



# ACTIVITY REPORT

## 2005



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RÉPUBLIQUE FRANÇAISE



ministère  
des Transports  
de l'Équipement  
du Tourisme  
et de la Mer



**Conseil Général des Ponts et Chaussées**

**Bureau d'Enquêtes sur les Accidents  
de Transport Terrestre**

# **ACTIVITY REPORT**

## **2005**

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## **1- BEA-TT in 2005**

BEA-TT (Bureau d'Enquêtes sur les Accidents de Transport Terrestre - the inquiry office for accidents on land transport) was created by Government decree on 26 January 2004, and 2005 was its first full year of operation.

The BEA-TT team of nine people was set up in early 2005, but in February it left its earlier premises in the rue Monge for la Défense, tour Pascal B, along with its sister organisation, BEAmer which deals with accidents at sea.

Its priority was to carry out technical inquiries in accordance with the procedures set down in the regulations. Ten reports were produced in 2005, and nine new inquiries have been undertaken.

Given its own very small staff, BEA-TT has frequently been obliged to find external experts with the necessary skills to conduct the inquiries. The resources of the Ministry, especially its scientific and technical services, and of the Conseil Général des Ponts et Chaussées - the Highways Department (CGPC), have been widely used. Their contribution has been very useful and very much appreciated.

In addition, inquiries have greatly benefited from the contributions made by other Government Departments who have worked on the incidents being investigated, including the Direction Régionale de l'Équipement and the Direction Départementale de l'Équipement - the Regional and Departmental Technical Services Directorates, whether it is a case of monitoring services (DRE, DDE) or of the Inspection Générale du Travail des Transports.

During 2005 we were also able to work in the field to make contacts with the judiciary authorities under the terms of the law of 3 January 2002, to enable BEA-TT investigators to have access to evidence for the inquiries or police investigations. It is appropriate to mention the good atmosphere in which these relationships were set up to enable them to be used quickly as a matter of course.

The regulatory framework for technical inquiries, which was set up for land transport under the law of 3 January 2002 and the Decree of 26 January 2004, was not modified in 2005. There are still changes which need to be made for it to become fully effective in areas such as the notification of accidents or the monitoring of recommendations. These changes are already being made for railways, as a result of European Directive 2004/49 EC on the railway safety, which should become French law in 2006.

Since 2005, with the support of the European Railway Agency, we have been cooperating with European organisations responsible for railway inquiries in order to improve current methods and practices. Similarly, regular contacts between the BEA-TT, the BEA (civil aviation) and the BEAmer have enabled these organisations to mutually benefit from their experiences. Inquiries made so far have highlighted the importance of the international aspects, which in almost a quarter of cases could have justified cooperation with an equivalent foreign organisation (which often does not, or not yet, exist). The railway safety directive provides for the development of this cooperation between inquiry organisations. For example, in 2005 the BEA-TT, with its British counterpart, the RAIB, prepared standard procedures for cooperation concerning the Channel tunnel,

under the provisions of the Intergovernmental Commission for the tunnel.

Finally, in 2005 the BEA-TT prepared and set up its website ([www.bea-tt.equipement.gouv.fr](http://www.bea-tt.equipement.gouv.fr)). The BEA-TT uses this website to publish its inquiry reports, its annual reports, and other documents which the regulations require to be made public (such as replies from organisations which are sent recommendations). This site also allows web users to register to receive reports and to be informed of any new publications.

Now that the BEA-TT has begun to gain experience it should be able, along with all the partners associated with inquiry work and feedback on experience, to develop its ability to act, its independence and its professionalism, in order to serve the safety objectives set by the Ministry of Transport.

## **2- Technical inquiries performed in 2005**

### **2.1- Inquiries performed**

Ten inquiries were completed in 2005 with the publication of the report and BEA-TT's recommendations. They concerned:

- a railway accident (collision in Longueville)
- a tram accident (on a section used as part of the urban transport system) in Rouen
- a snow walkway accident in Val Cenis
- three inland waterway accidents at la Voulte, Nogent sur Seine, and Blénod lès Pont in Mousson
- four road accidents including three coach accidents (at Ligugé on the RN10, at Lugos on the motorway A63, and at Saint-Martin d'Estréaux on the RN 7) and an HGV collision with the explosion of an LPG tanker in Nivillac on the RN165.

