ROMANIAN RAILWAY AUTHORITY
- AFER –

ROMANIAN RAILWAY
INVESTIGATING BODY- OIFR

ANNUAL REPORT

2011

Preamble

This report presents the activity carried out by Romanian Railway Investigating Body in 2011.

Romanian Railway Investigating Body was set up, organized and functions according to the provisions of the Law no. 55/16.03.2006 concerning the railway safety (that transposed the Directive 2004/49/CE of European Parliament) and the Government Decision No.1561/01.11.2006 amending and completing Government Decision No.626/1998 concerning the organization and functioning of Romanian Railway Authority- AFER, being an independent and permanent body within the Romanian Railway Authority- AFER.

Romanian Railway Investigating Body was set up for the serious railway accident investigation, its objective being the railway safety improvement.

Romanian Railway Investigating Body has the obligation to investigate the serious railway accident and also, it can investigate those accidents and incidents which under slightly different conditions could lead to serious accidents, including the technical failure of the structural subsystems or of the interoperability constituents of high speed railway systems or European conventional, taking into account in its decision the next:

- seriousness of the accident or the incident;
- if it is part of a series of relevant accident or incidents for the whole system;
- its impact on the community railway safety;
- applications of the infrastructure administrator, railway undertakings, Romanian Railway Authority- AFER or of other EU member states.

Taking into account the need of regulating the way of performing the activity of investigating the railway accidents and incidents on Romanian railways, respectively for development and improvement of the railway safety and regulation of railway accidents and incidents investigation surveillance, according to the provisions of the Law 55/2006 concerning the railway safety it was necessary to elaborate a Regulation for the accidents and incidents investigation, for railway safety development and improvement on Romanian railways and subway.

Through the adoption of the Government Decision no.117, on the 2nd of March 2010, one approved the Regulation for the investigation of the railway accidents and incidents, the development and improvement of Romanian railway safety and cancelled the Ministry of Transport Order no. 210 from the 14th of March 2000 concerning the approval of the Instructions for the prevention and investigation of the railway accidents and events – 003 and the Ministry of Transports, Public Works and Lodgings no. 1852 from the 11th of January 2002 for the approval of the Instructions for the prevention and investigation of the subway events and accidents – M 003.

The regulation for the investigation of the accidents and incidents, the development and improvement of Romanian railway and subway safety, covers all the railway undertakings who carry out railway transport on Romanian network, respectively the public railway infrastructure administrator, non-interoperable railway infrastructure managers, licensed and private railway undertakings, economic agents who own industrial branches or railway vehicles, as well as economic agents that carry out connected and closed activities to the railway transport.

CONTENTS

1. PRESENTATION OF ROMANIAN RAILWAY INVESTIGATION BODY

Romanian Railway Investigating Body was set up for investigating serious railway accidents, its objective being the improvement of the railway safety and accidents prevention.

Romanian Railway Investigating Body was organized and functions according to the provisions of Law no. 55/16.03.2006 concerning the railway safety (that transposed the Directive 2004/49/CE of European Parliament) and the Government Decision No.1561/01.11.2006, for the amendment of the Government Decision No.626/1998 concerning the organisation and functioning of Romanian Railway Authority- AFER, being an independent and permanent body within the Romanian Railway Authority- AFER.

Romanian Railway Investigating Body is functionally independent against Romanian Railway Safety Authority and against any railway regulation authority. Romanian Railway Investigating Body is also independent in its organization, legal structure and decision-making against any infrastructure manager, railway undertaking, charging body, allocation body and notified body and any party whose interests may conflict with the tasks entrusted Romanian Railway Investigating Body.

Romanian Railway Investigating Body has the obligation to investigate the serious railway accident and also can investigate those accidents and incidents which under slightly different conditions could lead to serious accidents, including the technical failure of the structural subsystems or of the interoperability constituents of European high speed or conventional railway systems.

Romanian Railway Investigating Body fulfills its tasks independently by any infrastructure manager, railway undertaking, charging body, allocation body and notified body and has the necessary resources in this respect. Investigators have a complete independence in carrying out the investigative tasks.

Romanian Railway Investigating Body may carry out other tasks set by Government Decision on the investigation of other events than railway accidents and incidents, in so far as, those investigations do not influence its independence.

1.1 National legislation and the stage of the Safety Directive implementation

The Directive 2004/49/CE of European Parliament and Council was transposed in Romania by the Law no. 55/16.03.2006 concerning the traffic safety, which entered into force on the 16th of April 2006.

Safety Directive implementation was achieved through the Government Decision no. 117/02.03.2010 which approved the Regulation for the investigation of the railway accidents and incidents, the development and improvement of Romanian railway and subway safety , being cancelled by the Ministry of Transport Order no. 210 from the 14th of March 2000 concerning the approval of the Instructions for the prevention and investigation of the railway accidents and events – 003 and the Ministry of Transports, Public Works and Lodgings no. 1852 from the 11th of January 2002 for the approval of the Instructions for the prevention and investigation of the subway events and accidents – M 003.

1.2 Role and purpose

Romanian Railway Investigation Body became operational on the 1st of March 2007 when its organizational structure was approved by the Ministry of Transport Order no. 373/01.03.2007.

The role of Romanian Railway Investigation Body

The role of Romanian Railway Investigation Body is to perform railway accidents/ incidents investigating actions and make analyzes and studies on the causes and circumstances that led to their occurrence. Romanian Railway Investigation Body can also perform other tasks established by Government Decision on the investigation of other events than railway accidents and incidents.

According to the provisions of the Safety Directive, of the Law no. 55/2006 concerning the traffic safety and of the Government Decision no. 117/02.03.2010 2010 which approved the Regulation for the investigation of the railway accidents and incidents, the development and improvement of Romanian railway and subway safety, taking into account in its decision the next:

- the seriousness of the accident or the incident;
- if its is part of a series of relevant accident or incidents for the whole system;
- its impact on the community railway safety;
- applications of the infrastructure administrator, railway undertakings, Romanian Railway Authority- AFER or of other EU member states.

Romanian Railway Investigation Body does not investigate:

- railway accidents/incidents which are not relevant for the railway system;
- cases of suicide.

Purpose

The aim of Romanian Railway Investigating Body by investigating the railway accidents and incidents is to improve railway safety and to prevent accidents or incidents.

This is achieved by safety recommendations set out in the investigation and subject to a chapter of structure investigation report.

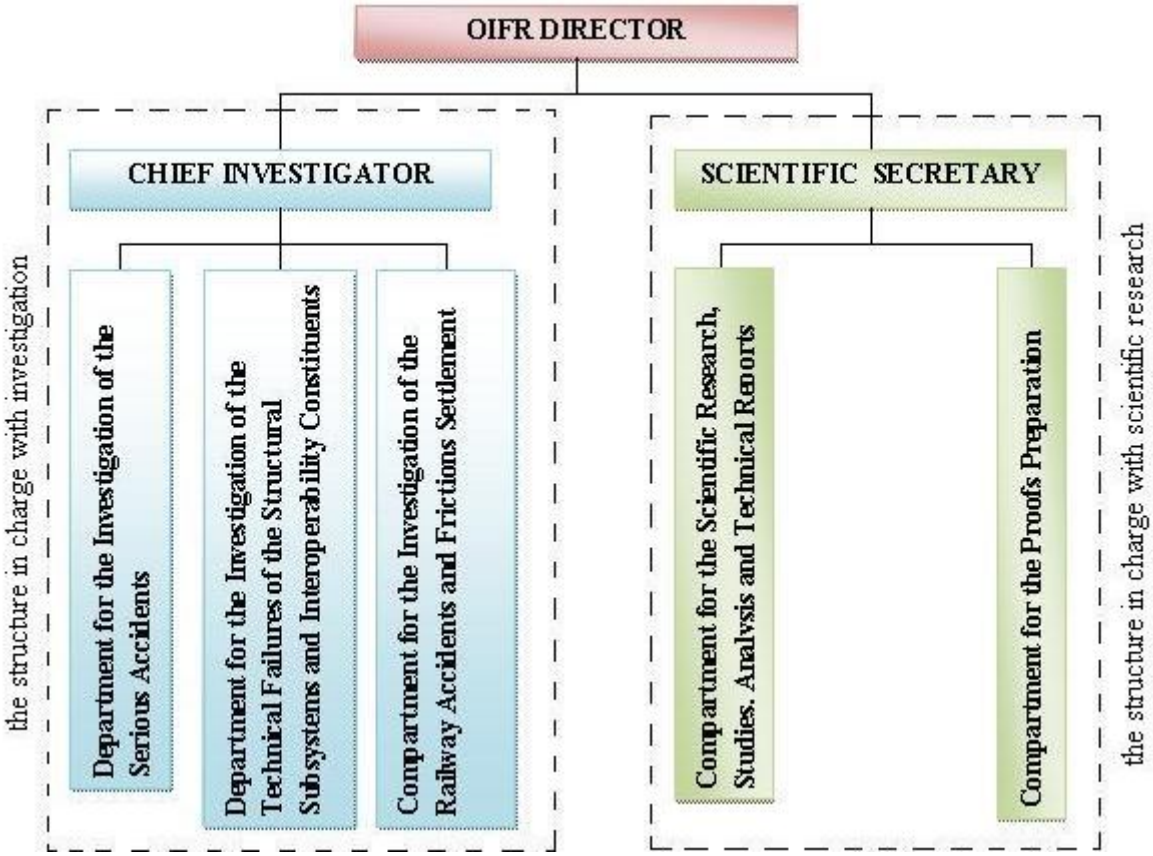
Romanian Railway Investigating Body does not investigate those accidents which do not fall under its goal.

1.3 Organization

In March 2009 the Director Committee of Romanian Railway Investigating Body and the Board of Managers of Romanian Railway Safety Authority approved the present organizational structure of Romanian Railway Investigating Body, which was approved by Ministry of Transports and Infrastructure no. 562/27.04.2009

In 2011, in the structure of Romanian Railway Investigating Body were 21 investigators and 2 psychologists

Organizational structure of Romanian Railway Investigating Body in 2011 was the next:



The tasks of those two departments subordinated to the chief investigator result from the provisions of the art. 19(1) and art. 19(2) of the Law 55/2006 concerning the railway safety, respectively the investigation of the railway serious accidents and the investigation of those accidents and incidents that in slightly different conditions could lead to serious railway accidents, including the technical failures of the structural subsystems or of the interoperability constituents of European high-speed or conventional railway system.

In carying out the investigations it is possible the appearance of situations that need a quick presence of the investigators in faraway places, to provide early information on the spot in the shortest time and to take the necessary measures for the identification, keeping and taking of the proofs.

So, in order to achieve the above mentioned tasks, besides the central structure Romanian Railway Investigating Body set up a compartment, subordinated to the chief investigator, with 8 investigators in charge with the territorial structure.

Considering that the investigation of the railway accidents and incidents involves study activities, research, analysis and technical expertise, it was necessary to establish a compartment, subordinated to the scientific secretary, to ensure the interface with other technical bodies, that can ensure technical support concerning the scientific research, performance of studies, analysis or reports necessary to find the causes that generated the railway accidents or incidents.

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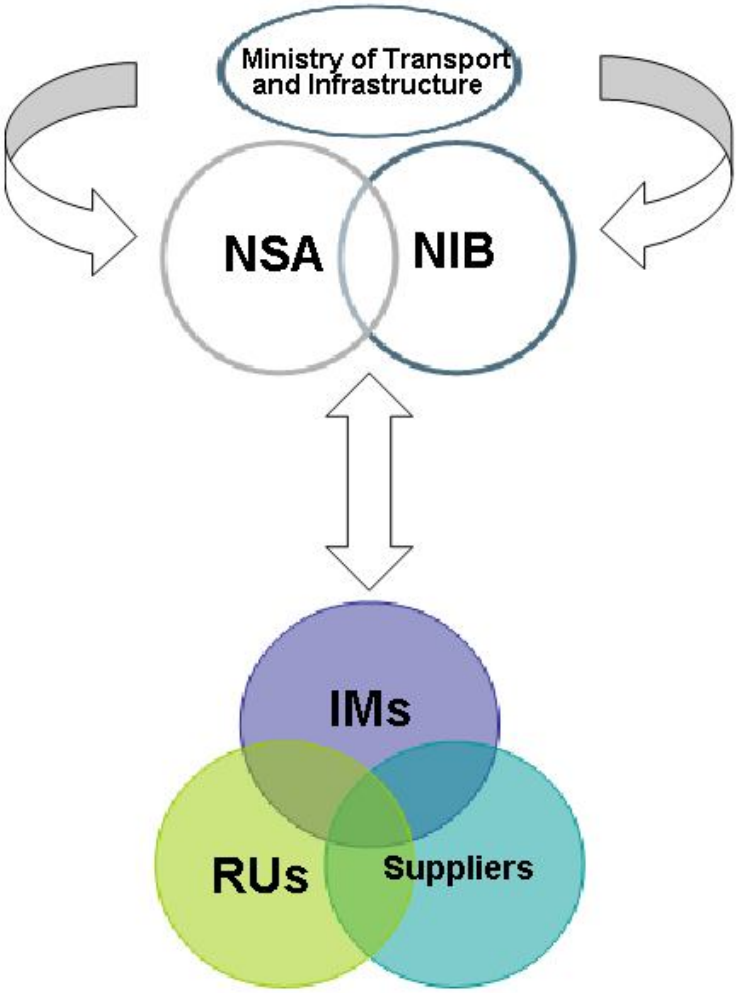
1.4 Organizational flow



2. INVESTIGATION PROCESS

The investigation aims to prevent the accidents and incidents and includes gathering and analyzing of the information, establishment of the conditions, including the determination of the causes and, if case, the issuing of some safety .

