation brought to light various factors that contributed to the accident relating to the management of train traffic and the management of staff.

This led to a recommendation concerning :

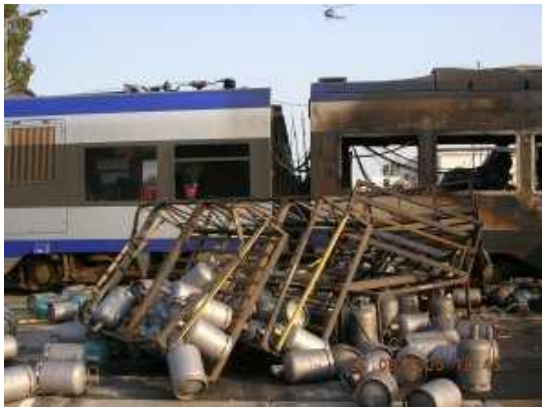
- *rigorous transmission of dispatches, applying the rules of read back and recording in real time ;*
- *a more legible presentation of the dispatch register ;*
- *examination of ways to improve the current method of managing traffic to prevent an error by a single staff member from resulting in the risk of an accident ;*
- *compliance with speed limits ;*
- *an improvement in the operation of station to train radio ;*
- *the use of individual interviews in managing staff.*

Collision between a HGV and a train

on a level crossing

at Saint-Laurent-Blangy

on 6 June 2005



On Thursday 9 June 2005 at around 17.14 hours, the Regional Express Train (TER 848 932) travelling from Lille and carrying 150 passengers collided with an articulated lorry carrying 944 gas cylinders (butane and propane, in other words approximately 12 tonnes), which was blocked on level crossing No 83 at Saint-Laurent-Blangy in the Pas-de-Calais region. The collision led to a fire and then to the explosion one after the other of the gas cylinders, resulting in an extensive incident visible several kilometres from the spot.

Despite the presence of a number of people in the area, there were no victims. However, the material damage to installations, buildings and vehicles was considerable.

The initial cause of this accident was the rupture of a component linked to the compressed air supply of the trailer, which blocked the lorry on the level crossing a few minutes before the arrival of the train. The train driver, not alerted at the time, was unable to avoid a collision despite applying the emergency brakes. The presence of the gas cylinders was an aggravating factor and the reason why the incident turned into a major fire.

The lack of human injuries was due to the appropriate, rapid action by the SNCF staff present and to particularly favourable circumstances, otherwise the outcome would have been much more serious.

An analysis of the incident resulted in the BEA-TT identifying two types of causal factors :

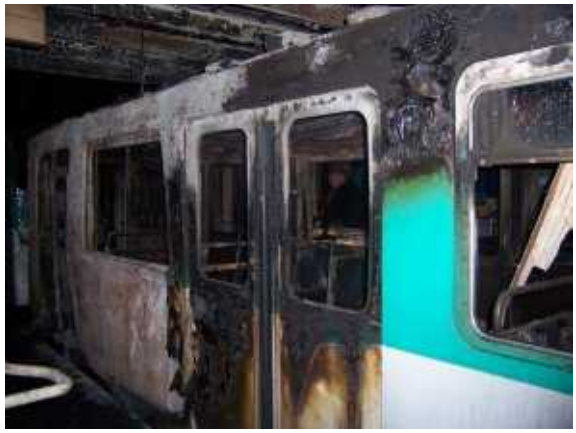
- *those linked to the infrastructure and the worrying situation of this level crossing, given the considerable rail and road traffic there ;*
- *those linked to the articulated lorry, to driving and to the transportation of dangerous goods. Given the conditions under which the rupture of the mechanically-controlled braking system of the trailer occurred, without any external cause, it was noted that special attention must be paid to maintaining vehicles used for transporting dangerous goods. Lastly, an earlier response by the driver might perhaps have made it possible to avoid the collision.*

The BEA-TT issued three recommendations in relation to the above points concerning the removal of the level crossing, the examination of provisional measures to reduce risks until the level crossing is removed, and the need to take account of critical situations in the training of drivers assigned to the transportation of dangerous goods. Lastly, it underlined the importance of checking brake connections when maintaining vehicles and trailers.

Fire in two underground trains

at Simplon station

on 6 August 2005



On Saturday 6 August 2005, underground train No 6046 had just stopped at 16.35 hours at the Simplon underground station on line 4, "Porte d'Orléans – Porte de Clignancourt", of the RATP in Paris.

While passengers were dismounting and boarding one of the trains, a considerable amount of smoke began to issue from the fifth train carriage. On the next line, train 6033, the passenger train going in the opposite direction, had stopped for passengers. The emission of the smoke was such that the passengers spontaneously evacuated train 604 and, on the instructions of the driver, also train 6033. The fire brigade was called and arrived at the scene at 16.52 hours. It proved difficult for the RATP to deal with the smoke extraction, therefore it was only at 17.25 hours that the fire brigade managed to get to the fire, which they had brought under control by around 18.00 hours.

Twelve people were slightly injured ; one passenger and eighteen members of the RATP staff were overcome by smoke. This accident could have had much more serious consequences under slightly different circumstances (rush hour, fire in the tunnel, etc.). Four carriages belonging to the two trains were damaged as well as the track guide bar, electrical cables and the Simplon electrical power control system. Traffic on the line was able to be resumed the following morning, but with no trains stopping at the damaged Simplon station.

The immediate cause of the fire was the dual defect in the electrical traction system of one traction unit during a halt at the Simplon station :

- *first, the contact arm of the servomotor pulling the traction switch group broke down, interrupting the engine's halting process ;*
- *second, there was a latent breakdown in one circuit breaker which should have operated, but which remained blocked in the "off" position.*

Because of this the engine bogie unit remained in "request for traction" mode despite the fact that the train was stopped, which led to the skidding of one wheel, followed by abrasion, bursting of the tyre, and then the tyre went on fire .

A second direct cause of the fire was the particular vulnerability of the tyre to the risks of ignition and combustion. It was "sub-standard" compared with the other materials involved in the fire, which performed well, therefore use of tyres calls for special precautions.

Various aggravating factors of a technical and organisational nature delayed or disrupted subsequent management of the fire, in particular smoke extraction which, after the correction of an initial error, could not be conducted satisfactorily.