These accidents caused 25 deaths, 21 of which were in two coaches.

A summary of these reports is given in the appendix.

Reports made public are accessible on the BEA-TT website at the following address:

[www.bea-tt.equipement.gouv.fr](http://www.bea-tt.equipement.gouv.fr)

They are also given on the Ministry of Transport website :

[www.equipement.gouv.fr](http://www.equipement.gouv.fr)

### **2.2- Inquiries undertaken**

Nine inquiries were undertaken in 2005. They bring to 27 the number of inquiries undertaken by the BEA-TT, or by its predecessor, since the appearance of the law of 3 January 2002 which defined the legal status of these technical inquiries.

These 27 inquiries, for which a list is given in the appendix, cover the 5 modes of transport coming within in the scope of the BEA-TT:

- 10 railway accidents, of which 3 occurred on level crossings (and therefore involving both the railway and roads)
- 3 accidents on guided transport
- 1 accident on a ski lift (snow walkway)
- 4 accidents on waterways
- 9 road accidents.

BEA-TT's operation is divided almost equally into three (one third railways, one third roads, and one third for guided transport and waterways).



### **3- The major findings from the inquiries performed**

#### **3.1- Causes and factors**

The causes and factors of accident highlighted in the reports produced in 2005 can be grouped together, at least for the immediate causes under the major standard headings.

This year's figures must be interpreted with care since the 10 cases investigated obviously cannot be considered as statistically valid.

**Factors linked to driving** are the immediate cause of the accident in at least 4 cases (inappropriate action by a driver of a runaway train, drowsiness at the wheel by a tram driver, excessive speed and dangerous manoeuvre by a bus driver, loss of control by another coach on a roundabout). It is also probable or possible that they played this role in 2 other cases (river accident while crossing a bridge, loss of control by an HGV).

Multiple and varied factors have contributed to these errors: lack of skill and medical monitoring of drivers, fatigue or excessive driving time, age, inadequate training or company safety management or failure to organise feedback on experience.

**Factors linked to vehicles or transport equipment** are also direct causes of the accident in six out of the ten inquiries presented. They concern a latent failure in the controls of a train's braking system, putting a moving walkway back into service before it was made safe, spontaneous combustion of a electrical generator on a boat, excessive clearance in a river bridge, a burst deflated tyre on a van, an overloaded trailer with no brakes.

In addition factors linked to equipment may also aggravate the consequences of an accident. In this regard, it should be stressed that the very heavy casualties in two out of the three coach accidents investigated are linked to the lack of seatbelts which led to some passengers being thrown out.

Finally, **factors linked to infrastructure** have not been stressed as direct causes of the accidents investigated; however they may have contributed to the accident or aggravated its consequences in two cases (confusion about road layout on a roundabout, compressor enclosure which is too aggressive for navigation on the piers of a railway bridge) ).

Beyond this first classification by direct causes of accidents outlined above, the inquiries have shown the number, variety, and often how many underlying factors of many kinds become entangled together. Identifying them and learning lessons which can prevent further accidents is the main work involved in making the recommendations shown below.

The human factor is very frequently present in many forms, not only in driving errors, but also where the vehicle or infrastructure does not comply with regulations. Organisational factors, sometimes unexpected, have thus been stressed for the three accidents involving coaches (company not licensed for international transport, small-scale undeclared passengers transport, unlicensed driver, habitual offenders etc.).

### **3.2- Recommendations made and their consequences**

Following these ten inquiries, 59 recommendations were made and each one was sent to a recipient. Some of them were sent with the same wording to several recipients, making 43 distinct recommendations.

In the appendix will be found a summary of the inquiries with the recommendations made in each case.

#### **The recipients**

The recipients of the 59 recommendations sent out fall into the following categories:

- 15 to the operator (railway, urban or river);
- 18 to the management of the infrastructure or to the transport organising authority;
- 22 to regulatory or control authorities (central government );
- 3 to other control agencies;
- 1 to other recipients (emergency services).