The investigation is from the legal point of view an administrative act, allowing the main investigators to fulfill their tasks as efficiently as possible and as soon as possible. The investigation is independent of any legal investigation. The investigation does not handle in any way the establishment of the degree of guilt or the responsibility.

The result of an accident or incident investigation is part of the investigation report prepared according with the seriousness of the accident or incident.

The report presents the investigations objectives and includes, if case, safety recommendations.

Before the drawing up of the investigation report (the final investigation report) one works out draft report, that according to the provisions of the art 22(3) of the Law 55/2006 is submitted to the infrastructure administrator, involved railway undertakings, Romanian Railway Safety Authority, victims and their relatives, owners of the damaged goods, manufacturers,

involved emergency services and the representatives of the staff and the users in to order to inform them about the investigation and its course and to give them the possibility to present their opinions on the investigation and to make comments on the information of the report draft.

If Romanian Railway Investigating Body considers that the opinions and comments are relevant for the investigation, the investigation report is change accordingly.

After its ending, the investigation report is submitted to Romanian Railway Investigating Body for the approval and publishing on Romanian Railway Investigating Body site.

2.1 Investigated cases

During 2011 the Romanian Railway Investigating Body, taking into account the seriousness of the railway accidents/incidents, including technical failures of the structural subsystems of railway happened on Romanian railway and network and their impact on the railway safety, according to the provisions of the art. 19(2) of the Law no. 55/2006 concerning the railway safety , considered necessary to start 57 investigative actions.

From these in 2011, **49** investigations were finished, the last **8** have been finished during 2011.

In 2011, 17 investigations have been finished, started between August- December 2010, so that the total number of finished investigations during 2010 was **74**.

- investigations started in 2010 and concluded in 2011 = 17
- investigations started and finished in 2011 = 49
- investigations started in 2011 and finished in 2012 = 8

Total investigations performed in 2011 = 74

Investigations finished in 2011 = 66

- serious accidents = 1
- accidents = 35
  - *collisions* = *1*
  - *derailments* = *19*
  - *fire* =*15*
- incidents = 29
- technical failure of the structural subsystems or of interoperability constituents = 1

The publishing length of the investigations did not exceed 12 months, stipulated in the Law no. 55/2006, concerning the traffic safety and the provisions of the Regulation for the accident and incident investigation, development and improvement of railway safety on Romanian railway and subway transport network .

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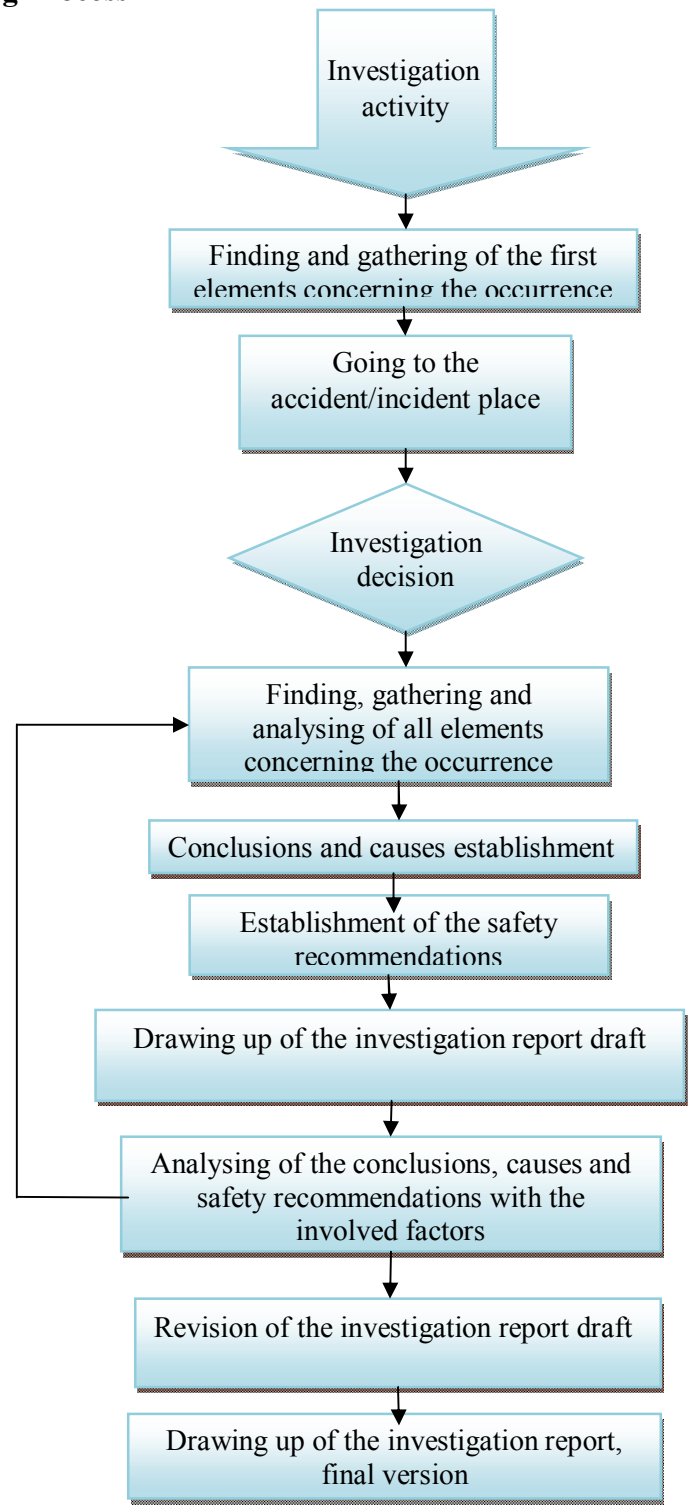
2.2 Institutions involved in the investigation (currently or exceptionally)

In the investigations Romanian Railway Investigating Body cooperated with the authorities in charge with the legal inquiry, as well as with other authorities responsible with the interventions at the accident/incident place.

According to the provisions of the art. 20 , paragraph 4 of the Law no. 55/2006 concerning the railway safety, in the investigations, Romanian Railway Investigating Body can use, if necessary, specialist from related fields.

During 2011 was not necessary to apply the provisions of this article, investigative actions carried no need to call on specialists in related fields.

3 Investigating Process



3 INVESTIGATIONS

3.1 General overview of the concluded investigations in 2011 comparative with 2010, identification of the main tendencies.

Type of accidents investigated in 2011	Number of accidents	Number of victims		Damages (lei)	Damages (€)	The trend compared with 2010
		Deaths	Seriously injured			
Train collisions	**2**	**-**	**8**	**25.085,88**	***5.935,45 €***	**- 33%**
Train derailments	**19**	**-**	**-**	**2.080.226,55**	***505.152,01 €***	**+ 211%**
Rolling stocks fires	**15**	**1**	**-**	**1.796.060,61**	***415.801,21 €***	**+ 750%**
TOTAL	**36**	**-**	**-**	**3.901.373,04**	***926.888,67 €***	**+ 25%**
Total damages in euro (about)				***926.888,67 €***		

3.2. Concluded and started investigations in 2011

In 2011 Romanian Railway Investigating Body concluded and published 66 investigation reports (17 were investigations initiated on august –December 2010) and initiated the investigation procedure for 7 cases for which the investigation actions that were undertaken in 2011 were completed in 2012.
In the table bellow are shown the investigations and the legal basis for their carrying out, taking into account the requirements of the European Directive on the railway safety and the national legislation.

Concluded investigations in 2011

No.	The date of occurrence	Description	Legal basis of the investigation	Concluding date
1	23.08.2010	On the Branch of ''Regional Centre of Operational, Maintenance and Railway Repairs '' Constanţa, in the running of the freight train no.83972, a fire started at the locomotive DA 60-0945-0, on running line, between the railway stations **Târguşor** and **Nicolae Bălcescu** at the km 31+000 km, one occurred a fire on the locomotive.	**i**	19.01.2011
2	30.08.2010	In the railway station **CFR Livezeni,** on the Branch of ''Regional Centre of Operational, Maintenance and Railway Repairs'' Timişoara, one occurred the derailment of the wagons no**.** 31538762206-3 and no. 31538762192-5 from the freight train composition no.30471-2 (belonging to	**i**	14.01.2011

		SC SERVTRANS INVEST SA-railway undertaking).		
3	08.09.2010	On the Branch of ''Regional Centre of Operational, Maintenance and Railway Repairs" Timişoara, on the non-interoperable running section Oraviţa – Berzovia (belonging to SC RC-CF TRANS SRL Braşov-railway undertaking), between the railway stations **Oraviţa and Grădinari Caraş** (non - electrified single line), at the km 45+700, one occurred a fire at the locomotive DHC no. 80-0172-9 hauling the train no. 17360 (belonging to SNTFC „CFR Călători" SA Bucureşti).	**i**	24.02.2011
4	27.09.2010	On the Branch of ''Regional Centre of Operational, Maintenance and Railway Repairs", Braşov, running section Braşov – Deda, between the railway stations **Miercurea Ciuc and Sâncrăieni**, at km 90+530, one occurred the collision between the locomotive EA no. 40-0919-7 (light locomotive which was running as help train no. 2, on closed current line) and the last wagon of the passenger train no. 4504 stopped in running line (the locomotive of the passenger train no. 4504 it was at the km 90+300).	**i**	04.02.2011
5	30.09.2010	On the Branch of ''Regional Centre of Operational, Maintenance and Railway Repairs" Constanţa, traffic section Feteşti-Ovidiu, between the railway stations **Ramificatie Borcea and Ovidiu**, on the running line (electrified double line) in the running on the freight train no. 53598 (belonging to SNTFM „CFR Marfă"), at the km 153+000, one occurred a fire at the banking engine DA no. 60-1361-9.	**i**	02.02.2011
6	15.10.2010	On the Branch of ''Regional Centre of Operational, Maintenance and Railway Repairs" Craiova, traffic section Băbeni – Alunu, between the railway stations **Popeşti Vâlcea and Copăceni,** at km 18+890 and km 21+900, one occurred a failure on the infrastructure structural system which resulted line damages that lead to the derailment of the first bogies in the running direction from the tenth wagon (no. 825366536571) from the freight train composition no. 23748 (belonging to SNTFM „CFR Marfă" SA- railway undertaking), respectively the derailment of the first axel of the locomotive DHC 514 (belonging to SNTFC „CFR Călători" SA), that is hauling the passenger train no. 2835.	**i**	28.03.2011
7	17.10.2010	On the Branch of the railway county Iaşi, in **CFR Bacău** railway station, one occurred the collision on shunting to a group of 8 loaded tank wagons with another group of 19 loaded wagons, all the	**i**	22.02.2011

		wagons belong to'' SC Grup Feroviar Român SA''.		
8	02.11.2010	On the Branch of ''Regional Centre of Operational, Maintenance and Railway Repairs" Iaşi, between the railway stations **Bucecea and Vereşti**, at km. 13+500, one occurred a fire in the engine house DA no. 60-0965-8, that is hauling the passenger train no. 1555-2.	**i**	20.01.2011
9	06.11.2010	On the Branch of ''Regional Centre of Operational, Maintenance and Railway Repairs" Braşov, running section Braşov-Sibiu, (non-electrified simple line), between the railway stations **Făgăraş** and **Şercaia**, in the freight train running no. 21800 (belonging to SNTFM "CFR Marfă" SA), it was exceeded the maximum speed specified (60 km/ h) in the working timetable for the train category.	**i**	28.01.2011
10	15.11.2010	On the Branch of ''Regional Centre of Operational, Maintenance and Railway Repairs" Craiova, in the railway station **Gălăteni**, in the area switch no. 7 from the end X of the railway station, one occurred the derailment of the second bogie (in the running direction) of the wagon no. 31835300065-2. This wagon was in the freight train composition no. 60182-1 (belonging to SC Grup Transport Feroviar SA) and it was the third wagon from the locomotive.	**i**	04.04.2011
11	17.11.2010	On the transport network belonging to SC **METROREX SA,** main line I, between the subway station Piaţa Unirii – Timpuri Noi, on the running line I, at the km 5+860 one occurred the derailment of the axel no. 8 from the REM 175.	**i**	03.02.2011
12	25.11.2010	On the Branch of ''Regional Centre of Operational, Maintenance and Railway Repairs" Braşov, on the line **Voşlăbeni – Chileni,** one occurred the derailment of the first axel of the wagon no. 845359347521. This wagon was in the freight train composition no. 39462 (belonging to SC SERVTRANS INVEST SA.)	**i**	14.03.2011
13	07.12.2010	On the Branch of ''Regional Centre of Operational, Maintenance and Railway Repairs" Iaşi, in **Bacău** railway station, at the shunting of the block of wagons from the line 3C of the passenger section to the technical section, one occurred the derailment of the first bogie from the wagon no. 50532047251-5.	**i**	07.03.2011
14	09.12.2010	On the Branch of ''Regional Centre of Operational, Maintenance and Railway Repairs" Iaşi, running section Adjud - Bacău**,** between the railway stations **Valea Seacă** and **Bacău**, at km 296+750, on the running line I, one occurred the	**i**	18.04.2011

		collision (reaching the train from behind) between the freight local train no. 55101 (belonging to SNTFM „CFR Marfă" SA), stopped on the running line and the service train no. 58911 (belonging to the Branch of CNCF CFR.SA Iasi), on operation.		
15	21.12.2010	On the Branch of ''Regional Centre of Operational, Maintenance and Railway Repairs" Timişoara, in **Curtici** railway station, the passenger international train IC 376-1 departed from the line 1P with the route signal XP1 which has the indication „ Stop without passing the signal", and without having routing from the movement inspector and early with 22 minutes.	**i**	27.01.2011
16	24.12.2010	On the Branch of ''Regional Centre of Operational, Maintenance and Railway Repairs" Bucureşti, on the 2+100 km, on the running section **Chitila - Bucureşti Nord**, on the DHC 80-0152-1 locomotive, which was in the hauling of the passenger train no. 3008 (belonging to SNTFC „CFR Călători" SA) .	**i**	21.02.2011
17	31.12.2010	On the Branch of ''Regional Centre of Operational, Maintenance and Railway Repairs" Bucureşti, on the running section Ploieşti Vest-Braşov (electified double line), in **Sinaia** railway station, the locomotive EA no. 40-0622-7 that was hauling the freight train no. 60760 (belonging to S.C. TRANSFEROVIAR GRUP SA. – railway undertaking), derailed from the first axle .	**i**	22.02.2011
18	01.01.2011	On the Branch of ''Regional Centre of Operational, Maintenance and Railway Repairs" Craiova, in the **Piatra Olt** (**Shed engine** belonging to SNTFM „CFR Marfă" SA Bucureşti), at the exit of the light locomotive from the first line of Piatra Olt railway station with entry route inside the Shed engine, the light locomotive DHE no. 82-0141-0 derailed with the both bogies by the fall of this in the turntable vat.	**i**	07.03.2011
19	06.01.2011	On the Branch of ''Regional Centre of Operational, Maintenance and Railway Repairs" Bucureşti, in railway station **Adânca,** the freight train no. 97153 (light locomotive DA no. 60-0298-4 that belongs to SNTFM „CFR Marfă" SA), has exceed the exit semaphore indicating „ Stop without passing the signal" and has continued its running to Targoviste railway station without having free pass.	**i**	27.01.2011
20	07.01.2011	On the Branch of ''Regional Centre of Operational, Maintenance and Railway Repairs" Bucureşti, in the **Pajura** railway station, in the area of the switch no. 12, the freight train no.	**i**	11.04.2011