The factors highlighted concerned :

- *the large number of documents to be consulted and of instructions to be given by the on-duty RATP inspector in order to implement emergency procedures ;*
- *the ineffective instruction concerning smoke extraction featured in the "line operator guide" in the event of smoke in the Simplon station ;*
- *the communications problems between those involved, arising in particular from knowledge of the contact details of the parties to be called, confusion in exchanges and the sometimes defective technical quality of radio links.*

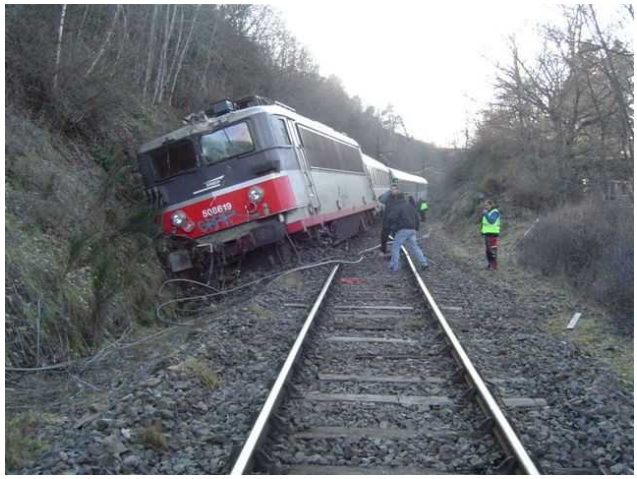
The ten recommendations made following the technical investigation concerned five types of measures :

- *prevention of the electrical defects that caused the fire ;*
- *prevention of the risk of wheels skidding on all underground lines where tyres are used ;*
- *a review of the smoke extraction instructions in the line operator guide to improve constant updating, make it easier to use and, where necessary, improve the content ;*
- *the use of a centralised remote-controlled smoke extraction system for RATP lines where tyres are used ;*
- *the rigorous and effective organisation of communication between those concerned in the event of an accident.*

Derailment of a train

at Saint-Flour

on 25 February 2006



On Saturday 25 February 2006, train Corail 5941 Paris-Béziers travelling on the single track section at Neussargues-Béziers became derailed at Km 692,480 in the municipal district of Saint-Flour (department of Cantal). The track curves at this spot in a radius of 296 m, with a slight gradient. The entire train became derailed (the locomotive and three carriages), with the locomotive and the first carriage being thrown against the rocky embankment.

Two passengers were slightly injured. The rolling stock and 100m of the infrastructure were seriously damaged.

The direct cause of this accident was a break in the high rail of the curving track, to the right of an aluminothermic welding. There had been no warning sign in the rail that could have been detected by regular ultrasound examinations. This break, plus the loss of a fastening, led to a considerable mismatch between the rail ends which broke with the passage of the train, causing it to derail.

This accident was due to the obsolete nature of the track and an inappropriate maintenance policy.

This track, which is equipped with double-headed rail, is vulnerable to derailment risks when there is a break in the rail ; the parts needed to replace the outdated rail no longer exist. Moreover, the small sleeper spacing contributes to the increased stress on the rail. Since the ballast has practically disappeared, it is no longer possible to ensure proper surfacing of the track.

Since under the maintenance policy pursued replacement is impossible ("continuous deck" method), the number of operations involving welding has increased because it is not possible to replace the rail, thus creating fragile points. The replacement whenever necessary of old wooden crossties has resulted in the emergence of pumping of the track because it is impossible to provide ballast to improve the surfacing.

These observations resulted in the following recommendations :

- *in the short term, the establishment of methodology to identify "special zones" where train speed would be reduced to prevent derailing in the event of a break*

in the double-headed rail ;

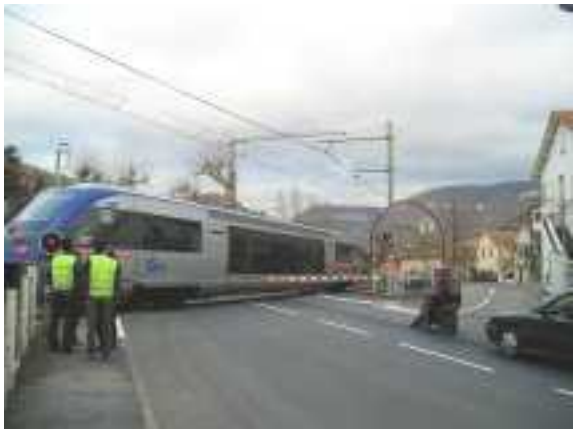
- *the replacement of damaged rails, insofar as possible, by full bars instead of welding. Before this is done, double-headed rail that is still in good condition must be recuperated.*
- *The drafting of a programme to upgrade lines equipped with double-headed rail, where the replacement of the crossties is combined with an increase in the ballast ;*
- *The eventual replacement of the double-headed rail by Vignole rail.*

Collision between a HGV and a train

on a level crossing

at Millau

on 24 November 2006



On 24 November 2004 around 17.00 hours, an accident occurred at Millau (Aveyron), at the intersection between national road No 9 and the railway track from Béziers to Neussargues, on level crossing No 71.

An articulated lorry was immobilised on the railway track when the Paris-Béziers train arrived. Despite the use of the emergency brakes, the train was unable to stop before the collision. The accident resulted in three people being slightly injured.

It seems that the direct cause of this accident was a driving error by the driver of the articulated lorry who drove onto the level crossing without first making sure that he had room to clear it completely.

However, two other factors also played a role :

- *The environment of the level crossing which is located in an urban area and is frequently subject to congestion.*
- *The road works, close to the level crossing ; the organisers had not taken account of the additional risk of the road works causing congestion on the railway track.*

The report issued recommendations on the management of road works located near level crossings and on the design and signalling of level crossings frequently subject to congestion, in particular the Millau level crossing No 71.

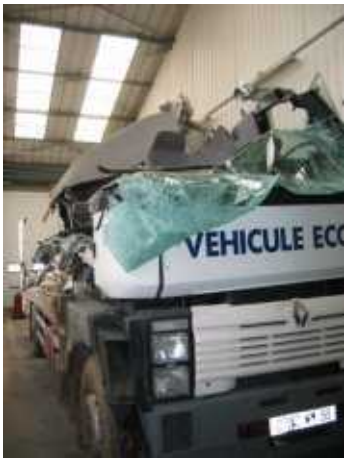
Appendix 2 : Road transport : summary of the investigation reports

- accident involving a training heavy goods vehicle at Saint-Nicolas-du-Tertre on 19 April 2005
- accident involving a coach on the A13 at Bouafle on 25 April 2005
- fire on NGV buses (natural gas vehicles) at Montbéliard and Nancy in August 2005
- fire on a heavy goods vehicle in the Fréjus tunnel on 4 June 2005
- pile-up on the A25 between Dunkirk and Lille on 1 February 2006.

Accident involving a training school heavy goods vehicle

at Saint-Nicolas-du-Tertre

on 19 April 2005



On 19 April 2005 around 10.30 hours, a training heavy goods vehicle with five people on board, driven in the context of an FIMO training course, left national road RD 8 in the municipal district of St Nicolas du Tertre (56). Two people were killed and two seriously injured.

The report was based on the investigations by technical investigators, the results of their investigation communicated by the judicial authorities and the active cooperation of the directors of the transport vocational training body (AFT-FC), which had organised the training course in question.

The initial cause of this accident was the fact that the trainee driver had strayed from the training route onto a narrow road with no margin for correction. The lorry fell into the ditch on the edge of the road and continued its trajectory, crashing against trees planted on the embankment. The four passengers were ejected. The driver was the only person left inside, and he was only slightly injured.