#### Content of the recommended measures

The 43 distinct recommendations are divided into the following categories (while taking into account they have very variable importance):

- 10 concern vehicles, rolling stock or boats; 7 are linked to improvements in regulations and 3 propose specific modifications to the equipment concerned;
- 5 concern operating regulations (waterways in this case);
- 12 concern the infrastructure; they mainly involve local developments, or regulations for 4 of them;
- 11 concern the professional training of staff or work organisation;
- 5 concern the organisation of control.

## **Action taken or planned by the recipients**

The Decree of 26 January 2004 states that recipients of recommendations must inform the director of the BEATT, within 90 days, about what 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 59 recommendations sent to recipients, 46 concern incidents after the Decree referred to above and therefore call for a response from the recipients. The replies received, and published on the BEA-TT website, concern 37 recommendations:

- in 35 cases, the recommendation was accepted and its implementation confirmed, with sometimes a time constraint;
- in 1 case, the recipient believed it was outside its jurisdiction;
- in 1 case, the recommendation was considered to be inappropriate because of its cost.

Finally, there was no response to 9 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 back in the future by the national safety authority (EPSF) which will inform the BEA-TT about 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.



## **4- Investigations and feedback on experience**

Alongside its primary task of carrying out technical inquiries, the BEA-TT also has the task of investigating feedback on experience and accidentology. In 2005 it therefore developed a database on reported road accidents, and performed two investigations on accidents and fires in HGVs and coaches

### **4.1- Database of reported incidents**

#### **Notification of accidents and incidents**

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

- Firstly, notification of accidents which are directly sent to it by the management and operators concerned;
- Secondly, 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 the accidents of public transport or of dangerous materials. It still has to be extended to the other transport networks mentioned in the Decree setting up the BEA-TT and in particular the urban transport in the provinces.

The daily bulletins currently come from four sources:

- the Centre National d'Information Routière: daily summary
- the SNCF: daily summary of the Centre National des Opérations (CNO)
- from the Ministry of the Intérieur (Civil Defence - COGIC)
- from the Ministry of Transport (bulletin of the CMVOA and the SIC periodical).

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

#### **Database on reported accidents**

In addition to accidents giving rise to a technical inquiry, some incidents found during monitoring are worth being described and remembered. This is because, when they fall within the categories which are often covered by technical inquiries, they can clarify the context and the possible scenarios of similar accidents, give feedback to the BEA-TT and guide decisions of whether to undertake technical inquiries.

In 2005, the first database set up concerned the 2083 road accidents reported mainly by the CNIR to the BEA-TT in which 697 were killed. It mainly deals with some of the categories involved (public passenger transport, HGVs, dangerous goods etc.) and some types of accident.

The table shows accidents reported to the BEA-TT, which covers about 15% of the casualties in road accidents.

		Major type of transport involved					Total
		PT <sup>1</sup> (> 9 pers.)	RTG <sup>2</sup> with DM <sup>3</sup>	RTG hors DM	Private car.	Other type	
Number	Accidents	154	113	949	840	27	2083
	Killed	46	14	206	416	15	697
	Fatal accidents	33	10	154	277	11	485
%	Accidents	7,4%	5,4%	45,6%	40,3%	1,3%	100%
	Killed	6,6%	2,0%	29,6%	59,7%	2,2%	100%
	Fatal accidents	6,8%	2,1%	31,8%	57,1%	2,3%	100%

Note: attachment to the type of transport according to the following hierarchy: PT, RTG (DM), RTG, VP and other.

Some specific circumstances involved in these accidents may be analysed. For example, 278 out of the 1805 reported accidents are associated with travelling the wrong way, crossing the central reservation (CR), an incident on a level crossing, or were followed by a fire.