		87222-1 (light locomotive DHC no. 81-0392-1 that belong to SNTFM „CFR Marfă" SA), derailed from the second axel of the second bogie of the locomotive (the last relating to the locomotive running direction).		
21	13.01.2011	On the Branch of ''Regional Centre of Operational, Maintenance and Railway Repairs" Cluj, in **Dej Triaj** railway station, on the parking of the freight train no. 31185-2 (belonging to SNTFM „CFR Marfă".SA-railway undertaking) at the line 6A, one occurred the derailment of all axles of the locomotive ED no. 91530474024-3 and of wagon no. 21531502445-9 (the first in the train composition – loaded with ammonium nitrate).	**i**	02.03.2011
22	19.01.2011	On the Branch of ''Regional Centre of Operational, Maintenance and Railway Repairs" Bucureşti, in **Bucureşti Triaj** railway station, in the area of the switch no. 45, switch situated in the railway station, the locomotive EA no. 474-027-4 (belonging to SNTFM „CFR Marfă" SA), which was hauling the freight train no. nr. 24794-1 derailed from the first bogie in the running direction.	**i**	01.03.2011
23	27.01.2011	On the Branch of ''Regional Centre of Operational, Maintenance and Railway Repairs" Timişoara, in **Vulcan** railway station**,** on the avoiding line from the end X of the station , the locomotive no. ED-474030-0, which was hauling the freight train no. 23815(belonging to SNTFM „CFR Marfă" SA), derailed from all axles.	**i**	28.02.2011
24	02.02.2011	On the Branch of ''Regional Centre of Operational, Maintenance and Railway Repairs" Galaţi, in **Adjud** railway station, the operating staff founded that the freight train no. 51352 (belonging to SNTFM „CFR Marfă" SA), circulated with non-ensured braked weight percentage.	**i**	28.02.2011
25	06.02.2011	On the Branch of ''Regional Centre of Operational, Maintenance and Railway Repairs" Craiova, at the entry in the **Pârvu** railway station, the passenger train no. 1893 consists of railcar SIEMENS DESIRO AM 2084, exceeded the entry signal XBF indicating ''Red''.	**i**	28.02.2011
26	08.02.2011	On the Branch of ''Regional Centre of Operational, Maintenance and Railway Repairs" Constanţa, non – interoperable traffic section P1 Capu Midia – Capu Midia, at the entry in the **Capu Midia** railway station, the wagons no. 33877919348-5, 37807923043-9 and 33807920395-0 (that were the 19th, the 20th and the 21th of the freight train composition no. 82961		12.09.2011

		(belonging to SNTFM "CFR Marfă" SA).		

27	15.02.2011	In the Branch of the Railway County Craiova " Regional Center of Operation, Maintenance and Railway Repairs", in Station **Bărbăteşti** occurred the passing of the output signal XII with the indication „STOP without passing the signal" and trailing the points no.4 by the freight train no.46676-1.		08.03.2011
28	15.02.2011	In the Branch of the Railway County Craiova " Regional Center of Operation, Maintenance and Railway Repairs", running section Strehaia – Drobeta Turnu Severin (electrified simple line), in Station **Valea Albă**, at km 349+000, on the main track II, occurred the derailment of the wagon from the freight train composition no.91797 (belonging of the rail operator SNTFM CFR Marfă SA).		23.05.2011
29	18.02.2011	In the Branch of the Railway County Galaţi " Regional Center of Operation, Maintenance and Railway Repairs", on rute Buzău – Mărăşeşti, between Station Putna Seacă- and Railway Station Mărăşeşti, the hitting of the field magnet of 1000/2000 Hz of the running signal BL 14F1 **Putna Seacă - Mărăşeşti** occurred by the locomotive EA 41-0724-9 hauled with the passenger train no.5101 (belonging to the rail operator SNTFC CFR CĂLĂTORI SA – the Galaţi Depot).		02.03.2011
30	21.02.2011	In the Branch of the Railway County Craiova " Regional Center of Operation, Maintenance and Railway Repairs" in the **Railway Station Corabia,** the derailment of the motor bogie in the running direction occurred and the second axle of the second bogie from railcar AMX no.4580 which formed the passenger train no.15812, belonging to „SC REGIOTRANS SRL Braşov".		26.04.2011
31	27.02.2011	In the Branch of the Railway County Timişoara " Regional Center of Operation, Maintenance and Railway Repairs", in the **Railway Station Simeria Triaj**, the hitting of the field magnet of 500 Hz and damaging of 1000/2000 Hz of the running signal X1P occured, from the station by the guard of the 5-6 axle from the wagon 87 53 7960		16.03.2011

		756-2 from the freight train composition no. 70871 (owned by SC Grup Feroviar Român SA Bucureşti)		
32	01.03.2011	In the Branch of the Railway County Craiova " Regional Center of Operation, Maintenance and Railway Repairs", running section Filiaşi – Strehaia (electrified double line)in the freight train running no.9191 (owned by SNTFC „CFR Calatori" SA) the maximum speed limit imposed by 30km/h from 290+550 km to 290+750 was exceeded.		26.05.2011
33	01.04.2011	In the Branch of the Railway County Timişoara " Regional Center of Operation, Maintenance and Railway Repairs", running section Nădab-Ciumeghiu, occurred the derailment and the overturning of 9 wagon from the freight train composition no. 50505 (owned by UNIFERTRANS SA) when passing through **Railway Station Chişineu Criş** on direct line III in the switch no.3 from the end station X.		02.11.2011
34	01.04.2011	In the Branch of the Railway County Bucureşti " Regional Center of Operation, Maintenance and Railway Repairs",running section Predeal-Ploieşti Vest, on the running line I between halt Valea Largă **and Railway Station Comarnic**, at km 115+980, occured the hitting by the passenger train no.1930 (owned by SNTFC „CFR Calatori" SA))of the driving elements of the horizontal rod from a railway vehicle belonging to SC PORR TECHNOBAU UNWERT A.G Viena ,stopped on the line II.		02.11.2011
35	18.04.2011	In the Branch of the Railway County Craiova " Regional Center of Operation, Maintenance and Railway Repairs", running section Roşiori Nord- Craiova (electrified double line), **in Railway Station Jianca**, occurred the derailment of the first bogie of the EA 45-00374-4 locomotive hauled with the passenger train no.360-1, owned by SNTFC „CFR Calatori" SA, nearby switch no.7 from diagonal 5-7 composition from the end station X.		15.12.2011
36	24.04.2011	In the Branch of the Railway County Craiova " Regional Center of Operation, Maintenance and Railway Repairs",		27.06.2011

		running section Băbeni – Alunu (non electrified single line), in running of the freight trains no.39235/39236 (owned by SERVTRANS INVEST SA) the maximum speed limit was exceeded between **Railway Stations Băbeni – Alunu,** provided in the train timetable and in the speed restrictions approval bulletin.		
37	06.05.2011	In the Branch of the Railway County Bucureşti "Regional Center of Operation, Maintenance and Railway Repairs", train no.98916 (composed of track car UAM 215-P-062 and 2 small wagons RDC 148 and RDC 007) occurred the passing of the input signal YKII with the position on „red", trailed the points no.1M and stopped on the track section 038.		26.05.2011
38	11.05.2011	In the Branch of the Railway County Timişoara " Regional Center of Operation, Maintenance and Railway Repairs", on the running line II (electrified double line), between station Merişor – and Railway Station Băniţa, km 66+500, a fire started at the locomotive EA 40-0791, hauling the freight train no.20936.		16.12.2011
39	17.05.2011	In the Branch of the Railway County Craiova " Regional Center of Operation, Maintenance and Railway Repairs", at the shunting receiver in the Railway Station Plopşoru of the rake of the wagons CM6, occurred the passing of the shunting signal M10, followed by de derailment of the locomotive DA 1619 by the axels 2,3,4,5 over the switch no.12, from the receiving route.		13.12.2011
40	20.05.2011	In the Branch of the Railway County Braşov" Regional Center of Operation, Maintenance and Railway Repairs", running section Braşov – Deda (electrified single line), in the **Railway Station Gheorghineni**, on passing over the switch no.6, on common crossing occured the derailment from the first axle of the first bogie in the running line of the locomotive EA 179, hauled with the freight train no.50562-1, owned by UNIFERTRANS SA Bucureşti.		08.06.2011
41	25.05.2011	In the Branch of the Railway County Constanţa" Regional Center of		11.10.2011

		Operation, Maintenance and Railway Repairs", running section Capu Midia – Palas, between Railway Stations **Năvodari- Constanţa Mărfuri, at km 16+ 500,** in the running of the freight train no.79156 owned by Grup Feroviar Roman SA, a fire started at the locomotive DA 60-1528M, hauling the train.		
42	31.05.2011	In the Branch of the Railway County Bucureşti "Regional Center of Operation, Maintenance and Railway Repairs", between **Railway Stations Brazi and Ploieşti Sud**, occurred the passing of the signsl of the branch line l X from railway station Ramificatie Ploiesti Triaj by the passenger train no.5021, although its indication was on red *(„stop without passing the signal")* and the caution signal of the Station Ploieşti Sud Pr XB.		21.06.2011
43	02.06.2011	In the Branch of the Railway County Craiova " Regional Center of Operation, Maintenance and Railway Repairs", in station Măldăieni, occurred the passing of the signal YIII, indicating to stop.		20.06.2011
44	02.06.2011	In the Branch of the Railway County Galaţi " Regional Center of Operation, Maintenance and Railway Repairs", occurred the routing of the train 90720 owned by SC VEST TRANS RAIL SRL Ploieşti „braked mass percentage uninsured in accordance with train timetable", observation made in the **Railway Station Buzău.**		22.06.2011
45	06.06.2011	In the Branch of the Railway County Timişoara " Regional Center of Operation, Maintenance and Railway Repairs", running section Brad – Arad (electrified single line), between **Railway Station Ineu and Station Bocsig**, at km 44+350, a fire occurred at the locomotive DA 60-0930-2 hauling the passenger train no.3134 (owned by SNTFC „CFR Calatori" SA).		28.07.2011
46	19.06.2011	In the Branch of the Railway County Braşov" Regional Center of Operation, Maintenance and Railway Repairs", running section Braşov – Bucureşti (electrified double line), between the Railway Stations Timişul de Sus-Predeal, on the running line I at km		05.09.2011

		150+825, occurred the derailment of the first bogie in the running direction of the wagon no.81536656119-0 from freight train no.83568 composition, owned by SNTFM „CFR- MARFĂ" SA.		
47	24.06.2021	In the Branch of the Railway County Constanţa" Regional Center of Operation, Maintenance and Railway Repairs", running section Lehliu – Ciulniţa, between the **Railway Stations Lehliu and Dor Mărunt,** on the running line I, at km 71+100, occurred the hitting of the passenger train no.8033 by a railway equipment (owned by Astaldi SpA Italia)that came into structure clearance.		12.07.2011
48	09.07.2011	In the Branch of the Railway County Iaşi" Regional Center of Operation, Maintenance and Railway Repairs",between the **Railway Stations Podu Iloaie and Sărca**, at km 42+620, occurred the derailment of the both axels of the last bogie, in the running direction from the freight wagon Eaos no.335 35301 979 -7 from the freight train no.70923 composition, owned by Grup Feroviar Roman.		05.09.2011
49	16.07.2011	In the Branch of the Railway County Iaşi" Regional Center of Operation, Maintenance and Railway Repairs", running section Videle- Giurgiu Nord (non electrified single line) between **Stations Toporu and Chiriacu**, , in the running freight train no.91950- 1 (owned by SNTFM „CFR- MARFĂ" SA), which was running under the freight train no.93632-1 conditions, the maximum speed established for the train category in the working timetable of 50 km/h, was exceeded.		08.08.2011
50	21.07.2011	In the Branch of the Railway County Bucureşti" Regional Center of Operation, Maintenance and Railway Repairs",in the running of the freight train no.70852 (owned by Grup Feroviar Roman SA Bucureşti), hauled by locomotive 91530425-210.8, occurred a fire in the engine room, in the area of coil for the protection against the electric shocks for traction motor no.1, on running section Ploieşti Triaj- Chitila, between **railway stations Periş –**		25.10.2011