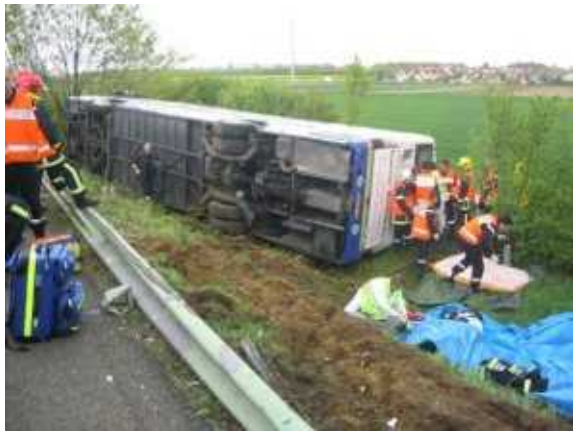
Following the technical investigation, the recommendations issued concerned three areas identified as requiring preventive measures :

- *relating to the organisation of training courses in relation to FIMO (Formation Initiale Minimum Obligatoire – Compulsory Minimum Basic Training), FCOS (Formation Continue Obligatoire de Sécurité – Compulsory Continuing Safety Training) and heavy goods vehicle driving licences, particularly as regards :*
  - *the experience of the instructors and their training background*
  - *the procedures for taking account of safety in practical driving modules*
  - *the diverse levels, often very low, of trainees' experience of driving heavy goods vehicles*
  - *the choice of training routes for trainee drivers*
- *the equipment and use of safety belts in training vehicles*
- *the infrastructure and exploitation of the roads in question which are very hilly and in relation to which the following should be noted :*
  - *the average excessive speed observed*
  - *the risks linked to the configuration of certain areas.*

Accident involving a coach

on 25 April 2005

on the A13 at Bouafle



On Monday 25 April 2005 at around 13.45 hours in the municipal district of Bouafle, a coach on the right-hand lane of the A13 motorway heading out of Paris left the road, crossed the safety barrier on the right-hand side of the carriageway and turned over in a field which was lower than the motorway. This resulted in the death of three of the sixteen passengers and of serious injuries to a fourth passenger. The twelve other passengers were slightly injured.

An analysis of this accident established that the direct cause was the drowsiness of the driver. The investigations into this incident, based mainly on the results of the judicial investigation and the expertise conduced in this respect, highlighted three factors :

- *the drowsiness of the driver which was the direct cause, underlining the importance of taking account and ensuring preventive treatment of this recurring factor in accidents ;*
- *the conditions for recruiting, employing and monitoring drivers, notably in relation to their physical ability to work as drivers of heavy goods vehicles or public transport vehicles ;*
- *lastly, the lack of a device to secure passengers which once again proved to be an aggravating factor.*

In relation to the above points, the BEA-TT proposed two recommendations which were set down by way of a conclusion and concerned :

- *medical check-ups when recruiting drivers for public passenger transport by road*
- *risk evaluation and professional monitoring of the drivers.*

Fires on an NGV bus

in August 2005

at Montbéliard and Nancy

On 1 and 7 August 2005, two buses fuelled by natural gas were destroyed or seriously damaged by fires at Montbeliard and Nancy.

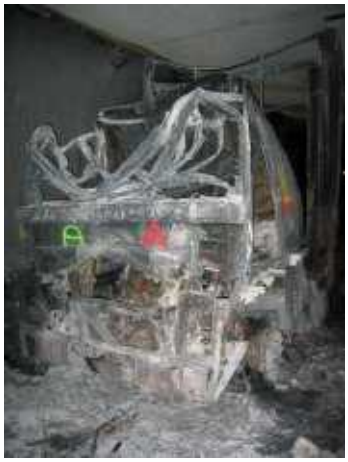
Following these events, the Ministers responsible for transport and industry asked the BEA-TT to hold a technical investigation into the safety of NGV buses.

Apart from the origin and circumstances of the two fires (engine fires caused by an electrical short circuit and a breakdown in the turbocompressor), it was discovered during the investigation that other fires or fire outbreaks had occurred in the same equipment in France and abroad. Hence it was possible to draw prevention lessons which are included in this report in the form of three sets of recommendations issued in relation to different generations of the buses in question, aimed at remedying the main problems observed.

Fire involving a heavy goods vehicle

on 4 June 2005

in the Fréjus tunnel



On 4 June 2005 at around 17.48 hours, a heavy goods vehicle carrying tyres caught fire in the Fréjus tunnel between France and Italy. The fire spread to three other heavy goods vehicles, resulting in two deaths and causing serious material damage which meant the tunnel had to be shut down for two months.

The report was based on the investigations by the technical investigators who were able to examine the tunnel with the burnt-out vehicles and to hold interviews several times with the main people who intervened (public utility companies and fire and emergency services officers). As provided for by law, the investigators also had access to elements forming part of the French judicial investigation. A mission was entrusted to the CETU (tunnel research centre) to analyse the performance of tunnel equipment during the fire and to recreate the ventilation conditions and smoke movements using a digital model. This analysis has not yet been completely finished, therefore the final report will be published later.

The direct cause of the incident was the spontaneous fire of a heavy goods vehicle while passing through the tunnel combined with a type of load (tyres) that is highly inflammable, exothermic and generates toxic fumes.

The rapid development of the fire and fumes was caused by three factors :

- *the driver of the heavy goods vehicle did not stop his vehicle quickly after the start of the fire to sound the alert ;*
- *the central control station staff experienced problems clearly identifying the nature and location of the incident, which prolonged the time before smoke extraction was started ;*
- *the smoke extraction was not very effective mainly because of the inaccurate identification of the location of the heavy goods vehicle on fire.*

Despite the rapid deployment of the utility companies' emergency teams, the evacuation and sheltering of users blocked behind the fire did not take place under normal conditions. Five factors were underlined :

- *given the time that it took to get through the tunnel, the utility companies' emergency services were not able to get to the users blocked under the fire whirlwind in time to assist them ;*
- *the intervention of the utility companies' emergency services, in particular during the attempts to save the two victims, was severely handicapped by the extreme*

environmental conditions (the opacity and toxicity of the fumes, and the heat), combined with the loss of radio communications and inadequacy of certain materials (thermal cameras) ;

- *the tunnel's operating and safety equipment rapidly became defective as a result of the fire which made it more difficult to reach the shelters and caused problems for the emergency services (radio cable, lighting and impermeability of shelter 6). Moreover, some safety equipment was not yet of the desired standard (distance between emergency exits) ;*
- *the users, even the professional users, were not sufficiently aware of the risks and behaviour to adopt in a tunnel such as the Fréjus tunnel (this was what happened in the case of the two victims who did not realise the danger in time) ;*
- *the alerting of the users driving towards the fire in the tunnel did not give them enough time to stop before reaching the danger zone and to receive useful instructions.*

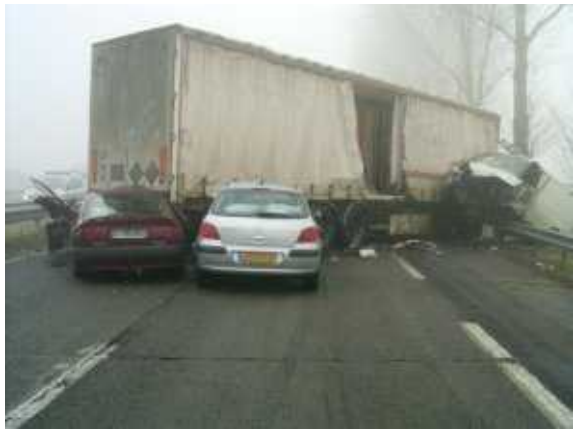
Seventeen recommendations were made following the technical investigation, in five areas identified as requiring preventive measures :