		Major type of transport involved					Total
		PT (> 9 pers.)	RTG with MD	RTG hors MD	Private car.	Other type	
Wrong direction	Accidents			5	14		19
	Killed			6	15		21
	Fatal accidents			2	10		12
Crossing CR	Accidents	1		20	7		28
	Killed			9	4		13
	Fatal accidents			4	3		7
Fire	Accidents	22	13	81	67		183
	Killed		5	8	17		30
	Fatal accidents		2	6	10		18
Level crossing	Accidents		1	5	36	6	48
	Killed				14	6	20
	Fatal accidents				12	5	17

It is envisaged that similar databases will be set up for other modes of land transport, or databases already in existence will be used (such as for inland waterways).

## 4.2- Investigation of serious accidents involving HGVs and coaches

In the context of the mass accidentology for road transport, BEA-TT has to know the precise type of the most serious accidents in order to be able to select those requiring a technical inquiry, and to improve the feedback on this type.

Multiple collisions sometimes aggravated by fires in vehicles such as those in Beaune (1982), Mirambeau (1993) or Coulombiers (2002), or multiple collisions involving HGVs or public require particular attention.

<sup>1</sup> Public transport

<sup>2</sup> Road transport of goods

<sup>3</sup> Dangerous materials

So, in 2005 the BEA-TT performed an investigation into multiple accidents causing death or injury occurring in 2003, which involved an HGV or coach (323 cases).

The investigation, carried out by CEESAR (Centre européen d'études de sécurité et d'analyse des risques) and LIGERON (a risk management company), have enabled the circumstances surrounding and the direct causes of these accidents to be better understood.

It confirms the particular severity of these accidents (an average of 14.6 killed per 10 accidents), the fact that they usually occur in open country (away from intersections) and in particular for the plus serious accidents on motorways, the fact that drivers of HGVs were more likely to be at fault than drivers of the other vehicles involved and the frequency of cases of overtaking when traveling in lanes.

It was also found that the frequency of fires accompanying multiple collisions remains low (4 cases out of the 268 legal proceedings gathered and investigated).

### **4.3- Investigation on spontaneous fires on coaches**

Specific monitoring of fires on coaches traveling in traffic was carried out by the BEA-TT, with the help of the CNIR (Centre National d'Information Routiere) and the police between the 1st January 2004 and 30 June 2005.

During these 18 months, 34 “spontaneous” fires on coaches carrying about 700 passengers, fortunately with no casualties, were covered by these investigations. They showed that these incidents are relatively frequent, and involve vehicles of all types and ages. However it was noted that three-quarters of the fires originated in the engine, and in 12 cases they occurred on journeys with steep climbs

Apart from confirming the need for evacuation drills on school buses, these findings raise questions about the reliability of fire detection systems and have led to it being suggested that the DSCR carries out an investigation on how fire detection systems can be combined with an automatic system for extinguishing engine fires.



## **APPENDICES**

- Appendix 1 : Summary of inquiries published in 2005
- Appendix 2 : List of technical inquiries undertaken between 2002 and 2005
- Appendix 3 : Legislation covering the BEA-TT



## Appendix 1: Summary of inquiries published in 2005

Reports published in 2005 cover the following incidents:

Mode <sup>4</sup>	Accident or incident investigated	Date	No. killed
R	Collision of LPG tanker in Nivillac (Morbihan)	18.11.2003	2
W	River accident à La Voulte	18.01.2004	1
RM	Snow walkway in Val Cenis (73)	15.02.2004	1
R	Coach accident à Ligugé (Vienne)	22.06.2004	11
W	Fire on the “Santina” at Blénod lès Pont in Mousson (55)	28.07.2004	0
W	The “Foehn” hitting a bridge at Nogent sur Seine (Aube)	26.08.2004	0
R	Multiple collision on the A63 at Lugos (Gironde)	29.08.2004	10
GT	Tram collision at Rouen (76)	30.08.2004	0
R	Coach accident in Saint Martin d’Estréaux (Loire)	15.01.2005	0
Rw	Runaway train in Longueville (Seine-et-Marne)	16.02.2005	0

<sup>4</sup> Rw=Railway; R=Road; GT=Guided Transport; W=Waterway; S=Ski lift

## **Road accidents involving a LPG tanker at Nivillac (Morbihan) on 18 November 2003**



On 18 November 2003, a refrigerated articulated vehicle travelling on the RN 165 in Morbihan veered towards the right hard shoulder then crossed the central reservation of the dual carriageway and was in collision with a LPG tanker travelling in the opposite direction.