		Buftea, at km 26+700.		
51	27.07.2011	In the Branch of the Railway County Cluj" Regional Center of Operation, Maintenance and Railway Repairs" in the running of freight train no.64702-1, occurred a guiding derailment of 2 wagons by one bogie , on the 4 line from **railway station Campia Turzii.**		15.09.2011
52	29.07.2011	In the Branch of the Railway County Craiova " Regional Center of Operation, Maintenance and Railway Repairs", in **railway station Craiova** occurred the failure to stop on distance necessary to brake related stabling (line 27) and to hit the parapet protection of this line by the passenger train no.1891 owned by SNTFC „CFR Calatori" SA .		19.08.2011
53	30.07.2011	In the Branch of the Railway County Timişoara " Regional Center of Operation, Maintenance and Railway Repairs",between railway stations **Căvăran and Zăgujeni**, occurred the exceeding of maximum speed set for the train category from working table in running of the freight train no.91900.		19.10.2011
54	16.08.2011	In the Branch of the Railway County Craiova " Regional Center of Operation, Maintenance and Railway Repairs" between **railway stations Lainici – Meri**, occurred the braking of axel no.2 (in running direction) from the tower wagon DP 500, running as train no.28902.		11.11.2011
55	17.08.2011	In the Branch of the Railway County Cluj" Regional Center of Operation, Maintenance and Railway Repairs" in the **railway station Dej Călători**, in the running of freight train no.50562-1, belonging to UNIFERTRANS SA Bucureşti, occurred the passing of signal YP with indication" red" („stop without passing the signal") by the hauling locomotive (DA 1237), followed by its derailment in prism of ballast on avoidance line , on which it was performed.		13.09.2011
56	20.08.2011	In the Branch of the Railway County Cluj" Regional Center of Operation, Maintenance and Railway Repairs", on the non interoperable running section Vaşcău – Holod – Ciumeghiu, between **station Beiuş and station Holod Vest**, at		27.10.2011

		km 69+500 occurred a fire in the engine room of locomotive DA 60- 0966-1, hauled in freight train no.91901		
57	22.08.2011	In the Branch of the Railway County Braşov" Regional Center of Operation, Maintenance and Railway Repairs", in running freight train no.80090 owned by SNTFM „CFR- MARFĂ" SA), in the running section Vinţu de Jos – **Bărăbănţ,** occurred a fire at the locomotive DHC 321 (running hauled).		26.10.2011
58	02.09.2011	In the Branch of the Railway County Braşov" Regional Center of Operation, Maintenance and Railway Repairs", running section Braşov – Coşlariu (electrified double line), between railway **stations Micăsasa and Valea Lungă**, in the running freight train no.41719 (owned by SNTFM „CFR- MARFĂ" SA) occurred the the exceeding of maximum speed established in the working table at 50km/h.		13.10.2011
59	15.09.2011	In the Branch of the Railway County Braşov" Regional Center of Operation, Maintenance and Railway Repairs", running section Braşov – Coşlariu (electrified double line), between railway stations **Micăsasa and Valea Lungă**, in the running freight train no.20092-1 (owned by SNTFM „CFR- MARFĂ" SA) occurred the exceeding of maximum speed established in the working table at 50km/h.		16.11.2011
60	22.09.2011	In the Branch of the Railway County Timişoara " Regional Center of Operation, Maintenance and Railway Repairs", between railway stations **Turdaş – Orăştie**, on line I, at km 457+003 occurred a fire in the electric hydraulic locomotive LDH 80-0600-9 hauled in the passenger train no.347-2 owned by SNTFC „CFR Calatori" SA .		22.11.2011
61	29.09.2011	In the Branch of the Railway County Timişoara " Regional Center of Operation, Maintenance and Railway Repairs", in current line, on line I (electrified double line), at km 53+ 100, at the entry in the railway station Baru Mare, occurred a fire in the locomotive EA 40-0118-6 (owned by SNTFM „CFR- MARFĂ" SA), hauled in the freight train no.27557.		05.12.2011

62	10.10.2011	In the Branch of the Railway County Timişoara ” Regional Center of Operation, Maintenance and Railway Repairs”, in current line, line II (electrified double line) between railway **stations Baru Mare and Crivadia** at km 55+350, in the running of freight train no.23814 (owned by SNTFM „CFR-MARFĂ” SA), occurred a fire in the hauled locomotive EA 40-0045-1.		07.12.2011
63	17.10.2011	In the Branch of the Railway County Timişoara ”Regional Center of Operation, Maintenance and Railway Repairs”, in **railway station Orşova** , occurred the passing of the exit signal X4, with the objectionable indication (red), trailing of the switch no.10 and passing on the avoiding line no 15 by the passenger train no.9551. The train was composed of locomotive 461055-2 (EC 055) and 3 wagons belonging to OTF SNTFC “CFR Călători” SA RTFC Timişoara.		16.11.2011
64	26.10.2011	In the Branch of the Railway County Timişoara ” Regional Center of Operation, Maintenance and Railway Repairs”, running section Timişoara-Caransebeş, in **railway station Recaş**, occurred the occupation of the current line towards Topolovăţ- without having the right, by the track motor car CIRA no.069 (belonging by CNCF CFR SA), running as the train no.98976.		21.11.2011
65	14.11.2011	In the Branch of the Railway County Braşov” Regional Center of Operation, Maintenance and Railway Repairs”, occurred the „erroneous enforcement of exit route” for train no.4501 belonging to SNTFC „CFR Calatori” SA and trailing of the switch no.2 from **station Prejmer** by the hauled locomotive.		08.12.2011
66	30.11.2011	In the Branch of the Railway County Craiova ” Regional Center of Operation, Maintenance and Railway Repairs”, running section **Băbeni- Alunu** between railway stations **Alunu and Copăceni** (non electrified single line), in running freight trains no.23685/23806 (belonging to SNTFM „CFR- MARFĂ” SA), occurred the exceeding of maximum speed established in the working table and of maximum running limits in the		20.12.2011

		approval bulletin and signaled on the field.		

Legal basis of the investigation: **i**= In accordance with Safety Directive **ii**= Under national law (that covers possible areas excluded through art. 2, paragraph 2 of the Safety Directive), **iii**= Optional – other criteria(National rules / regulations that Safety Directive does not refer).

Investigations started in 2011 and completed in 2012

Nr. crt.	Date of occurrence	Description	Legal basis of investigation	Ending date
1	10.03.2011	In the Branch of the Railway County Iaşi" Regional Center of Operation, Maintenance and Railway Repairs", running section **Adjud – Bacău,** has started the investigation for the two technical defects of the interoperability constituent "rail" registered during 01.01.2010 – 01.02.2011, manifested through breaking rails – 61 cases and category 1 defects of the rails – 237 cases.		23.01.2012
2	17.05.2011	In the Branch of the Railway County Bucureşti" Regional Center of Operation, Maintenance and Railway Repairs", running section Targovişte-Titu, between the Railway Stations Titu- Nucet, at km 2+500, in the running of the passenger no.9432 (belonging to SNTFC „CFR Calatori" SA) a fire started at the locomotive DA 60-0793-4, in the fan motor area PC2.		18.01.2011
3	02.10.2011	In the Branch of the Railway County Craiova" Regional Center of Operation, Maintenance and Railway Repairs", running section Strehaia – Drobeta Turnu Severin (electrified single line), in the **Station Valea Albă,** at km 349+060, on line 2, occurred the derailment of a wagon from the freight train no.70838- 1 composition (belonging by GRUP FEROVIAR ROMAN SA).		24.02.2011
4	20.10.2011	In the Branch of the Railway County Constanţa" Regional Center of Operation, Maintenance and Railway Repairs", between Stations Dragoş Vodă, in the running freight train no.93596, occurred the derailment of the first bogie of the wagon no.84539305320 (the second safety		26.03.2011

		wagon) running back the train over the crossing with movable frog of the switch no.4 from cross over 2-4.		
5	15.11.2011	In the Branch of the Railway County Craiova" Regional Center of Operation, Maintenance and Railway Repairs", running section Strehaia – Drobeta Turnu Severin (electrified single line), in the Station Valea Albă, at km 349+ 541, on line 2, occurred the derailment of a wagon from the freight train no.91795 composition (SNTFM „CFR- MARFĂ" SA)		03.02.2012
6	02.12.2011	In the Branch of the Railway County Cluj" Regional Center of Operation, Maintenance and Railway Repairs" in the running freight train no.43632, owned by SNTFM „CFR- MARFĂ" SA, occurred the derailment of the wagon by both bogies, on Coşbuc – Salva line at km 0+937.		21.03.2012
7	05.12.2011	In the Branch of the Railway County Galaţi" Regional Center of Operation, Maintenance and Railway Repairs", running section Adjud – Ghimeş, between Stations Dofteana-Targu Ocna occurred the derailment of the locomotive EA 41-0761-1 that hauled the train no.5211 (owned by SNTFC „CFR Calatori" SA).		28.02.2011
8	18.12.2011	In the Branch of the Railway County Constanţa" Regional Center of Operation, Maintenance and Railway Repairs", running section Feteşti – Tăndărei (electrified double line) in running of the freight train no.43430 (owned by SNTFM „CFR- MARFĂ" SA), in the Station Movila at passing over the switch no.1 (km 71+100), occurred the derailment of all axels from the wagon no.81530666697, located in the 5th signal.		03.02.2011

Legal basis of the investigation: **i**= In accordance with Safety Directive **ii**= Under national law (that covers possible areas excluded through art. 2, paragraph 2 of the Safety Directive), **iii**= Optional – other criteria(National rules / regulations that Safety Directive does not refer).

3.3 Research studies (or safety studies) completed or ordered in 2011
Studies completed and ended in 2010

Commission Date	Study Name (type, location)	Basis for legislation	Additional data
24.03.2011	"Testing report no.3050-009 on 04.10.2011 concerning mechanical tests, chemical and metallographic analysis for rail type R65".	i	-

Legal basis of the investigation: **i**= In accordance with Safety Directive **ii**= Under national law (that covers possible areas excluded through art. 2, paragraph 2 of the Safety Directive), **iii**= Optional – other criteria(National rules / regulations that Safety Directive does not refer).

The Testing Report was carried out, as part of its investigation action taken for the 2 technical failures of interoperability constituent "rails" registered during 01.01.2010-01.02.2011 on the range of activity in the Branch of the Railway County Iaşi, running section Adjud – Bacău, manifested through breaking rails – 61 cases and category 1 defects of the rails – 237 cases and aimed to determine material characteristics of which the rails were made.

Because OIFR does not have technical equipment and specialized personnel to carry out this step, in accordance with the provisions from art.20, paragraph (4) , by Law no.55/2006 concerning the railway safety and with art.52 from Regulation to investigate accidents and incidents, development and improvement of the railway safety on the rails and on the subway network in Romania, approved by H.G no.117/2010, OIFR has used the services of the Romanian Railway Notified Body, which has authorized personnel and laboratories with the necessary equipment to perform mechanical testing, chemical and metallographic analysis of samples taken from rail type R65.

Studies ordered in 2011

Commission Date	Study Name (type, location)	Basis for legislation	Additional data
-	-	-	-

Legal basis of the investigation: **i**= In accordance with Safety Directive **ii**= Under national law (that covers possible areas excluded through art. 2, paragraph 2 of the Safety Directive), **iii**= Optional – other criteria(National rules / regulations that Safety Directive does not refer).

3.4 Summary of investigation completed in 2011

During 2011 there were completed a number of 66 investigations and 17 were opened in 2010, the rest of 49 were opened during 2011.
Below is a synthetic situation of the 66 investigation reports completed during 2011.

3.4.1 *The railway accident occurred on 23.08.2010, at 18:30, in the Branch of the Railway County Constanţa" Regional Center of Operation, Maintenance and Railway Repairs" between the railway stations Târguşor Dobrogea and Nicolae Bălcescu, at km 31+000, in the running of the freight train no.83972 (belonging to SNTFM "CFR Marfă" SA), through the fire occurred at the locomotive DA 60-0945-0, followed by the death of driver's assistant.*

Direct cause

The direct cause was the auto-ignition of diesel fuel and oil vapors resulting from a technical fault caused by the appearance and rapid spread of two cracks at the piston collar,

started from the upper part in vertical plane that includes the bolt axle, followed by the non-shrinking process and movement of the piston collar no.3, producing successively: annulment of lubrication and cooling piston , in the positioning zone of segments and appearance of dry friction , rising of temperature over the normal limits of functioning, rapidly eroding compression and lubrication segments, melting of lateral peripheral filler of the body piston and rapid accumulation of diesel vapors in the oil pan above the drain technology limit.

Contributing factors

On the extent of fire, the gas expulsion contributed and about 600 kg of hot engine oil all over the engine room due to explosion from the cranckcase by deformation of the side covers, leading to the fire generalization by burning it, to the oil from the hydrostatic plant (approx. 30 kg) and combustible building elements (pipes and rubber fittings, air filter elements, electrical harness insulation, insulation elements and trim management positions).

Underlying causes

The inefficiency of the primary means of intervention, under violent fire propagation and the acting impossibility by locomotive staff because of the gas and smoke, together with the intervention of specialized staff from The Emergency Situations Inspectorate , about 60 minutes after notification.

Root causes were not identified**.**

Measures taken during the investigation

Right after the accident, the management of the railway operator SNTFM "CFR Marfă" SA Bucureşti, decided the reprocessing of educational material from act E.1.6/26/2008 with entire locomotive staff , concerning the way of intervention in running of staff locomotives, in case of abnormal noises MD, crankcase explosion in MID, the release of smoke or fire starters that in paragraph 1 is provided: " *during the running is forbidden to carrying out any thermal or electrical equipment of the locomotive, before stopping of the train / locomotive, the insurance against starting in place and only after the engine driver has taken stop measures for the MD to diesel locomotives and disconnect the circuit breaker and lowering the pantograph to the electric locomotives*.