- *spontaneous fires in heavy goods vehicles, particularly in tunnels : recommendations R1 and R2 concern the deployment of a feedback approach and the examination of measures to regulate certain types of transport of goods ;*
- *characteristics and equipment of tunnels : recommendations R3 to R10 are aimed at strengthening or supplementing the safety devices and improving their performance in the case of a fire. Recommendation R7 in particular on the distance between emergency exits calls for a rapid decision concerning the creation of an emergency gallery or a second traffic flow tube ;*
- *emergency services : recommendations R11 to R13 advocate the reduction of response time, the need to find a solution for thermal cameras and the examination of possibilities of standardising the public emergency intervention resources on both sides of the tunnel ;*
- *familiarity of users with the risks and instructions applicable in a tunnel : recommendations R14 to R16 concern monitoring the effectiveness of information and communication campaigns, the efficient dissemination of emergency instructions in real time and the training of professional drivers ;*
- *organisational aspects : recommendation R17 concerns the establishment of a common operating body.*

Pile-up on the A25

between Dunkerque and Lille

on 1 February 2006



On Wednesday 1 February 2006 a pile-up on the A25 motorway between Dunkirk and Lille caused two deaths, with five people injured and hospitalised. The incident occurred in a situation of general fog throughout the Nord department. The weather authorities recorded visibility of 50m at the Lille-Lesquin airport, the section of the A25 motorway between the Lys and Yser valleys was covered in particularly dense fog. According to some witnesses, visibility was down to 25 m and even less locally.

There is a traffic jam on this motorway every morning near Lille. The chain of serious accidents started at 9.03 hours, cutting off traffic in the Dunkirk to Lille direction. The last accident was recorded at 11.30 hours, at around the same time when all the entries to the motorway were cut off in both directions.

The drivers were accustomed to this motorway and were driving much too fast given the fog, with the heavy goods vehicles travelling at 90 km/hour and the light vehicles often well above 110 km/hour, the maximum speed authorised on this motorway. Half of the twenty-four accidents reported were caused by a light vehicle crashing into a heavy goods vehicle that had slowed down or was even stopped.

Pile-ups of this kind are classic. On this section of the A25, the previous one, much less spectacular, occurred on 17 April 2002 and resulted in one person being seriously injured. In the Nord Department, the last comparable major pile-up dates back to 1999 and occurred on the A2 motorway near Valenciennes. Pile-ups are falling at national level, with statistics for the past five years listing nine pile-ups per year, in other words nine accidents involving at least four vehicles. With twenty-six heavy goods vehicles involved and sixty-nine light vehicles damaged, the pile-up on 1 February is one of the biggest.

The excessive speed of the drivers was the main cause of these accidents. The installation of fixed radar devices between Dunkirk and Lille will probably contribute to ensuring compliance with the speed limit for light vehicles.

The Nord Department Technical Services Directorate does not at the moment have variable message boards or a dedicated radio station for the A25. The only means that it could theoretically have used was to place vehicles equipped with light signals at the end of the traffic jam on the motorway. On 1 February, all the teams were working on winter road duties, other accidents or were blocked in traffic jams.

Appendix 3 : List of investigations performed or started since 2002

Date	Accident	Deaths	Mode*
16.06.2002	Dam-lock at Évry on the Seine (91)	3	IW
05.11.2002	Pile-up on the A10 at Coulombiers (86)	8	R
06.11.2002	Fire in a carriage of the Paris-Munich train at Nancy (54)	12	Rw
2002	TVR Nancy and Caen	0	RH
27.01.2003	Train collision at La Biogna (06)	2	Rw
17.05.2003	Coach accident on the A6 at Dardilly (69)	28	R
20.09.2003	Intercity RER D train incident at Villeneuve Triage (92)	0	F
18.11.2003	HVG collision involving transport of dangerous goods, RN 165 at Nivillac (56)	2	R
18.01.2004	Inland waterway convoy at La Voulte on the Rhône (07)	1	IW
15.02.2004	Snow walkway at Val Cenis (73)	1	CW
05.04.2004	Train collision at Saint-Romain-en-Gier (69)	0	Rw
17.04.2004	Electrocution by overhead cables at Saint Nazaire (44)	1	Rw
22.06.2004	Coach accident on the RN10 at Ligugé (86)	11	R
28.07.2004	“Santina” boat at the Blénod lès Pont lock at Mousson (54)	0	IW
26.08.2004	“Foehn” boat at Nogent sur Seine (10)	0	IW
29.08.2004	Pile-up with coach on the A63 at Belin-Béliet (33)	8	R
30.08.2004	Collision between trams on the tramway at Rouen (76)	0	RH
24.11.2004	Collision between a Corail train and an articulated lorry at Millau (12)	0	Rw/R
15.01.2005	Coach on the RN 7 at Saint Martin d'Estréaux (42)	0	R
16.02.2005	Collision between two TER regional express trains at Longueville (77)	0	Rw
19.04.2005	Training HGV on the RD 8 at Saint Nicolas du Tertre (56)	2	R
25.04.2005	Coach on the A13 at Bouafle (78)	3	R
27.05.2005	Train collision at Francardo (02)	0	Rw
04.06.2005	Fire on a HGV in the Fréjus tunnel (73)	2	R
09.06.2005	Accident at the level crossing at St-Laurent-Blangy (62)	0	Rw/R
06.08.2005	Fire on underground trains at Simplon station (75)	0	RH
August 2005	Fires on NGV bus at Nancy and at Montbéliard	0	R

*Rw: railway ; R: Road ; GT: Guided Transport ; W: Waterways ; CW: Cableways

Date	Accident	Deaths	Mode*
20.01.2006	Coach accident on the RD35 at Arles (13)	1	R
01.02.2006	Pile-up on the A25 at Météren (59)	2	R
25.02.2006	Derailment of a train at Saint-Flour (15)	0	Rw
28.03.2006	Cruise boat “Camargue” at the Pont de la Voulte (07)	0	IW
26.05.2006	Collision between a car and a HGV on the RN 134 at Ogeu-les-Bains (64)	5	R
13.06.2006	Derailment of a train at Ferté-sur-Chiers (08)	0	Rw
28.06.2006	Near-miss at Tencin-Theys station (38)	0	Rw
24.07.2006	Derailment of a works train at Culoz (73)	0	Rw
24.07.2006	Collision between two HGV and a camping-car on the RN10 at Reignac (16)	5	R
07.08.2006	Accident involving a tanker on the A55 at Chateauneuf-les-Martigues (13)	1	R
05.09.2006	Accident involving a coach on the A1 at Brasseuse (60)	4	R
08.08.2006	Inland waterway passenger boat “Provence” at Gervans (26)	6	IW
11.10.2006	Collision between a freight train and a TER regional express	6	Rw
18.10.2006	Collision between a TER regional express train and an exceptionally large goods vehicle at Domène (38)	0	R
10.11.2006	Passenger accident at Chaville station (92)	1	Rw