The collision caused the death of both drivers and both vehicles to be burnt out. After about 20 minutes a boiling liquid expanding vapour explosion occurred in the partially filled LPG tanker, causing 13 casualties.

The technical inquiry, which needed the tanker to be expertly assessed, decided that the primary cause of the accident was probably the driver of the refrigerated articulated vehicle falling asleep at the wheel. No failures to apply the regulations relating to the transport of dangerous materials were found.

Three recommendations were made on fitting industrial vehicles with devices to alert their drivers when the vehicle drifts; improving the fire resistance of fuel tankers; and improving the signing on vehicles carrying dangerous materials.

## River accident at La Voulte on 18 January 2004



On Sunday 18 January 2004 at about 6.30 a.m., a river convoy comprising a push tug, a barge loaded with benzene and a container barge was damaged on the Rhone under the railway bridge in la Voulte sur Rhone (Ardèche).

As it was passing under the railway bridge, the convoy slowed and could not continue. The convoy swung round at an angle and came into contact with the bank and a pillar; the lashings were broken, the push tug sank, and the two barges ended up side by side leaning on two pillars of the bridge.

This accident caused one casualty: a member of the crew fell into the water and could not be rescued.

Navigation on the Rhone and railway traffic over the bridge were halted for a week, until the barges could be removed. The barge's double hull had prevented the benzene polluting the Rhone which could have been very serious.

The cause of the slowing could not be precisely identified. The hypothesis that it was contact with a sand bar in the channel does not appear probable unless there had been substantial changes in the bed of the Rhone between the accident and the bathymetric survey carried out in March 2004. The hypothesis that the convoy was badly positioned to pass under the bridge is contradicted by the statements of witnesses but cannot be ruled out. Engine failure or fouling of the propellers with a foreign body could not be checked.

Five recommendations were made at the end of the inquiry:

- investigation into whether there should be regulations limiting, in some circumstances, the navigation of convoys loaded with dangerous materials;
- monitoring by river police of boats transporting dangerous materials;
- enforcing safety regulations and fitting safety devices on boats;
- modifying railway bridge pillars whose dangerous nosings tore the external hull on the benzene barge
- investigating risk factors for navigation presented by bridges on the Rhone.

### **Accident occurring on the snow walkway in Val Cenis (Savoy) on 14 February 2004**



A girl, holding her skis, took the 120 m long snow walkway towards the ski lifts in the resort. At the end of the walkway, her right foot was caught in the opening under the final step on the walkway and her body was dragged into this opening by the movement of the walkway. In spite of prompt action taken by the emergency services, the girl was suffocated and could not be revived.

Safeguards at the end of the walkway were ineffective because they had been deactivated for maintenance carried out two hours earlier. This walkway had been recently installed and put into service before being completely (photo-electric cells, covers, heating) and its operation proved to be unreliable.

Preventive measures to be undertaken must involve design, construction and setting up, operation, staff training and finally the regulatory framework for moving walkways.

These moving walkways do not come within the scope of regulations for either ski lifts or guided public transports. This type of system must be covered by Government controls, in the same way as those for ski lifts. These are currently covered by law no. 2004-1343 of 09 December 2004.

## **Coach accident occurring at Ligugé (Vienne) on 22 June 2004**



On 22 June 2004, a coach accident occurred at Ligugé (Vienne) on the RN 10 south of Poitiers.

It involved a coach with trailer operated by a Moroccan company, and caused 11 deaths and 40 casualties of whom 9 were seriously injured.

During a storm, after trying to overtake an HGV, the driver lost control of the vehicle which left the road on its right, rolled down a bank and fell on its roof which partially caved in.

The technical inquiry showed that the coach was traveling at about 110 km/h, i.e. over the authorised limit of 90 km/h for coaches, which would have been reduced at the time of the accident to 80 km/h because of the rain.

In addition, the coach trailer was overloaded and lacking the braking system required by regulations. The coach was fitted with neither a speed-limiting device nor with seatbelts (but these were not compulsory in this case).