Safety recommendations

Recommendations are targeted to address the following issues:

1. The coverage of work verification of tightening between piston head and body, at every thermal intervention, accidental repair, which involves dismantling and removing the piston of the diesel engine in the process of maintenance performed by the economic operators certified as railway suppliers and which are holding railway technical agreements for those types of intervention.
2. The analysis by the railway undertakings, holders of this type of locomotive (LDE 2100 HP) of the opportunity to complete the technical equipment of the locomotive with a facility to provide up to the intervention of specialized staff ISU, a reduction of fire effects, using resource for about 1400 l of water cooling equipment or others facilities to enable staff to effective interventions under this gas engine or smoke.
3. The initiation by the railway undertakings, holders of this type of locomotive, of a study to guide the design through specialized services within the Romanian Railway Notified Body, of a methodology to achieve the necessary verifications to ensure the prevention of cracking the collar piston from the diesel engine 12 LDA 28 composition.

3.4.2 *The railway accident occurred on 30.08.2010, at 05:30, in the Branch of the Railway County Timişoara " Regional Center of Operation, Maintenance and Railway Repairs". Running section Subcetate- Livezeni (electrified double line) at the entry of the running line II in the railway station Livezeni at deflecting section 5 of the freight train no.30471-2 (belonging to SERVTRANS INVEST SA) , on passing the crossover 10-18, through the*

derailment of the wagons no.31538762206-3 and of the wagon no.31538762192-5 (the first two after the locomotive), both in loaded standing.
The investigation report was completed on 14.01.2011.

Direct cause
Displacement of the contact point wheel – rail below the running surface no.6, due to the difference between point Aq0 from the wheel no.5 and the external surface of the wheel no.6 on a side and the distance between interior flank of the rails.
Contributing factors
- Wear of the flange wheel no.5 which have a thickness of 20 mm to 22 mm;
- Wear of the constructive elements of the concrete superstructure, led to a value of the track gauge of 1472 mm;

Underlying causes
The admission in running of the wagon no.31538762206-3 (the first locomotive wagon) having the flange of wheel thickness no.5, measured at 10 mm over the running tread, of 20 mm to 22 mm allowed by The technical inspection and maintenance instructions for wagons in use no.250/2005. table 1, position no.8. This was possible as a result on non-ensure by the examiner of works and mandatory checks that they must provide within the technical inspection in the composition, as a result of human error occurred during the technological process of preparation and technical review of train no.30471-2.
Root causes were not identified.
Safety recommandations were not identified.

3.4.3 The railway accident occured on 08.09.2010, in the Branch of the Railway County Timişoara" Regional Center of Operation, Maintenance and Railway Repairs", in non-interoperable running section Oraviţa – Berzovia , owned by SC RC- CF TRANS SRL Braşov- Secţia Timişoara, between railway stations Oraviţa and Grădinari- Caraş (non electrified single line), at km 45+700, in the running of the train no.17360 belonging to SNTFC „CFR Calatori" SA, occurred a fire on the locomotive DHC 80-071.
The investigation report was completed on 24.02.2011.

Direct cause
The fire started by igniting oil deposits located above the wheel on the right side of the axle no.2, in the locomotive running direction (the air and fuel pipes, inside surfaces of the bogie solebars, main external and internal longitudinal and inferior surface of the axle) by incandescent material particles, detached off the brake block from behind of the wheel off the axle no.2 during the process of service break during the locomotive running.
Contributing factors
- The existence of oil products in constructive sealing areas installations located at the bottom of the locomotive and submitting them inaccessible places.
- The existence of wear in articulations transmission parts for brake effort by the locomotive brake rigging, which have led to the brake block out of the running surface, as well as unequal transmission for the brake efforts to the 2 brake blocks on the right side of axle no.2.

These factors were determined by the state of wear of the installations and locomotive aggregates, due to missing the deadline of specific type of repair works, that locomotive was due to repair (type RG since may 2008).
Underlying causes were not identified.
Root causes were not identified.
Safety recommandations
1. The Compliance terms for introduction in planned repairs of the locomotives ;

2. Periodic cleaning of accumulations of combustible residues from prone areas to accidental ignitions locomotive, operations that would be comprised in the technological process of periodic reviews;
3. The check of brake rigging on the diesel hydraulic locomotives for detect wear in joints and taking control measures to adjust technical planned revisions.

3.4.4 *The railway accident occurred on 27.09.2010, at 07:50, in the Branch of the Railway County Braşov" Regional Center of Operation, Maintenance and Railway Repairs", in the running section Braşov – Deda, between the railway stations Miercurea Ciuc and Sãncăreni, at km 90+530, by collision between the locomotive EA no 40-0919 – 7 (light locomotive which was running as help train no.2, on closed current line) and the last coach of the passenger train no.4504 stopped in current line (the passenger train locomotive no.4504 it was at km 90+300).*
The investigation report was completed on 04.02.2011.

Direct cause
The collision occurred due to non stopping of the help locomotive EA 40-0919-7 (running isolated as a help train no.2) at the settled distance than the rear wagon of passenger train no.4505 (stopped in current line).
Non stopping of the locomotive at the settled distance occurred due to the fact that the engine driver did not identified the real position of the stopped train in the current line due to the inaccurate values of kilometer positions pointing to the speed running steps on closed current line submitted by the movements inspector in the running order together with the limited visibility conditions due to fog.
Underlying causes
The engine driver assistant of EA 40-0919-7, after the receiving and learning of the running order (in accordance with provisions of art.90, paragraph 2 from Instructions of locomotive staff activity in railway transport no.201/2007) also he did not know the real kilometer position , he did not observe the fact that the data were inaccurate on the kilometer positions on the railway stations interval Miercurea Ciuc- Sãncăreni. So the help locomotive EA 40-0919-7 should run from station Miercurea Ciuc (km 95+077) to the station Sãncăreni to km 89+300 (kilometer position lower than the real one in which the passenger train stopped) with maximum speed of 40 km/h, and from there to run to the km 90+025 (kilometer position where the passenger train no. 4504 stopped) back to railway station Miercurea Ciuc with 20km/h speed.
Root causes were not identified.
Safety recommendations were not identified.

3.4.5 *The railway accident occurred on 30.09.2010, at 14:08, in the Branch of the Railway County Constanţa" Regional Center of Operation, Maintenance and Railway Repairs", on the current line I Feteşti – Ovidiu, between station Ramificaţia Borcea and railway station Ovidiu, at km 153+000, in the running train no.53598, hauled by the electric locomotive EA 533 with banking locomotive DA 1361, by a fire occurred in the engine room, in the area of traction motor 4 and 5.*
The investigation report was completed on 02.02.2011.

Direct Cause
The occurrence of a fire due to electrical discharges in the cross area of suply conductors related to electric traction motor 4 and 5, and due to a insufficient insulation, degradation of neoprene tubes, followed by the ignition of combustible deposits accumulated from locomotive explotation and propagated to the supply cabling of the electric traction motor 4, 5 and 6, which led to the extension of fire in the engine room and of management posts.

Contributing factors

Appearance of the self-inductance overvoltage at switching electric traction motors under the conditions of missing the deadline of the specific type of repair works, , that locomotive was due to repair (type RG since august 2007) led to aging of the power cable insulation and to a thermotechnic improper condition (loss of oil, diesel, gas) that favored the initiation and propagation of the fire .

Efficiency of primary means of intervention, under violent fire propagation and inability of acting by locomotive staff, because of gas and smoke, together with the intervention of specialized personnel in the Inspectorate for Emergency Situations., in about 93 minutes after approval.

Underlying causes

The disposal D4.8/445/2004 of SNTFM CFR MARFĂ SA – The service for locomotive repair was not complied , on the prevention works about the initiation of fire at the diesel electric locomotives 2100 CP, regarding the protection of supply cabling related to electric traction motor, as well as cleaning oil deposits (fuel, lubricants) area of intersection and protection block of the cables from the motors 4,5,6, where they can store.

The repairing cycle and the required inspections of the locomotive were not complied, in accordance with the provisions of Railway Norm " Railway wagons. Inspections and Planned Reparations" no.67-005/2008 approved by OMT no.364/2008, meaning that the locomotive performed the planned inspections in according to the days actually rendered and not after one cycle provided by order.

Root causes were not identified.

Safety recommendations

1. The compliance of OMT no.364/2008 concerning the cycles required inspections and planned reparations on railway vehicles engine.
2. The compliance of the Disposal D4.8/445/2004 - The service for locomotive repair by SNTFM CFR MARFĂ SA on the prevention works about the initiation of fire at the diesel electric locomotives 2100 CP.
3. The supplementation of technical inspection actions of the insulation capacity of cables and the protection solution provided thru disposal D4.8/445/2004 on locomotives with the repair time exceeded and replacement of cables with improper characteristics.
4. Analysis by rail transport operators holders of this type of locomotive (LDE 2100 CP) the opportunity to complete the technical equipment of the locomotive with a facility to provide up to the intervention of specialized personnel ISU, a reduction of the fire effects, using the resource of about 1400 gallons of water cooling equipment, or other facilities that enable an effective intervention of the train crew in the conditions of gases and smoke.

3.4.6. The technical defect of the infrastructure structural subsystem occurred on the activity area of the branch " Regional Center of Operation, Maintenance and Railway Repairs" Craiova, on the running section Babeni- Alunu (simple line non-electrified), between the railway stations Popesti Valcea-Copaceni, at the km 18+890 and km 21+900 that had as consequence defects to the line that led to derailment of first bogie in the running direction of the tenth wagon (no. 825366536571) from the composition of the freight train no. 23748 belonging to the railway undertaking SNTFM „CFR Marfă" SA, respectively the derailment of first axle of the locomotive DHC 514 (belonging to the railway undertaking SNTFC „CFR Călători" SA) that hauled the passenger train no.2835.

The investigating report was completed on March 28, 2011.

Direct cause

Uneven settlement of the track bed under load which produced a twisting track and led to

loss of the rail guiding on the right side of the running direction followed by the rail escalation on the right side of the running direction by the first wheel of the railway vehicles, its falling outside the track (on the right side of the running direction), followed by the falling inside the track of the wheel from the left side.

Favoring factors that led to the track settlement were:

- Earth saturation from the track bed body following rainfall, fact that led to a decrease of the earth bearing capacity from the track bed body by the appearance and amplification of residual deformations in its body. This was possible because it wasn't ensured the draining capacity of the broken stone prism by performing the works of cutting the track benches for storm drainage of the track bed platform, contrary to the provisions of Chapter II, item B.4, letter b of the Instruction for performing the major overhaul repairs of the track no.302/1986 (printed again in 1997);
- Existence of an effective cant in curve, higher than that corresponding to a maximum running speed of 15 km/h, resulting in overloading the inner track of the curve, fact that had as consequence the increase of the vertical forces transmitted by each metallic bearing surface of the sleepers from the inner track of the curve. This led to the increase of the vertical stresses transmitted to the broken stone layer, ballast and earth from the track bed body, having as effect the increase of residual deformations of this layered system, manifested at the level of the bearing surface by defects of the track in transverse and longitudinal profile.
- Non-ensuring the corresponding elasticity of the broken stone prism, fact that led to the transmission of higher pressures on the surface of the track bed platform, determining the appearance of deformations in the track bed body. This was possible because it could not be achieved the corresponding thickness of the broken stone layer under the base of sleepers, because when performing the periodic repairing works with full screening of the broken stone prism it wasn't ensured the entire quantity of broken stone necessary for this work, non-observing the provisions of Chapter II, item B, 2a of Instruction for performing the major overhaul works of the track no.302/1986(printed again in 1997);

Underlying causes

- Non-observing the provisions of article 66 letter b) and d) of Instructions for major overhaul of the tracks no.303/2003 concerning the renewal of the track beds and of their defense and building works and of the provisions of Chapter 2, item 2.10 of the Railway Technical Norm 72-003/2004 relating to types of intervention on the track beds, depending on classifying defects on priority degrees;
- Non-observing the provisions from Annex no.8 of the Instruction for maintaining the rails no.300/1982 by partial execution of works of technological process of periodic repair with full screening of the broken stone.

Root causes

No root causes were identified.

Safety recommendations

1. The National Company of Railways "CFR" S.A shall perform a geophysical study in order to identify the real thickness of the broken stone layer under the base of sleepers, of the ballast pockets and of the areas in which are formed sliding planes in the body of the track bed of the line Băbeni-Alunu. Depending on the results obtained it shall be established the technical documentation in order to perform the works to ensure the thickness of the broken stone layer under the sleepers base and to remove the effect of sliding of the track bed.
2. The National Company of Railways "CFR" S.A shall analise the methods of reduction the rolling stock attack on the railway superstructure and infrastructure on the line Băbeni-Alunu.

3.4.7. The railway incident occurred on October 17, 2010 at 16:02, on the activity area of the branch „ Regional Center of Operation, Maintenance and Railway Repairs" Iasi, in CFR Bacau railway station, by collision when shunting a group of 8 tank wagons loaded by another group of 19 loaded wagons, all belonging to SC Grup Feroviar Român SA.
The investigation report was completed on February 22, 2011.

Direct cause
The cause of the railway incident is the uncontrolled running of a group of 19 wagons that were stabling at line 5M and reaching from behind and violent collision with a rake of wagons composed of the locomotive and 8 wagons that were stabling on the section 023.
Factors that contributed:
- Non-corresponding examination of the way of coupling to train and braking the wagons so between the eight and nine wagon from the locomotive, the general air pipe of the block of wagons was suspended due to the fact that the Akermann valve from the eight wagon, the end opposite the locomotive was on position "closed" and both couplers between the two wagons were inactive;
- The line 5M had the gradient of 5,1% to the end X of Bacau railway station, which determined that on the action of its own weight, the group of the 19 wagons started to run uncontrolled.