*Rw: railway ; R: Road ; GT: Guided Transport ; W: Waterways ; CW: Cableways

Appendix 4 : Road accidents listed in the BEA-TT data base

Analysing according to type of accident

Type of accident	Number	Type of transport					Total
		PT	RH	MD	PC	Other	
Head-on collision	Accident	9	17	2	99	0	**127**
	Fatal accidents	7	14	1	57	0	**79**
	Deaths	10	20	1	94	0	**125**
Other type of collision	Accident	97	611	23	1 142	180	**2 053**
	Fatal accidents	25	208	4	437	77	**751**
	Deaths	26	248	4	514	84	**876**
Entry onto main road	Accident	40	587	89	737	125	**1 578**
	Fatal accidents	2	20	2	390	68	**482**
	Deaths	2	23	2	484	71	**582**
Spontaneous fire	Accident	9	94	8	50	1	**162**
	Fatal accidents	0	1	0	2	0	**3**
	Deaths	0	1	0	3	0	**4**
Other	Accident	0	35	14	6	1	**56**
	Fatal accidents	0	0	0	2	1	**3**
	Deaths	0	0	0	3	1	**4**
Total	Accident	**155**	**1 344**	**136**	**2 034**	**307**	**3 976**
	Fatal accidents	**34**	**243**	**7**	**888**	**146**	**1 318**
	Deaths	**38**	**292**	**7**	**1 098**	**156**	**1 591**

PT : Public transport ; RH : Road haulage ; DG : Dangerous Goods ; PC : Private Car

NB : classified according to transport type using this hierarchy : PT, RH, RH (DG), PC and other

Spécial factors identified

Type of accident	Number	Type of transport					Total
		PT	RH	MD	PC	Other	
Driving against the traffic	Accident	0	2	1	16	0	**19**
	Fatal accidents	0	1	0	11	0	**12**
	Deaths	0	1	0	16	0	**17**
Crossing of central reservation	Accident	0	15	2	1	0	**18**
	Fatal accidents	0	1	0	0	0	**1**
	Deaths	0	1	0	0	0	**1**
Fires of all kinfs	Accident	7	104	11	65	1	**188**
	Fatal accidents	0	3	1	14	0	**18**
	Deaths	0	4	1	29	0	**34**
Level crossing	Accident	0	0	0	0	123	**123**
	Fatal accidents	0	0	0	0	53	**53**
	Deaths	0	0	0	0	58	**58**
Total	Accident	**7**	**121**	**14**	**82**	**124**	**348**
	Fatal accidents	**0**	**5**	**1**	**25**	**53**	**84**
	Deaths	**0**	**6**	**1**	**45**	**58**	**110**

PT : Public transport ; RH : Road haulage ; DG : Dangerous Goods ; PC : Private Car

Appendix 5 : Legislation covering the BEA-TT

- Law No 2002-3 of 3 January 2002 relating to the safety of transport infrastructure and systems, to technical investigations and to the underground storage of natural gases, hydrocarbons and chemicals[2].

  Law amended by Law No 2006-10 of 5 January 2006 and Law No 2006-686 of 13 June 2006.

  The technical investigations come under Heading III of Law 2002-3.

- Decree No 2004-85 of 26 January 2004 relating to technical investigations following maritime incidents and land transport accidents or incidents[3].

  Decree amended by Decree No 2006-1276 of 19 October 2006.

[2] published in the Official Journal of 4 January 2002, page 215.

[3] published in the Official Journal of 28 January 2004, page 1996.

LAW No 2002-3 of 3 January 2002 amended, relating to the safety of transport infrastructure and systems, to technical investigations and to the underground storage of natural gases, hydrocarbons and chemicals

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as modified by law n° 2006-10 of 5 January 2006
and law 2006-686 of 13 June 2006

Heading I : Safety of transport infrastructure and systems

Heading II : Safety relating to the underground storage of natural gases, hydrocarbons and chemicals

Heading III : Technical investigations

Article 14

I. – Following an event at sea, a road transport accident or incident, or an accident or incident affecting nuclear activities, as specified in Article L. 1333-1 of the Public Health Code, a technical investigation may be set up for the sole purpose of preventing future events, accidents and incidents. Without prejudice to the judicial investigation, if indeed one is conducted, the technical investigation entails collecting and analysing relevant information in order to determine the circumstances and real or possible causes of the event, accident or incident and to issue safety recommendations where applicable.
II. – Technical investigations into maritime events may involve civilian vessels flying another flag when the maritime event has occurred in domestic waters or in waters forming part of French territory. An investigation may also be conducted when the maritime event, wherever it occurred, has cost lives or inflicted serious injury on French nationals, or caused or threatened to cause serious harm to French territory, to the environment, to facilities or to structures falling under French jurisdiction. These investigations are conducted in accordance with the rules of international maritime law.
Technical investigations into land transport accidents or incidents may involve rail transport systems or other guided transport systems, as well as road transport or river transport, provided that the accident or incident has occurred on national territory.
The technical investigation of accidents or incidents relating to nuclear activities may concern all the activities mentioned in article L. 1333-1 of the public health code.
III. - Technical investigations are conducted by a specialised permanent body which may call on members of inspection or monitoring agencies or, if necessary, request that the Minister of Transport set up an investigation committee.
Within the scope of the investigation, the body or persons in charge of the investigation are totally independent and do not receive or seek instructions from any authority or body whose interests may conflict with their assignment.
A Council of State decree stipulates the conditions for commissioning persons in charge of investigations and for appointing investigation committee members.
This decree also specifies in which instances and according to which procedures foreign technical investigators may be authorised to take part in investigations on national territory or on board French vessels, when their presence is required for the proper conduct of the investigation.
The technical investigation of accidents or incidents relating to nuclear activities must be conducted by agents of the Nuclear Safety Authority, which is a permanent body in the sense of this law. The authority may call upon members of inspection and control bodies, agents of the Institute of Radioprotection and Nuclear Safety, or French or foreign technical investigators.

Article 15

Technical investigators can immediately access the location of the event at sea, the road transport accident or incident, or the accident or incident affecting nuclear activities in order to carry out any inspections that may be useful. In the case of maritime events or accident, the public prosecutor as well as, if necessary, the administrator of maritime affairs in charge of the investigation mentioned in article 86 of the merchant navy disciplinary and penal code, are informed in advance of the details of their participation.
If necessary, technical investigators shall take all measures required to preserve evidence.

Article 16

Technical investigators are granted immediate access to the content of technical devices used to record data that may be useful for understanding the causes and circumstances surrounding the maritime event or accident or incident, and may utilise these devices subject to the following conditions :
1) When a judicial investigation or investigation is initiated, recording devices, previously seized by the judicial authorities in accordance with provisions stated in articles 97 and 63 of the penal procedure code are, at their request, placed at the disposal of the technical investigators who take a copy, under the supervision of a police officer, of the data contained in them.
2) If a legal investigation or investigation is not initiated, recording devices and their content may be removed by technical investigators in the presence of a police officer. In the case of maritime events or accident, the police officer's assistance is sought via the intermediary of the public prosecutor.