The company was not licensed to operate internationally, and on the outward journey (Algerias – Brussels) the rules relating to driving time had not been complied with.

The issued recommendations bear on the reinforcement of the road controls for coaches, and on the proposition of installing international obligations bearing on the equipment of coaches in speed-limiting devices and seatbelts, as well as on training for drivers.

**Fire on the “Santina” occurring at Blénod lès Pont à Mousson  
on 27 July 2004**



On 28 July 2004 at about 3.00 pm, a fire started in the machine room of the widebeam powered craft the “Santina” when it started to enter the lock at Blénod-lès Pont à Mousson. The bargeman immediately evacuated the boat with all his family and the others people on board, and lashed it more firmly.

After the evacuation, the fire brigade started work but the engine started to race breaking the lashings and causing the boat to collide with downstream lock gate which was seriously damaged and was unusable for several days. The fire, which was caused by a failure in the electricity generator, damaged the electrical circuits which controlled the engine, thus causing the engines to suddenly start up.

The recommendations after this incident were firstly to strengthen the regulations and controls over safety and fire prevention devices on river boats and, secondly, to reduce the consequences of a boat colliding with a lock gate.

**Collision of the “Foehn” with a bridge at Nogent sur Seine (Aube)  
on 26 August 2004**



A river convoy composed of the powered craft “Foehn” pushing the barge “Davy” loaded with containers collided successively with two bridges, damaging the first and moving the second by 25 cm.

The bargeman had not realised that the deck structure was too high to pass under the bridge, thus causing the collisions with the bridges.

The accident highlighted the fact that some bridges are unable to withstand collisions and also the risk that some boats will be come too high when stacked with containers known as “Hi-cubes”.

The report recommends that the French Waterways authority (Voies Navigables de France – VNF) cooperates with boat-builders to find ways of ensuring that convoys do not exceed permitted heights, that it obtains more information des about bridges and that it draws up procedures for dealing with requests for exemptions from height limits. It also recommends that the authority responsible for inland waterways (Direction Générale de la Mer et des Transports, DGMT) undertakes an investigation into drawing up regulations for the height of convoys allowed to sail in the different sections of the waterways.

## Multiple collision on the A 63 at Lugos on 29 August 2004



On 29 August 2004 at around 3.40a.m., a road traffic accident occurred in Lugos (Gironde), about forty kilometres south of Bordeaux, on the A63 motorway in the Bayonne – Bordeaux direction.

It involved three vehicles: a minibus carrying 11 people, a van carrying 2 people and a Spanish coach carrying 49 people, and caused a total of 10 deaths and 52 casualties.

The inquiry revealed that the severity of this accident, whose initial cause was the bursting of the rear right-hand tyre on the minibus, was the result of a combination of two major factors:

- The unlawful transport of passengers performed by the minibus driver, in appalling safety conditions (poor condition and serious overloading, fatigued state of the driver);
- The lack of seatbelts on the coach where the passengers who were thrown out were killed.

The report stressed the dangers resulting from unlawful passenger transport especially when international. It recommends the strengthening of controls in association with an information campaign.

Technically, it also recommends speeding up the fitting of seatbelts in the coaches, and of exploring the possibilities for further inspections for vehicles more than 10 years old.

## **Tram accident in Rouen occurring on 30 August 2004.**



The Rouen tramline includes an underground section, equipped with a block signalling system similar to that on an underground railway. On the morning of 30 August 2004, a tram set wrongly crossed a signal light set at stop and collided with the rear of a tram stopped ahead of it in the tunnel.

The human cost was one person with serious injuries and seven with slight injuries. The two tram sets involved were badly damaged.

The dead man's handle system on the tram set causing the collision, although in working order and apparently always activated by the driver, was not effective in avoiding the accident.

Human error was the cause of the accident. A hypothesis of sudden illness was investigated in the first instance, and was superseded by the much more probable hypothesis of the driver starting to become drowsy.

The driver had just returned from his summer holiday; he had a noticeable sleep debt, had not eaten and was probably under the influence of an antidepressant prescribed following an attack at work two years earlier.