Underlying causes
- The non-corresponding organization of the shunting activity in Bacau railway station contrary to the provisions of sheet 18 from the technical plan of operation of Bacau railway station and to provisions of articles 43, 44 and 45 of the Regulation for the trains circulation and shunting of the railway vehicles no.005/2005;
- Ignorance of the provisions from the technical plan of operation of Bacau railway station by the shunting personnel belonging to the railway undertaking involved and non-observing the instructional provisions referring to the way of leading and execution of the maneuver.

Root causes
No root causes were identified.
Safety recommendations
No safety recommendations were identified.

3.4.8. The railway accident occurred on November 2, 2010 on the activity area of the branch " Regional Center of Operation, Maintenance and Railway Repairs" Iaşi between Bucecea railway station and Vereşti railway station, at the km 13+500 by starting a fire in the engine room of the locomotive DA 60-0965-8 that was hauling the passenger train no.1555-2.
The investigation report was completed on January 20, 2011.

Direct cause
The fire was started by a short-circuit from the rotor winding of the electric engine of ventilation afferent to bogie no.2, resulting in the expulsion of overheated material through the ventilation ports of the electric engine and ignition of petroleum products from vicinity.
Factors that contributed:
- Existence of the petroleum products in the constructive sealing areas of installations and of diesel engine and depositing them in inaccessible areas;

- Decrease of the insulation resistance of the electric insulating material between the turns of the rotor winding of the electric engine of ventilation afferent to bogie no.2;
  These factors were determined by the advanced estate of wear of the locomotive equipments and aggregates, as result of non-performing the works specific to the type of repair to which the locomotive must have been submitted on the established deadline (of type RG , due for repair from September 2006).

Underlying cause

Non-performing some works in the activity of locomotives maintenance with exceeded term for repair in order to clean the deposits of petroleum products (fuels, lubricants) from the constructive areas of the locomotives where these can accumulate.

Root causes

No root causes on this accident were identified.

Safety recommendations

1. Observing the terms for introducing the locomotives in planned repairs;
2. Periodic cleaning of the fuel and lubricants leaks from areas predisposed for the locomotive accidental ignitions, operations that must be contained in the technologic processes of periodic revisions.

3.4.9. The railway incident occurred on November 6, 2010 on the activity area of the branch " Regional Center of Operation, Maintenance and Railway Repairs" Brasov, on the running section Braşov-Sibiu (non-electrified simple line), between Făgăraş railway station and Şercaia railway station, on the running of the freight train no.21800 (belonging to SNTFM "CFR Marfă" SA) by overpassing the maximum speed of 60 km by hour established for the category of train in the working timetable.

The investigation report was completed on January 28, 2011.

Direct cause

The railway incident occurred by overpassing the maximum running speed from the working timetable for the hauled train had as cause a human error consisting on the lack of attention of the driving staff/operating staff.

Factors that contributed

The driving staff/ operating staff of the locomotive didn't observe the provisions of the instructions for the activity of the locomotive's personnel in the railway transport no.201, article 119, paragraph 1 and article 125, paragraph 1 on consulting the working timetable before the train's departure from Fagaras railway station and communicating the maximum running speed that the train must have ran to Sercaia railway station and also the obligations of the locomotive's personnel on the route.

Underlying causes

No underlying causes on the incident occurrence were identified.

Root causes

No root causes on this incident were identified.

Safety recommendations

No safety recommendations were identified.

3.4.10. The railway accident occurred on November 15, 2010, at 04:25, on the activity area of the branch " Regional Center of Operation, Maintenance and Railway Repairs" Craiova, in Gălăteni railway station, by derailment of the second bogie in the running direction of the wagon no. 31835300065-2 (the third from the locomotive) from the composition of the freight train no. 60182-1 (belonging to the railway undertaking SC Grup Transport Feroviar SA).

The investigation report was completed on April 4, 2011.

Direct cause

Axial displacement of the wheel tyre no.6 on the wheel rim, resulting in derailment of the pair of wheels corresponding to wheels no.5-6 of the wagon no. 318353000065-2.

Factors that contributed:

- Weakening the wheel tyre no.6 from the wagon no. 318353000065-2, resulting in its rotation on the wheel rim and polishing the fastening ring (fastening), fact determined by:
  - Reduction in time of the clamping forces exerted between the tyre and the wheel rim following the thermal and mechanical stresses appeared when operating the axle (the pair of wheels is 40 years old);
  - The thickness of the tyre in the plan of the running tread close to the limit allowed in operation.

Underlying causes

- Delayed approval of the examiner on duty on November 14/15, 2010, by the operator on duty on the fact that he had to come at CFR Ploieşti Triaj railway station in order to perform the technical revision in transit to the freight train no. 60182/60182-1.
- Non-performance by the examiner on duty on November 14/15, 2010 of the technical revision in transit to the freight train no.60182/60182-1, as it was foreseen in the provision for scheduling the train running;

Root cause

The existence at SC Grup Transport Feroviar SA of a safety management system implemented and accepted by the Romanian Railway Safety Authority, that wasn't adapted to the new characteristics of the railway transport activity as is stipulated to article 9, paragraph 2 of the Law 55/2006 on the railway safety.

Thus, although since September 2010 the technical revisions of trains operated by SC Grup Transport Feroviar SA weren't performed by the personnel of the railway supplier (SC Compania Transport Feroviar SA), but by its own personnel, the railway undertaking didn't adapt the safety management system to the new characteristics of the railway transport activity.

Safety recommendations

1. The Romanian Railway Safety Authority shall perform an inspection to SC Grup Transport Feroviar SA, by which shall be examined the implementation and the application of the safety management system by the railway undertaking.
2. If, following this inspection, it is found that the safety management system implemented by the railway undertaking isn't adapted to the character, extent and other characteristics of the performed activity and also if it doesn't provide control of all risks associated with the activity of the railway undertaking, the Romanian Railway Safety Authority shall withdraw the safety certificate part A owned by SC Grup Transport Feroviar SA.
3. The modification by the Romanian Railway Safety Authority of the Guideline for elaboration of the Safety Management System, so as to provide to the railway undertakings and the non-interoperable railway infrastructure managers/administrators an instrument in order to elaborate the procedures that detailed the way in which are involved the personnel and its representatives at all levels of the safety management system.
4. Updating the Order of the Ministry of Transports no.290/2000 in the sense of its correlation with the provisions of other specific regulations concerning the activity of technical inspection of trains, so the subunits (workstations) from the structure of the railway undertakings have a railway technical agreement for the critical railway service „ technical inspection of freight trains in the railway stations (at composition, in transit, at arrival)".

3.4.11. The accident occurred on November 17, 2010 at 20:21, on the transport network belonging to SC METROREX SA on the running line I between the stations Piaţa Unirii – Timpuri Noi, at the km 5+860 by derailment of axle no.8 from REM 175.
The investigation report was completed on February 3, 2011.

Direct cause
Loss of the guide wheel from the left side (station end X) of the axle no.8 (the first wheel) from REM 175, resulting in escalation of the rail from the left side of the running track at the curve negociation „V8" and derailment of the wheel in the right of the kilometric position 5+858.
Factors that contributed:
- Displacement of material from the bearing surface of the wheel from the left side of the axle no.8, in the area of point A2 from the active flank of the wheel flange, followed by pulling the material from this surface and formation of deposits on the bearing surface of the wheel.
- Running, in the conditions of the existence of defects mentioned above on a curve with a radius of 190 metres and a cant of 130 milimetres.

Underlying causes
No underlying causes were identified.
Root cause
No root causes were identified.
Safety recommendations
No safety recommendations were identified.

3.4.12. The accident occurred on November 25, 2010, in the circulation of the freight train no.39462, on the activity area of the branch „Regional Center of Operation, Maintenance and Railway Repairs" Brasov, on the line Voşlăbeni – Chileni, by the wagon derailment by an axle.
The investigation report was completed on March 14, 2011.

Direct cause
A plurality of conditions that led to the wheel's fall from the right side of the first axle of the second bogie, in the running direction, between the running rails , after circulating 4,68 metres with the wheel's flange on the vertical screws of fastening the rail from the right of the track (inner rail of the curve) resulting in escalation of the rail from the left of the track (exterior rail of the curve) by the left wheel of the first axle of the second bogie in the running direction and its falling outside the track.
Factors that contributed:
- Increasing the value of the vertical force on the bearing surface of the rail inside the curve (right in direction of running) being favored by the existence of an exceeded cant corresponding to a running speed limited to 30 km/hour, having as consequence the wear of the wooden sleepers under metallic plates of fastening (burial of the plates in sleepers).
- Increasing the value of the horizontal force that acts on the bearing surface of the head of rail inside the curve (right in direction of running) favored by the existence of an exceeded cant corresponding to a running speed limited to 30 km/hour, having as consequence the accelerated wear of the fastening system of metallic plates under the rail, from the wooden sleepers. (photo 1);
- Existence of a defective sleeper whose capacity to ensure the fastening of the rail from the sleeper was diminished and that under the effect of additional stress due to

an excess of the cant caused the increase of the track width (track gauge) under load.

- The existence of some deviations from the track gauge that doesn't stretch evenly with a variation of no more than 2 milimetres/metre.
- The total clearance of the friction stones, non-corresponding to the bogie with axles 5-6 and 7-8 (not derailed) of 3 mm in comparison with minimum 6 mm foreseen in Instructions concerning technical inspection and maintenance of the operating wagons no.250, chart 6 no.20 led to the hardening of the assembly chassis – bogie that influenced the way of curve negociation of the wagon.
- Values of the values qr of the axle tyre no.3 in the direction of running (derailed axle), at the minimum limit of 6,5 mm to wheel no.4 and of 6,6 mm to wheel no.3, that favored the escalation of the rail from the exterior line of the curve and influenced the way of curve negociation of the bogie (photo 2).
- Values of the values qr of the axle tyre no.1 in the direction of running, at the minimum limit of 6,5 mm at wheel no.8 and of 6,6 mm to wheel no.7 that influenced the way of the curve negociation of the wagon.
- An additional load of wheel no.3, from the right of the direction of running (that fell between the rails), in comparison to wheel no.4, from the left of the running direction , with a ratio of loads on axles of approximately 1,13 to 1 (calculated as average of the three checks of loads on axle performed on the line of level „0" , on the electronic device of SC „CFR SIRV" SA Braşov - device specialized to verify the loads on axle of passenger wagons – one check, respectively on the electronic device of SC „CFR SCRL" SA Braşov - device specialized to check the loads on the axle of the locomotives – two checks), without that the center of weight of the load to be displaced.
- Value of the distance between inside surfaces of the derailed axle measured in two points, of 1357 mm at the instructional minimum limit and in one point of 1356,5 mm under the instructional minimum limit, values obtained following the measurements performed in three points placed at 120° one from another, closer to the head of rail, measurements performed after derailment.
- Value of the distance between exterior surfaces of the derailed axle of 1410,5 mm, close to the instructional minimum limit, the wheels diameters being of 890 mm.
- The axle derailment occurred by accumulation of all presented factors, none of them couldn't cause by itself the derailment of the wagon axle.

Root causes

- Overpassing the instructional period concerning the frequency of execution of periodic repairs to lines.
- Operational use of the rolling stock with values of the tyres at the allowed instructional minimum limit and with defects to the wagon's chassis (non-corresponding clearance to the friction stones).

Safety recommendations

No safety recommendations were identified.

3.4.13. The railway incident occurred on December 7, 2010, at 17:45, on the activity area of the branch „Regional Center of Operation, Maintenance and Railway Repairs" in Bacau railway station, at the backing into siding operation of a rake of wagons from the passenger section from line 3C to the technical section, by derailment of the first bogie of the wagon no. 50532047251-5, the first in the sense of banking over the point switch no.42.

The investigation report was completed on March 7, 2011.

Direct cause

The railway incident occurred following the passing of the signal XIII that was indicating „red –*stop without passing the signal*", without observing the specific regulations, in the conditions of guiding on a wrong route over the point switch type TJD (double diamond crossing with slips) no. 32/42 taken out of the track.

Underlying causes

No underlying causes of this incident were identified.

Root cause

The root cause of the railway incident is drawing the working regulations without observing the provisions of Disposition no.25/2002 of the General Director of CNCF „CFR" SA.

Safety recommendations

No safety recommendations were identified.

3.4.14. The serious railway accident occurred on December 9, 2010, around 17:20, on the activity area of the branch „Regional Center of Operation, Maintenance and Railway Repairs" Iasi, on the running section Adjud – Bacău, between the railway stations Valea Seacă and Bacău, at the km 296+750, on the running line I, by the collision between the local freight train no.55101 (belonging to SNTFM „CFR Marfă" SA) stopped on current line and the service train no.58911 (belonging to section L4 within the Regional Branch Iasi- CNCF „CFR" SA) that was running, by catching from behind.

Direct cause

The railway accident occurred following the passing by the track car of small capacity DC no.1350-73 of the color light signal of passing the automatic block BL 13 with indication „red" (STOP without passing the signal! - the first block section is busy) and continuing running without observing the instructional provisions, fact that led to reaching the freight train no.55101, that was stabled on current line and its collision with the last wagon from the freight train composition.

Underlying causes

No underlying causes of this accident were identified.

Root causes

No root causes of this accident were identified.

Safety recommendations

On December 10, 2010 was drawn up the Report no.4000/917/2010 on the accident occurred on December 9, 2010, at the km 296+750, between the railway stations Valea Seacă and Bacău, on the running line I, that contains also the recommendations of the Romanian Railway Investigating Body approved by the management of the Ministry of Transports and Infrastructure.