Article 17

If a judicial investigation or investigation has not been initiated, technical investigators may remove, for purposes of examination or analysis, any debris, fluids, parts, components, units or mechanisms that they think will help to determine the circumstances and causes of a maritime event or accident or incident, in the presence of a police officer. The police officer's assistance is sought via the intermediary of the public prosecutor.
Objects or documents held by technical investigators are returned as soon as it is no longer considered necessary to keep them for purposes of determining the circumstances and causes of the maritime event or accident or incident. The withholding and if necessary, the alteration or destruction, for purposes of the investigation, of objects or documents submitted for examination or analysis are not subject to any compensation.

Article 18

When a judicial investigation or investigation has been opened, technical investigators may, for purposes of exam-

ination or analysis and subject to the approval of the public prosecutor or investigating magistrate, remove debris, fluids, parts, components, units or mechanisms that they think will help to determine the circumstances and causes of a maritime event or accident or incident.
Technical investigators may only submit seized debris, fluids, parts, components, units or mechanism for examination or analysis that might modify, impair or destroy them subject to the approval of the judicial authorities.
They are informed of expert analyses carried out by the competent judicial authorities. They are entitled to be present at these occasions and to use observations made during these operations for purposes of the technical investigation.

Article 19

Technical investigators may meet with any persons concerned and may obtain, irrespective of professional secrecy claims, any information or any documents relating to the circumstances, organisations and equipment associated with the maritime event or accident or incident, particularly with regard to the construction, certification, maintenance, use of equipment, transport preparations, operation and checking of the vehicle(s) involved.
Under the same terms, the technical investigators may also request any personal information or documents relating to the training or qualification of the individuals involved and, in the case of events at sea or road transport accidents or incidents, their aptitude to drive or control the vehicles involved. However, information of a medical nature may only be conveyed to doctors attached to the permanent body or designated to assist these investigators, subject to the conditions laid out by the Council of State decree.
Confidential information or documents forming part of the investigation or investigation may be conveyed to technical investigators with the approval of the public prosecutor. If such documents are placed under seal by the judicial authorities, a copy is then made for them.

Article 20

Doctors working for the permanent body or designated to assist the technical investigators may, upon request, be provided with the results of analyses performed or samples taken from the individuals driving and, if applicable, controlling the vehicles involved in the event at sea or the road transport accident or incident, or from the individuals involved in the nuclear activities in question, together with medico-legal reports on any casualties.

Article 21

When legal proceedings are initiated, a copy of the technical investigation report is sent to the public prosecutor.

Article 22

I. - Persons in charge of the investigation and experts whom they might consult are bound to professional secrecy subject to the conditions and penalties mentioned in article 226-13 of the penal code.
II. - By special dispensation from the clauses of article I, the person in charge of the permanent body is authorised to convey information resulting from technical investigations to the administrative authorities responsible for safety, to managers of companies responsible for the construction or maintenance of infrastructures, transportation facilities or their fittings, to the individuals or companies in charge of operating infrastructures or transport equipment, conducting nuclear activities, designing, producing or maintaining equipment used within the scope of nuclear activities, or training personnel, if the above-mentioned person considers that such information could help to prevent a maritime event or accident or incident.
For the same purpose, the person in charge of the permanent body and, if applicable, persons chairing investigation committees, are authorised within the scope of their assignment, to publish technical information on observations made by investigators, proceedings of the technical investigation and if necessary, its provisional conclusions.

Article 23

In the course of an investigation, the permanent body may issue safety recommendations if it considers that immediate implementation of these recommendations could help to prevent a maritime event or accident or incident.
Upon completion of the technical investigation, the permanent body publishes a report in a form that is commensurate with the severity of the event. This report does not name specific individuals. It only includes information resulting from the investigation and which is required for determining the circumstances and causes of the accident or incident, and for understanding safety recommendations.
Prior to submitting the report, technical investigators may gather observations from the relevant authorities, companies and staff members, who are bound to keep the content of these exchanges confidential.

Article 24

I. - A penalty of EUR 15 000 will be imposed for any act that hinders the work carried out by technical investigators :
1) Either by objecting to them carrying out their assigned duties ;
2) Or by refusing to provide them with relevant materials, information and documents by concealing, impairing or disposing of these items.
II. - Under the conditions stipulated in article 121-2 of the penal code, natural persons may be declared criminally responsible for the offences defined under heading I.
Penalties imposed on natural persons are as follows :
1) Fines, in accordance with the provisions stipulated under article 131-38 of the penal code ;
2) Penalties mentioned in article 131-39 of the same code.
The ban mentioned under no. 2 of article 131-39 of the same code pertains to operations due to which or during which the offence was committed.

Article 25

Clauses coming under heading III of this statute apply, provided they concern maritime events in Mayotte, in overseas territories and in New Caledonia, without prejudice to the powers devolved to these communities.

Article 26

Article L. 412-2 has been inserted after article L. 412-1 of the Highway Code and reads as follows :
"Art. L. 412-2. - A six-month period of incarceration and a fine amounting to EUR 3 750 will be imposed on any driver of a motor vehicle who when in a tunnel, does not keep a sufficiently safe distance between two vehicles or a distance of 50 metres for vehicles weighing more than 3.5

tons, and who commits the same offence within a year of the date on which this sentence became final."
"Any driver found guilty of this offence also incurs the additional penalty of suspension of his/her driver's licence for a period of three years or more. This suspension may be limited to driving outside the scope of professional activity.
"Clamping and impounding of vehicles may be imposed by the conditions stipulated in articles L. 325-1 to L. 325-3.
"This offence rightfully results in the withdrawal of half of the initial number of points on the driver's licence."

Article 27

Subject to the approval of the public prosecutor or investigating magistrate depending on the case, the following may be conveyed to authorities or bodies declared competent by the Minister of Justice after consulting with the relevant Minister(s) if necessary : information from ongoing legal proceedings that could be used to conduct research or scientific or technical investigations intended to notify the committee of accidents or to facilitate compensation of victims. Persons acting on behalf of these authorities or bodies are subsequently bound to professional secrecy with regard to this information, under the conditions and subject to the penalties stipulated in articles 226-13 and 226-14 of the penal code.

Article 28

Article L. 721-6 of the civil aviation code reads as follows :
"Art. L. 721-6. - Doctors attached to the permanent body or designated to assist technical investigators are informed, upon request, of the results of examinations or tests performed on persons responsible for operating, communicating with and checking the aircraft(s) involved in the accident or incident, as well as the results of forensic expert reports pertaining to the victims."

Article 29

The last paragraph of article L. 711-3 of the civil aviation code is followed by a sentence which reads :
"This decree also specifies in which instances and according to which procedures foreign technical investigators may be authorised to take part in investigations on national territory when their participation is required for the proper conduct of the investigation."
The present statute shall be enforced as a law of the state.

Paris, 3 January 2002.

Jacques Chirac

By the President of the Republic :
The Prime Minister,

Lionel Jospin

The Minister of Economic Affairs,

Finance and Industry,

Laurent Fabius

The Minister of Justice,

Marylise Lebranchu

The Minister of Internal Affairs,

Daniel Vaillant

The Minister of Foreign Affairs,

Hubert Védrine

The Minister of Infrastructure,

Transport and Housing,

Jean-Claude Gayssot

The Minister of Regional Development

and the Environment,

Yves Cochet

The Secretary of State for Overseas Territory,

Christian Paul

The Secretary of State for the Budget,

Florence Parly

The Secretary of State for Industry,

Christian Pierret

- Community Directives :

Council Directive 96/82 of 9 December 1996 on the control of major-accident hazards involving dangerous substances.