The first recommendation concerns the drivers' work rotas to help them adapt to the rhythm of life and work when they are receiving medical treatment, or being medically monitored when partially physically unfit for their usual work.

The report also recommends that the signalling lights in tunnels in the Rouen network, as well as the tram sets, should be fitted with a device to control crossing lights set at stop. This provision should be integrated into the "Guided Transport" manual. This manual should also include the criteria of the European standards relating to the resistance to motion of bodywork.

In addition, the report proposes various improvements concerning information for the traffic management system, contact between drivers and the control post, contacts with the emergency services, lighting of tram sets and the tunnel which were in bad repair.

## **Coach accident in Saint Martin d'Estréaux on 15 January 2005**



On 15 January 2005 at about 2 a.m. a road traffic accident occurred at Saint Martin d'Estréaux (Loire) about thirty kilometers north of Roanne, on a roundabout.

It involved a single vehicle: a coach carrying 52 people (schoolchildren returning from a skiing holiday) which was traveling in the Roanne – Moulins direction. The accident caused 7 serious casualties and 45 with slight injuries.

The direct cause of this accident was the coach driver misjudging his approach to the roundabout, in spite of the presence of the standard traffic signs. Several factors could have played a role in this misjudgment, such as the age of the driver (70 years), his being in breach of employment law, the variability in the RN7 and misjudging the approach to the roundabout. In addition, the inquiry highlighted the habitual unlawful practices of the transport company and the lack of control over its drivers.

The recommendations concern in particular setting up an age limit for coach driver at least for long journeys, the strengthening of inspections of safety devices on coaches, transparency of contracts and the improvement of signposting on the roundabout where the accident occurred.

## **Railway accident occurring at Longueville (Seine-et-Marne) on 16 February 2005.**



On 16 February 2005, train 117710 from Provins (Seine and Marne) was in a broadside collision with train 117578 at Longueville station (Seine and Marne). By chance, there were no casualties; only equipment was damaged (leading coach of the buffered train was smashed open, miscellaneous damage to the body of the locomotive, distortion of the track and the adjacent platform).

The two trains involved were composed of reversible carriages with diesel locomotives; the line from Longueville to Provins is run by CFTA, a company subcontracting for the SNCF.

While train 117710 was in Provins station, during operations to prepare its driving cab, the driver operated in an uncommon way, made possible by inadequate protection of the handle of the reversing lock. The lock that activates the control of the brake was not set in the right position and the vibrations from the engine, transmitted to the reversing system, de-activated the normal control of the brake in the cab of the locomotive.

When the driver realised that it was out of control at the moment of stopping, he did not apply the other means of emergency braking at his disposal and only used the hand brake of the locomotive, which was insufficient to stop the vehicle before the points, where train 117578 happened to be standing.

The accident therefore appears to have been linked to a failure by the driver to adopt the correct procedure in an emergency, and insufficient mechanical guidance of the manoeuvre of the reversing lock.

Recommendations were issued on :

- the modification of the mechanical reversing system of the SNCF locomotives concerned;
- improved training and monitoring of drivers by the operator, re-examination of its annual safety plan, and improved feedback of experience;
- the re-examination of the particular conditions for maintaining safety and gaining experience by the drivers on such a short isolated line.