3.4.15. The railway incident occurred on December 21, 2010 at 11:58, on the activity area of the branch „Regional Center of Operation, Maintenance and Railway Repairs" Timisoara, on the running section Curtici(CFR) – Lökösháza (MAV), at Curtici railway station by departure of the International passenger train IC 376-1 from the line 1P with the route signal XP1 with the indication „ stop without passing the signal", non-routed by the movements inspector and earlier with 22 minutes.
The investigation report was completed on January 27, 2011.

Direct cause

The railway incident occurred as result of early putting into circulation of the train IC 376-1, (with 22 minutes from the hour foreseen by the train diagram) and passing the signal XP 1 with the indication „stop without passing the signal", in the conditions that the signal „ start the train" wasn't given.

Factors that contributed :

- Impossibility of direct communication between the movements inspector of Curtici railway station and the engine driver as the locomotive V 43-1214 didn't had radiophone station set on the frequency for circulation of Curtici railway station, the engine driver belonging to the railway undertaking MAV-TRAKCIO didn't have knowledge of Romanian language, according to article 5, paragraph 1 of the Agreement between the Romanian Government and Hungarian Government on performing railway traffic at the state frontier - closed on March 12, 1997.
- The locomotive V 43-1214(MAV) didn't have equipment of speed punctual control (INDUSI) compatible with the track equipment from Curtici railway station, fact that in the conditions of the influence of the inductor of 2000 Hz of the signal XP1 that was active at the indication red " stop without passing the signal" led to inaction of self equipment and implicitly to the failure of the train emergency braking.
- Driving the locomotive only by the engine driver, without its servicing by another authorized agent, in the conditions that the locomotive V 43-1214 (MAV) wasn't equipped with equipment of speed punctual control (INDUSI) compatible with the track equipment from Curtici railway station.

Underlying causes

- The legal framework existent between the railway administrations CFR and MAV isn't complying with the provisions from the national legislation and the Community directives in force.
- The lack of safety certificate part B released by the Romanian Railway Safety Authority by which should confirm that the railway undertaking MAV-START fulfills the necessary specific requirements for the safe operation of the railway network which operates, respectively on Romanian railways.

Root causes

The legal framework existent between the railway administrations CFR and MAV isn't complying with the provisions from the national legislation and the Community directives in force.

Safety recommendations

No safety recommendations were identified.

In order to improve the railway safety and to prevent incidents of this kind, the investigation commission considers that is necessary to apply the following measures:

- For compliance of specific requirements necessary to a safe operation, the access to the railway networks corresponding to the performance of cross-borders services for the railway undertakings licensed in one of the EU Member States, other than Romania , is done only on the basis of the safety certificate part B issued by the Romanian Railway Safety Authority.
- For compliance of the requirements referring to professional and linguistic knowledge specific to Romanian railway infrastructure, the engine driver of a railway undertaking licensed in one of the EU Member States, other than Romania, shall be certified according to the current legislation.
- Drawing up of a new regulation of activity performance that shall harmonize the regulations of the two railway administrations, CFR and MAV.

3.4.16. The railway accident occurred on December 24, 2010, on the activity area of the branch „Regional Center of Operation, Maintenance and Railway Repairs" Bucuresti, on the current line II Ploieşti Sud – Bucureşti Nord Gr. B, between the railway stations Chitila-Bucureşti Nord Gr. B, at the km 2+100, on the running of the train no.3008, by a fire in the cabin of the locomotive DHC 80-0152-1, that was running at the end of the train.
The investigation report was completed on January 21, 2011.

Direct cause

The fire was initiated by auto-ignition of the insulation from the electrical circuit between dynastarter and storage batteries in the conditions of functioning under overload, its propagation being realized by burning the residual fuel deposits.

Factors that contributed

Advanced sulphation and the short-circuited to the set of storage batteries (type Magma), fitted on heterogenous composition as follows (box no. 1 – 515/**2005,** box no.2 -515/**2005**

box no.3 – 515/**2005**, box no..4 – 515/ **2005**, box no.5 – 415/**2005**, box no.6 – 077/**2005**, box no.7 – 445/**2003**, box no.8 – 167/**2003**).

Underlying causes

The repairing and the mandatory overhaul to the locomotive weren't observed, according to the provisions of the railway standard „Railway vehicles. Revisions and planned repairs" no.67-005 of 2008 approved by the Order of the Ministry of Transports no.364/2008, (the locomotive repair type RG was due from May 2004) , with this occasion being replaced the non-corresponding cable, it was performed the cleaning and repainting the hidden parts, including fitting a set of a new storage batteries.

Root causes

No root causes of this accicident were identified.

Safety recommendation

1. Coverage in the Norm of Works of periodic examination of the isolation capacity of the supply cables and of the connections between the storage boxes, after performing the operations foreseen in the technological processes of maintenance and operation of the storage batteries, for the locomotives with passed repairing term.

3.4.17. The railway accident occurred on December 31, 2010, at 05:25, on the activity area of the branch „Regional Center of Operation, Maintenance and Railway Repairs" Bucuresti, on the running section Ploieşti Vest-Braşov (electrified double line), in the railway station Sinaia, on the switch no.7, by derailment of first axle of the locomotive EA 40-0622-7 that was hauling the freight train no.60760, belonging to the freight railway undertaking S.C. TRANSFEROVIAR GRUP SA Bucureşti followed by its re-railing.

The investigation report was completed on February 22, 2011.

Direct cause

Loosing the guiding of the first axle in the locomotive running direction (the guiding axle) following the climbing occurred in the conditions of transition of the locomotive from spontaneous brake application to hauling service, at circulation on a line section in curve- reserved curve and with a gradient of 24,53‰.

Factors that contributed:

- Amplification of the locomotive climbing phenomenon by its superposition on the locomotive turning effect produced by the system of horizontal forces of guiding the rails over the two bogies, at the curve negociation of the first axle from the first bogie in the running direction;
- Sinuous route in the area of the accident place formed by two opposite curves, without alignment and with different radius, the first bogie of the locomotive being on a curve and the second bogie on the other curve;
- Value of the track torsion of 13 mm (in comparison with 12,5 mm allowed at track maintenance) measured at the basis of 2,5 m;
- The switch no.7 on which occurred the derailment of the locomotive had a gradient of
  24,53‰ to the end X of CFR Sinaia railway station;

Underlying cause
No underlying causes were identified.
Root cause
No root causes were identified.
Safety recommendations
No safety recommendations were identified.

3.4.18. The railway incident occurred on January 1, 2011, around 18:00, on the activity area of the branch „Regional Center of Operation, Maintenance and Railway Repairs" Craiova, in the engine shed Piatra Olt (belonging to SNTFM „CFR Marfă" SA Bucureşti), when shunting with the locomotive type DHE no. 82-0141-0 (belonging to the railway undertaking SNTFC „CFR Călători"SA), at the isolated displacement from line 1 of CFR Piatra Olt railway station to the engine shed by the locomotive derailment of both bogies by its falling in the locomotives turntable tank.
The investigation report was completed on March 7,2011.

Direct cause
Not stopping the locomotive before the locomotive turntable that was indicating „ entry on the turntable of the locomotives or exit from the turntable is stopped", in the conditions of non-observing the speed of 5 km/h established for performing the shunting on the lines inside the shed and non-actioning the button for emergency stop S.20 from the locomotive endowment.
Factors that contributed
Passing the indicator „Wait", placed at the limit between the railway station and the yard of the engine shed, without this being permissible by giving signals with service instruments by the pointsman from the cabin 3 of the shed .
Wrong way of operating the locomotive controls by the engine driver at the moment when he has warned by the engine driver's assistant on the need of taking the emergency braking measures, this proceeding at increasing the traction and the locomotive's speed from 16 km/h to 27 km/h , instead of ordering the locomotive braking in order to stop it.
Underlying cause
Non-updating the common working regulations drawn up by the Passenger Railway Transport County of Craiova, the Freight Branch of Banat-Oltenia and Craiova Railway Branch referring to take the operative measures of modification of the locomotives route-programs and of the operating staff established by arrangements of shifts and also transmitting these modifications to the ones involved in the operating activity, which allowed that the modification of the route program of the locomotive DHE nr. 82-0141-0 not to be communicated by the traction personnel of the Passenger Railway Transport County of Craiova and of Freight Branch Banat-Oltenia (operator, traction head driver), by the traffic controller of Piatra Olt Traffic Controler and the movements inspector on duty from CFR Piatra Olt railway station.
Root causes
Non-correspondence of the provisions of specific regulations in force referring to the shunting activity performed with light engine in the railway stations equipped with relay interlocking system:
- in the *Regulation for trains circulation and the railway vehicles shunting no. 005/2005, at article 48 it is foreseen that „In the railway stations equipped with relay interlocking systems or electronic signal box are allowed shunting movements with the light engine, with service coach, with WIT wagon, with mail wagon or baggage car*

without driver and shunting gang, ***on the basis of permissive indications of the light signals and of communications by radiophone between the movements inspector and engine driver".***

-In the *Instructions for the operating staff activity in the railway transport no.201/2007,* at article 181, paragraph 4, it is foreseen that „ *In the railway stations equipped with relay interlocking systems or electronic signal box are allowed shunting movements with the light engine, with service coach, with WIT wagon, with mail wagon or baggage car without driver and shunting gang,* ***on the basis of permissive indications of the light signals".***

Safety recommendations

1. Analysis of the content of article 48 of the Regulation 005 , respectively of article 181, paragraph 4 of Instructions no.201 by the Romanian Railway Safety Authority and harmonization of those foreseen.

2. Review of the regulations on the way of transmitting the modifications to the routing programs of the locomotives and of the operating staff by the railway undertaking SNTFC „CFR Călători"SA and the public railway infrastructure manager CNCF „CFR" SA.

3. Reanalysis of the job descriptions of its own operators within RTFC and of those within the Traffic Controlers from the point of view of subordination and collaborating relations by the railway undertaking SNTFC „CFR Călători"SA – County of Passenger Railway Transport of Craiova.

3.4.19. The railway incident occurred on January 6, 2011, around 16:40, on the activity area of the branch " Regional Center of Operation, Maintenance and Railway Repairs" Bucuresti, in the railway station Adânca, on the running of the freight train no.97153 (light engine - DA 60-0298-4, belonging to SNTFM „CFR Marfă" SA – Intermodal Center of Freight Bucureşti), by passing the semaphore signal with indication „stop without passing the signal", and continuing its running until CFR Târgovişte railway station, without having free pass".

The investigation report was completed on January 27, 2011.

Direct cause

The railway incident occurred as result of passing the semaphore signal from the railway station Adânca by the freight train no.97153 (engine light - DA 60-0298-4), without observing the indications giving by this („Stop without passing the signal!") and continuing its running until CFR Târgovişte railway station, without having "free pass".

Factors that contributed

Non-instructional use of some signs instead of signals foreseen in the Signaling Regulation no.004/2006 „signals given by agents with service instruments" and misinterpretation by the operating staff of Adanca railway station and of the locomotive DA 60-0298-4, referring to information on the train running no.97153, due to malfunction of the radiophone installation from Adânca railway station .

Underlying causes

No underlying causes referring to this railway incident were identified.

Root causes

No root causes referring to this railway incident were identified.

Safety recommendations

No safety recommendations were identified.

In order to improve the railway safety and top prevent railway accidents and incidents, the investigation commission considered to be necessary the application of the following **corrective measures:**

- retraining the entire concerned operating staff with the provisions of the Signaling Regulation no.004/2006, approved by the Minister's Order no.1482 of August 4, 2006, chapter VII, „ *Signals given by agents with service instruments*", respectively chapter V „ *Damages to fixed signals*", section 19 (Non-illuminated signals or with suspicious indications).
- identification of some technical solutions in order to supply the electric power of the communications installations (radiophone) from the units in which these are not functioning following the lack of electric power supply in order to observe the provisions of „*Regulation for the train movement and the railway vehicles shunting*" approved by the Minister's Order no.1816 of October 26, 2005, part III - train movement, section 9, General rules on train movement, article 189.

3.4.20. The railway accident occurred on January 7, 2011, around 06:20, on the activity area of the branch "Regional Center of Operation, Maintenance and Railway Repairs" Bucuresti, in Pajura railway station, on the train movement no.87222-1 (light engine DHC 81-0392-1 of SNTFM „CFR Marfă" SA) by derailment of the second axle from the second bogie of the locomotive (the last reported to the running direction of the locomotive) in the area of the switch no.12.
The investigation report was completed on April 11, 2011.

Direct cause
The derailment of the last axle of the locomotive DHC 81-0392-1 (that was running light as train no.87222-1) occurred as result of handling the switch no.12 from position „+"corresponding to the exit route performed for the train no.87222-1 into position „-" corresponding to the entry route of the passenger train no.7032, with occupied section of the point switch.
Performing the operating activity of the electronic interlocking system type ESTW L90RO from Pajura railway station if there are some faults occurred as result of removal of several components (transformers type L) from the installation, leading to display on the installation monitor of the information referring to situation „busy" of the isolated sections 024, 4-12, IIC no matter the situation of „available" or „busy" existing on the field, situation in which the switch handling is allowed only after receiving the written confirmation concerning the verification of clearing the exit route performed for the train no.87222-1 (light engine DHC 81-0392-1).
Underlying causes
No underlying causes were identified.
Root cause
No root causes were identified.
Safety recommendations
No safety recommendations were identified.

3.4.21. The railway accident occurred on January 13, 2011, at 17:45, on the activity area of the branch „Regional Center of Operation, Maintenance and Railway Repairs" Cluj, in CFR Dej Triaj railway station, on the movement of the freight train no.31185-2 (belonging to the railway undertaking SNTFM „CFR Marfă"-SA), at its stabling at line no.6 A, by derailment of all axles of the locomotive ED no. 91530474024-3 and of the wagon no. 21531502445-9 (the first in the train composition – loaded with ammonium nitrate).
The investigation report was complete don March 2, 2011.