- Preparatory work :

National Assembly :

Bill No 2940

Report by Ms Odile Saugues on behalf of the Production Committee, No 3296, amended ;

Discussion and adoption, after declaration of urgency, on 10 October 2001.

Senate :

Bill adopted by the National Assembly, No 15 (2001-2002) ;

Report by Mr Jean-François Le Grand on behalf of the Economic Affairs Committee, No 29 (2001-2002) ;

Discussion and adoption on 24 October 2001.

National Assembly :

Bill, amended by the Senate, No 3357 ;

Report by Ms Odile Saugues, on behalf of the Joint Committee, No 3418 ;

Discussion and adoption on 29 November 2001.

Senate :

Report by Mr Jean-François Le Grand, on behalf of the Joint Committee, No 83 (2001-2002) ;

Discussion and adoption on 19 December 2001.

Decree No 2004-85 of 26 January 2004, amended, concerning technical investigations following maritime incidents and land accidents or incidents.

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consolidated version at 20 October 2006

The Prime Minister,
On the basis of the report by the Minister for Public Works, Transport, Housing, Tourism and Maritime Matters,
Having regard to the 1973 international agreement on the prevention of pollution by ships, made in London on 2 November 1973, as modified by the 1978 protocol, published by decree number 83-874 of 27 September 1983, in particular article 12 ;
Having regard to the 1974 international agreement for the preservation of human life at sea, made in London on 1 November 1974, and published by decree number 80-369 of 14 May 1980 ;
Having regard to the 1978 international agreement on standards for seafaring personnel training, awarding certificates and technical watch, made in London on 7 July 1978, published by decree number 84-387 of 11 May 1984 ;
Having regard to the United Nations agreement on maritime law, signed at Montego Bay on 10 December 1982, published by decree number 96-774 of 30 August 1996, in particular article 94 ;
Having regard to Council Directive 1999/35/CE of 29 April 1999 concerning a system of compulsory inspections for the safe operation of scheduled Ro-Ro's and high speed passenger vessel services, in particular article 12 ;
Having regard to the European Parliament and Council Directive 2002/59/CE of 27 June 2002 concerning the introduction of a community shipping traffic monitoring and information system, abrogating Council Directive 93/75/CEE, in particular article 11 ;
Having regard to the code of penal procedure, in particular article 776 ;
Having regard to amended domestic transport orientation Act number 82-1153 of 30 December 1982, in particular article 9 ;
Having regard to Act number 2002-3 of 3 January 2002 concerning infrastructure safety and transport systems, technical investigations after maritime events, land or air transport accidents or incidents and underground storage of natural gas, hydrocarbons and chemicals, particularly part III ;
Having regard to the amended decree of 8 November 1926 reorganising the maritime registration general inspectorate :
Having regard to amended decree number 84-810 of 30 August 1984 concerning the preservation of human life at sea, habitability on board vessels and pollution
prevention ;
Having regard to amended decree number 85-659 of 2 July 1985 setting out the organisation of the central department of the Ministry for Town Planning, Housing and Transport ;
Having regard to decree number 86-1175 of 31 October 1986 concerning the structural engineering general council and the general inspectorate of public works and the environment ;
Having regard to decree number 97-464 of 9 May 1997 concerning the creation and organisation of departments with national jurisdiction ;
Having regard to the opinion of the central joint technical committee of the Ministry for Public Works, Transport, Housing and the Maritime Matters dated10 July 2003 ;
Having regard to the opinion of the standing inter-ministerial road safety group of 22 July 2003 ;

Having consulted the Council of State (public works section),

Chapter 1 : Common provisions.

Article 1

The specialised standing bodies in charge of carrying out technical investigations concerning maritime events and land transport accidents or incidents, pursuant to article 14 of the above-mentioned Act of 3 January 2002, have national jurisdiction and are hereinafter referred to as "maritime event investigation bureau" (BEAmer) and "land transport accident investigation bureau" (BEA-TT).

Article 2

The authorities of the State and its public establishments, as well as those of local government, for the transport services and infrastructure they are responsible for, shall immediately inform the relevant investigation bureau of events, accidents or incidents seriously jeopardizing personal safety, particularly when they involve professional carriers.
To fulfil their missions, the investigation bureaux can call upon all the State services competent in their respective domains.

Article 3

The organisation of the investigation bureaux is stipulated by order of the minister in charge of maritime matters or by order of the minister in charge of transport, as the case may be.

Article 4

The director of each investigation bureau is appointed for a term of five years. He is assisted by a general secretary. Their appointment commissions them as technical investigators.

Article 5

The director of each investigation bureau directs its action. He has authority over the staff.
He is the delegated certifying officer of the bureau's receipts and expenditure.
He can delegate the civil servants and staff under his/her authority to sign any legal documents, decisions, contracts, agreements and riders, as well as any order forms and accounting vouchers.

Article 6

The director of the investigation bureau sets the scope of investigation and the methods of technical investigations. He designates the technical investigators in charge of organising and carrying them out.

Article 7

The director of each investigation bureau organises French participation in technical investigations carried out by a foreign state under the conditions set out in international agreements and European Union regulations and directives.

Article 8

Doctors assigned to investigation bureaux and doctors designated by directors to assist them, as well as doctors who are members of investigation commissions, are provided

with any medical information or documents concerning the people mentioned in article 20 of the above-mentioned Act of 3 January 2002, on request. Based on this information, they select such elements as will clarify the circumstances and causes of the event, accident or incident under investigation.

Article 9

Recipients of safety recommendations made as a result of a technical investigation shall, within ninety days of reception, unless another period is expressly stipulated in the recommendations, inform the investigation bureau director of the measures they intend to take and, where applicable, the time necessary to implement them.
The director may make these recommendations public, with, where applicable, answers received from recipients.
The same provisions are applicable to safety recommendations which might be made after examination of experience feedback and accidentology.

Article 10

Investigation reports drawn up under the terms of article 23 of the above-mentioned Act of 3 January 2002, as well as studies and statistics, shall be made available to the public by any suitable means.

Article 11

The director of each investigation bureau shall draw up an annual report on his/her activities which is made public .

Chapter 2 : Provisions concerning the maritime event investigation bureau and maritime event technical investigations

Article 12

The BEAmer reports to the maritime affairs general inspector.
Its mission is to carry out technical investigations on maritime events.
It also collects, analyses and disseminates information on practices and lessons of maritime event experience feedback.
It carries out experience feedback and accidentology studies and research.

Article 13

The BEAmer director is appointed by order of the Minister in charge of Maritime Matters, on the proposal of the maritime affairs general inspector, from Category A State officers with at least twenty years' professional experience in the area of maritime activities and safety.

Article 14

The decision to open an investigation is taken by the Minister in charge of Maritime Matters, on his own initiative or on the proposal of the BEAmer director.