## Appendix 2: List of inquiries undertaken between 2002 and 2005

Date	Accident	No. killed	Mode <sup>5</sup>
16.06.2002	Barrage-lock at Évry on the Seine	3	W
05.11.2002	Multiple collision on the A10 at Coulombiers	8	R
06.11.2002	Fire on the Paris-Munich train at Nancy	12	Rw
2002	TVR Nancy and Caen	0	GT
27.01.2003	Train collision at La Biogna	2	Rw
17.05.2003	Coach accident at Dardilly on the A6	28	R
20.09.2003	Intercity train incident at Villeneuve Triage	0	Rw
18.11.2003	RN165 at Nivillac (Transport of Dangerous Materials)	2	R
18.01.2004	Pushed river convoy at La Voulte sur Rhône	1	W
15.02.2004	Snow walkway at Val Cenis	1	RM
05.04.2004	Railway collision at Saint Romain de Gier	0	Rw
17.04.2004	Electrocution by overhead cables in Saint Nazaire	1	Rw
22.06.2004	Coach at Ligugé on the RN10	11	R
28.07.2004	Boat "Santina" at the lock of Blénod lès Pont in Mousson	0	W
26.08.2004	Convoy "Foehn" at Nogent sur Seine	0	W
29.08.2004	Multiple collision with coach on the A63 at Belin-Béliet	8	R
30.08.2004	Tram in Rouen	0	GT
24.11.2004	Collision between Corail train and an articulated lorry at Millau	0	Rw/R
15.01.2005	Coach on RN7 at Saint Martin d'Estréaux (Loire)	0	R
16.02.2005	Collision of two TER at Longueville (Seine-et-Marne)	0	Rw
19.04.2005	School HGV RD8 in Saint Nicolas du Tertre (Morbihan)	2	R
25.04.2005	Coach in Bouafle on the A13 (78)	3	R
27.05.2005	Francardo railway collision	0	Rw
04.06.2006	Fire of an HGV in the Fréjus tunnel (73)	2	R
09.06.2005	Accident at level crossing at St Laurent de Blangy (62)	0	Rw/R
06.08.2005	Fire on underground train at Simplon station (75)	0	GT
August 2005	Fires on bus at the GNV in Nancy and Montbéliard	0	R

<sup>5</sup> Rw=Railway; R=Road; GT= Guided Transport; W=Waterway; S=Ski lift



### **Appendix 3: legislation covering the BEA-TT**

- Law no.2002-3 of the 3 January 2002 relating to the safety of transport infrastructures and systems, technical inquiries and the underground storage of natural gas, fuel and chemical products.<sup>6</sup>

As amended by laws no.2006-10 of 5 January 2006 and no.2006-686 of 3 June 2006.

Technical inquiries are covered by title III of law 2002-3 (p38).

- Decree no.2004-85 of 26 January 2004 relating to technical inquiries into incidents at sea and the accidents or incidents on land transport.<sup>7</sup>

As amended by decree no 2006-1276 of 19 October 2006

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<sup>6</sup> Published in the official journal of 4 January 2002, page 215.

<sup>7</sup> Published in the official journal of 28 January 2004, page 1996



## **Extract from statute no. 2002-3 dated 3 January 2002**

Published in the French Official Bulletin (JORF) on 4 January 2002

Statute relating to the safety of transport infrastructures and systems, to technical investigations following maritime events, land or air accidents or incidents, and to the underground storage of natural gases, hydrocarbons and chemicals.

NOR:EQUX0000153L

version consolidated on 14 June 2006

### **Heading III: Technical investigations**

As amended by law no.2006-686 of 3 June 2006.

#### 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 the French flag regardless of their location, as well as 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 who 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 inquiry is initiated, recording devices, previously seized by the judicial authorities in accordance with provisions stated in articles 97 and 163 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 inquiry 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 inquiry 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 inquiry has been opened, technical investigators may, for purposes of examination 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 inquiry 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 15 000 Euros 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 3 750 Euros 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.

## **Decree number 2004-85 of 26 January 2004**

### **Decree concerning technical investigations after maritime events and land transport accidents or incidents.**

Publication in the French Official Bulletin (JORF) of 28 January 2004

NOR:EQUP0301770D

version consolidated on 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 dated 10 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" (BEA mer) 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 enquiries 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 BEA mer 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 BEA mer 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 BEA mer 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 BEA mer is made up of technical investigators, designated from among category A or equivalent State officers. Their appointment commissions them as technical investigators. The BEA mer 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 mer director.

For each investigation, the BEA mer 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 BEA mer 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 mer may call upon experts, including foreigners, who are subject to professional secrecy under the same terms as BEA mer officers.

The remuneration of technical investigators and experts who are not assigned to the BEA mer 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 BEA mer 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 BEA mer 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 BEA mer director sets out how these technical investigators participate in or are associated with investigations or enquiries.

## **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 officers with at least twenty years' professional experience in areas related to transport and its infrastructure.

### Article 20

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.

## 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

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.

**BEA-TT**

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