The director shall propose regulations to the Minister in charge of Maritime Matters on the preservation of evidence from the technical investigation as well as the use of onboard recorders.

Article 15

In addition to the director and general secretary, the BEAmer is made up of technical investigators, designated from among category A or equivalent State officers. Their appointment commissions them as technical investigators. The BEAmer also includes technical or administrative staff. These investigators and staff, depending on whether they are employed permanently or on a contract basis, are assigned or hired on the proposal of the BEAmer director.
For each investigation, the BEAmer director shall propose to the Minister either the use of the bureau's own resources or the formation of an investigation commission. In the latter case, at the director's proposal, the Minister shall designate the chairman of the commission chosen from among the BEAmer investigators, as well as the other members of the commission chosen according to their competencies, with the requisite guarantees of independence and impartiality. The members of the commission have the function of technical investigators.
The BEAmer may call upon experts, including foreigners, who are subject to professional secrecy under the same terms as BEAmer officers.

The remuneration of technical investigators and experts who are not assigned to the BEAmer or who are not made available to it, is set by a joint order of the Minister in charge of the budget and the Minister in charge of maritime matters.

Article 16

Technical investigators other than those mentioned in the first paragraph of article 15, are commissioned by the Minister in charge of Maritime Matters at the BEAmer director's proposal, provided that they have no convictions or decisions recorded in the national criminal record form number 2.
Their commission can be withdrawn from them in the interest of the bureau, by the same procedure.

Article 17

On the proposal of the BEAmer director or at the request of a foreign authority made through diplomatic channels, the Minister in charge of Maritime Matters may authorise technical investigators from equivalent foreign agencies to participate in investigations on the national territory or on board French vessels.
They may, under the same terms, be associated with the investigation if the maritime event involves a foreign vessel or a foreign national.

The BEAmer director sets out how these technical investigators participate in or are associated with investigations or investigations.

Chapter 3 : Provisions concerning the land transport accident investigation bureau and technical investigations after land transport accidents or incidents.

Article 18

The BEA-TT reports to the vice-chairman of the civil engineering general council.
Its mission is to carry out technical investigations on land transport accidents or incidents, which may involve rail transport systems or guided transport systems, road transport or river transport, whenever the accident or incident has occurred on the national territory.
It also collects, analyses and disseminates information on practices and lessons from feedback on accidents or incidents for these methods of transport.

It carries out experience feedback and accidentology studies and research.

Article 19

The BEA-TT director is appointed by order of the Minister in charge of Transport, on the proposal of the vice-chairman of the civil engineering general council, from Category A State officials with at least twenty years' professional experience in areas related to transport and its infrastructure.

Article 20

Amended by Decree No 2006-1279 of 19 October 2006 Art.65 III (JORF 20 October 2006).

The Director of the BEA-TT may take the decision to carry out an investigation upon request or with the approval of the transport minister.
However, the Director of the BEA-TT must conduct an investigation whenever a serious rail accident occurs. Furthermore, the Director of the BEA-TT may decide to conduct an investigation after a serious incident has occurred which under different circumstances could have led to a serious rail accident.

The Director shall propose to the Minister for Transport the regulation concerning the preservation of the elements used in the technical investigation and the use of on-board recording devices for the purposes of technical investigations.

Article 21

In addition to the director and general secretary, the BEA-TT is made up of technical investigators, designated from among category A or equivalent State officers. Their appointment commissions them as technical investigators. The BEA-TT also includes technical or administrative staff. These investigators and staff, depending on whether they are employed permanently or on a contract basis, are assigned or hired on the proposal of the BEA-TT director.
For each investigation, the BEA-TT director shall propose to the Minister either the use of the bureau's own resources and, where necessary non-permanent technical investigators recruited under the terms set out in article 22 of this decree, or the formation of an investigation commission. In the latter case, at the director's proposal, the Minister shall designate the chairman of the commission chosen from among the BEA-TT investigators, as well as the other members of the commission chosen according to their competencies, with the requisite guarantees of independence and impartiality. The members of the commission have the function of technical investigators.
The BEA-TT may call upon experts, including foreigners, who are subject to professional secrecy under the same terms as BEA-TT officers.
The remuneration of technical investigators and experts who are not assigned to the BEA-TT or who are not made available to it, is set by a joint order of the Minister in charge of the budget and the Minister in charge of transport.

Article 22

The BEA-TT director may also call upon technical investigators made available or temporarily recruited. They are chosen from among the members of inspection and verification bodies, working or retired, as well as from among the working or retired staff of transport or infrastructure management firms.

Article 23

Amended by Decree No 2006-1279 of 19 October 2006 Art.65 III (JORF 20 October 2006).

Technical investigators other than those mentioned in the first paragraph of article 21, are commissioned by the Director of BEA-TT, provided that they have no convictions or decisions recorded in the national criminal record form number 2.
Their commission can be withdrawn from them in the interest of the bureau, by the same procedure.

Article 24

On the proposal of the BEA-TT director, the Minister in charge of transport may authorise technical investigators from equivalent foreign agencies to participate in investigations on an accident or incident which has occurred on the national territory either when a vehicle registered in their country of origin is involved, or when the operator or manufacturer of the means or system of transport in question is established in their country of origin.

Chapter 4 : final provisions.

Article 25

The provisions of articles 1 to 17 of this decree are applicable, insofar as they concern maritime events, in Mayotte, the Wallis and Futuna islands, French Polynesia, New Caledonia and French Austral and Antarctic territories, without prejudice to the jurisdiction devolved to these authorities.

Article 26

Decree number 81-63 of 20 January 1981 concerning commissions for technical and administrative investigation of ship accidents and incidents is abrogated.

Article 27

The Minister of the interior, homeland security and local liberties, the justice Minister, the foreign affairs Minister, the Minister for defence, the Minister for the economy, finance and industry, the Minister for public works, transport, housing, tourism and maritime matters, the Minister for agriculture, food, fishing and rural affairs, the Minister for public services, State reform and national planning and development, the overseas Minister, the Minister delegated to the budget and budgetary reform, the secretary of state for transport and maritime matters and the secretary of state for State reform are, each in the area concerning them, in charge of executing this decree, which will be published in the Official Bulletin of the French Republic.

By the Prime Minister :

Jean-Pierre Raffarin

The Minister of Infrastructure, Transport,

Housing, Tourism and Maritime Affairs,

Gilles de Robien

The Minister of Internal Affairs,

National Security and Local Liberties,

Nicolas Sarkozy
The Minister of Justice,
Dominique Perben
The Minister of Foreign Affairs,
Dominique de Villepin
The Minister of Defence,
Michèle Alliot-Marie
The Minister of Economic Affairs,
Finance and Industry,
Francis Mer
The Minister of Agriculture, Food,
Fisheries and Rural Affairs,
Hervé Gaymard
The Minister of the Civil Service,
Reform of the State
and Regional Development,
Jean-Paul Delevoye
The Minister of the Overseas Territories,
Brigitte Girardin
The Minister responsible for the budget
and budget reform,
Alain Lambert
The Secretary of State for Transport
and Maritime Affairs,
Dominique Bussereau
The Secretary of State for the Reform of the State,
Henri Plagnol

BEA-TT

Land Transport Accident

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