Direct cause
Losing the guiding of the first axle in the running direction of the locomotive ED no.

91530474024-3, that was hauling the freight train no. 31185-2, due to appearance of a local damage in the track bed body as result of the freezing/thaw phenomenon and of rainfalls.

Factors that contributed to the railway accident occurrence:

- Stagnation of rainwater due to malfunction of the drainage system.

Underlying causes

- Non-performing the drainage works from the track bed that favored the degradation of the railway infrastructure and superstructure following the freeze/thaw phenomenon, according to the provisions of the railway norm „Norms of time for current maintenance and periodic repair of the rails" – code 173 Cleaning the choked ballast to the muddy joints.
- Not-replacing the normal wooden sleepers as non-corresponding according to the provisions of the „Instruction of norms and tolerances for constructions and track maintenance with normal gauge no. 314/1989".

Root causes

No root causes were identified.

Safety recommendations

No safety recommendations were identified.

3.4.22. The railway accident occurred on January 19, 2011, around 00:25 hour, on the activity area of the branch „Regional Center of Operation, Maintenance and Railway Repairs" Bucureşti, in CFR Bucureşti Triaj railway station – group A2, by derailment from the railway station on the area of the switch no.45 of the first bogie in the running direction of the locomotive EA no. 474-027-4 (belonging to SNTFM „CFR Marfă" SA), that was hauling the freight train no. 24794-1.

The investigation report was complete don March 1, 2011.

Direct cause

The derailment of the locomotive EA no. 474-027-4 occurred as result of non-handling by the disposing movements inspector from the group A2 of CFR Bucureşti Triaj railway station of the switches no.45/53 in a corresponding position for the passing of train no. 24794-1 to CFR Bucureştii Noi railway station- group C, in conjunction with the lack of the metallic fish plates from the heal joint of the built-up common crossing of the handled switch no.45 with access to lines from group A2 of the railway station.

Underlying causes

No underlying causes were identified.

Root cause

No root causes were identified.

Safety recommendations

No safety recommendations were identified.

3.4.23. The railway accident occurred on January 27, 2011, at 18:43 hour, on the activity area of the branch „Regional Center of Operation, Maintenance and Railway Repairs" Timisoara, in Vulcan railway station, by derailment of all axles of the locomotive ED-474030-0 that was hauling the freight train no.23815 (belonging to the railway undertaking SNTFM „CFR Marfă" SA) on the avoiding line from the end X of the railway station.

The investigation report was completed on February 28, 2011.

Direct cause

Wrong performance of the exit journey and dispatch of train no. 23815 on passing track, X end closed (with no rail section).

These deviations are based on human errors in the operation and maintenance activity of interlocking system, as follows:

- Wrong switch of switch no.7 that was part of the exit journey;
- Non-check of the switches from the exit journey by pressing the button "control position of switches" on the control desk from the movements office;
- Failure of light cell of switch no. 7 on the control desk;

Underlying Causes

- Non-disclosure for closing the passing track X end by using the red painted covers on the access swithces buttons and the plate with the close line marks on the push-button interlocking frame from the movements office according to art. 325 letter b from „Regulation for train traffic and shunting of railway vehicles – no. 005/2005";
- Non-approval of interlocking body on the malfunction of interlocking system from the movement office according to art. 107 of "Handling instruction of interlocking system type CR-2";

The root causes were not identified.

Safety recommendations

The safety recommendations were not established.

In order to improve the railway safety and to prevent accident, the investigation commission finds necessary to apply the following measures:

- The branch of the railway county Timişoara by traffic division – RAI department will conduct additional retraining of all personnel handling interlocking equipment from the provisions of handling instruction (derailment cases), depending of the railway stations.
- The management of the Branch of the Railway County Timişoara will assess the possibility to restore the interlocking system, passing tracks and automatic block line on the running section Livezeni-Lupeni out of service due to the storms in the past years.

3.4.24. The railway incident occurred on the 02nd of February 2011, in the Branch of the Railway County Galaţi "Regional Center of Operation, Maintenance and Railway Repairs" , by the operating staff from the railway station Adjud, referring to the freight train running no. 51352 (belonging to National Society of Freight Railway Transport - CFR Marfa - S.A) with the braked weight percentage non-ensured.
The investigation report was finished on the 28th of February 2011.

Direct cause

The railway incident occurred due to the use, for introducing of the freight train no.51352/51352-1 on the running distance Ciumeşti – Dorneşti, of the real braked weight percentage lesser than the one in the timetable for freight train traffic, thus being used a braked weight percentage of 45% (necessary for the trains provided for normal gauge trains and transposed wagons running) and not a braked weight percentage of 50% (when these trains paths are used for trains composed of normal gauge wagons).

The factors that favored the incident were:

- The use, in a wrong way by the duty storekeeper from the railway station Ciumeşti who draw up the wagon view form, braked weight percentage of 45%;
- Failure to check, by the movement inspector from the railway station Ciumeşti who dispatch the train no.51352, of the conditions stipulated in the timetable for freight train traffic on the Branch of the Railway County Craiova (2010/2011 edition), General Provisions Chapter, point 15, referring to the braked weight percentage necessary for the train 51352.

- The use, in a wrong way by the duty storekeeper from the railway station Chitila who draw up the wagon view form, braked weight percentage of 45%;
- Failure to check, by the movement inspector from the railway station Chitila who dispatch the train no.51352/51352-1, of the conditions stipulated in the timetable for freight train traffic on the Branch of the Railway County Bucureşti (2010/2011 edition), General Provisions Chapter, point 15, reffering to the braked weight percentage necessary for the train 51352/51352-1.
- Non-performance of the partial test at the wagon no. 215344320860 added in the railway station Chitila.

The underlying causes were not identified.

The root causes were not identified.

Safety recommendations

The Romanian Railway Safety Authority – ASFR will assess the implementation of the movement inspector obligations on checking the data from the wagon view form stipulated in the Regulations for train traffic and the shunting of railway vehicles no.005 art.40 point 8 with the ones stipulated at art.70 point 11 from the Regulations for hauling and breaking – No.006/2005.

The inquiry commission considered necessary, in order to improve the railway safety and to prevent accidents and incidents, applying the following corrective measure:

Interested staff training from CN CF „CFR" SA, Branch of the Railway County Craiova and Branch of the Railway County Bucureşti and National Society of Freight Railway Transport - CFR Marfa - S.A, Branch of the Railway County Banat – Oltenia and Freight Intermodal Centre Bucureşti on the use of braked weight percentage according to the category of composed train and dispatched.

3.4.25 The railway incident occurred on the 06th of February 2011, in the Branch of the Railway County Craiova "Regional Center of Operation, Maintenance and Railway Repairs", running section Pârvu, by passing the entry signal XBF (indicating "red") from the railway station Pârvu by the passenger train no.1893 (composed by SIEMENS DESIRO AM 2084 diesel multiple unit) belonging to the National Society of Passenger Railway transport - CFR Călători S.A.

The investigation report was finished on the 28th of February 2011

Direct cause

Unstop of the passenger train no. 1893 before the entry signal XBF from the railway station Pârvu, although the signal indicated "stop without passing the signal!". This was possible due to a human error in the motorized train driving process manifested by the non-observance by the driver of the caution signal PrXBF and of the entry signal XBF from the railway station Pârvu.

The fact that the 1000 Hz track magnet at the caution signal PrXBF from the railway station Pârvu didn't work correctly, when the train no.1983 passed this signal and pressing the button "attention", there was no influence of this track magnet, also contributed to this accident.

The underlying causes were not identified.

The root causes were not identified.

Safety recommendations

The safety recommendations were not established.

The inquiry commission considered necessary to apply corrective measures in order to improve the railway safety and to prevent accidents and incidents directed to solve the next issue:

- The public railway infrastructure administrator will assess the opportunity to reduce the interval between two equipment inspections at which is also performed the measure of automatic stop effectiveness of signals.

*3.4.26 The railway accident occurred on the 08th of February 2011, in the Branch of the Railway County Constanta "*Regional Center of Operation, *Maintenance* and Railway Repairs*", on the non-interoperable running section P1 Capu Midia – Capu Midia, at the entry into the railway station Capu Midia, by the derailment of the wagons no. 33877919348-5, 37807923043-9 and 33807920385-0 (the 19th, 20th and 21st in the train composition) from the freight train composition no. 82961 (belonging to the railway undertaking National Society of Freight Railway Transport - CFR Marfa - S.A).*
The investigation report was finished on the 12th of September 2011.

Direct cause
Exceeding the guidance capacity of the guiding axle from the first bogie of the wagon no.37807923043-9 (the 20th in the train composition) by the guiding force with which this axle passed the curve exterior line (left side in the running direction), followed by the climbing of the first wheel onto rail and its dropping outside the rail.
Increasing the guidance force of the first wheel occurred in the conditions:

- increasing the dynamics impact transmitted from the rail to the wagon wheels, given that the curve deflection measured in the derailment area were exceeded the permitted tolerances established in the Instruction for norms and tolerances for rail construction and maintenance no.314/1989;
- non-equalization of the coupling between the wagons no. 37807923043-9 and no. 33807920395-0.

The underlying causes were not identified.
The root causes were not identified.
The safety recommendations were not established

3.4.27. The railway incident occured on the 15th of February 2011, in the Branch of the Railway County Craiova "Regional Center of Operation, Maintenance and Railway Repairs", in the railway station Bărbăteşti, by passing of the exit signal XII with the indication „STOP without passing the signal" and trailing the points no.4 at the heel of blade by the freight train no.46676.
The investigation report was finished on the 08th of March 2011

Direct cause
Unstop of the freight train no. 46676-1 before the exit signal XII of the railway station Bărbăteşti although the signal was indicating „stop without passing the signal!". This was possible due to a human error in the locomotive driving process manifested by the non-observance by the driver of the exit signal XII from the railway station Bărbăteşti.
The underlying causes were not identified.
The root causes were not identified.
The safety recommendations were not established

3.4.28. The railway accident happened on the 15th of February 2011, in the Branch of the Railway County Craiova "Regional Center of Operation, Maintenance and Railway Repairs", on the running section Stehaia - Drobeta Turnu Severin (electrified single railway line), in the railway station, at km 349+000, on the direct line II, by the derailment of a wagon from the freight train composition no. 91797 (belonging to the railway transport operator National Society of Freight Railway Transport - CFR Marfa - S.A.).

The investigation report was finished on the 23rd of May 2011.

Direct cause
Climbing the left stretch of rails, in the running direction, by the first wheel of the axle no. 4 from the second bogie (first in the running direction) of the wagon no. 31535481610-2 (the 17th in the freight train composition no. 91797), due to exceeding the derailment safety limit after increasing the guidance force while running on the constant-radius curve (with right deviation) of direct line II from the railway station Valea Albă, at the contact between this wheel and the left stretch of rails of direct line no. II situated on a curve. Increase of the guidance force due to the increase of the friction forces between the two parts of the centre casting from the first bogie in the running direction of the wagon no. 31535481610-2 (caused by the lack of some pieces from the centre pivot liner between the superior centre casting and inferior centre casting) and the lack of movement of friction stones measured on the wagon diagonal.

The underlying causes were not identified.
The root causes were not identified.
The safety recommendations were not established

3.4.29. The railway incident happened on the 18th of February 2011, in the Branch of the Railway County Galaţi "Regional Center of Operation, Maintenance and Railway Repairs", between the railway stations Putna Seacă and Mărăşeşti, at km 215+235, by failure of the enssemble between the locomotive field magnet and the bogie reinforcement in the wheel area from the office II of the locomotive EA 41-0724-9 (opposed to the driving one), hauling the passenger train no.5101.
The investigation report was finished on the 02nd of March 2011

Direct cause.
The incident occurred as a result of weakening the fastening devices (screws) of bogie reinforcement in the wheel area and field magnet from the 6th axle of the second bogie of the locomotive. This led to the separation of bogie reinforcement in the wheel area and field magnet of the locomotive and exit into the structure clearance of the train, which led to the impact with the track magnet from the signal BL14.
The underlying causes were not identified.
The root causes were not identified.
The safety recommendations were not established

3.4.30. The railway accident occured on the 18th of February 2011, in the Branch of the Railway County Craiova "Regional Center of Operation, Maintenance and Railway Repairs", in the railway station Corabia, in the passenger train running no. 15812, , by the derailment in the switch no. 19 area, of the motor bogie (first in the running direction) and of first axle from the second bogie from the diesel multiple unit no. AMX no. 4580.
The investigation report was finished on the 26th of April 2011.

Direct cause
Non-bonding the point switch to the stock rail on direct position, which allowed the right wheel of axle no. 1 from the bogie no.1 (in the running direction), to go in a different direction that the one that was given. This was possible by the incomplete handling of the switch no.19, failure to check the complete handling of switch no.19 and failure to locking of point.
Underlying cause

Failure to lock the switch no. 19, part of the train no.15812 dispatch route contrary to the provisions of art. 125 point 2 from the Regulation for train traffic and shunting of railway vehicles – no. 005, approved by Order of the Minister of Transports, Constructions and Tourism no.1816/2005, referring to accept/dispatch/passing of a train in/from/through a railway station.
The root causes were not identified.
The safety recommendations were not established

3.4.31. The railway incident occurred on the 18th of February 2011, in the Branch of the Railway County Timişoara "Regional Center of Operation, Maintenance and Railway Repairs", in the railway station Simeria Triaj by hitting the track magnet of 500 Hz and damage to the track magnet of 1000/2000 Hz from the route signal X1P from the railway station Simeria Triaj by the bogie reinforcement in the wheel area from the axle 5-6 of the wagon no. 87 53 7960 756-2 from the freight train composition no. 70871 belonging to SC Grup Feroviar Român SA Bucureşti.
The investigation report was finished on the 16th of March 2011.

Direct cause
The incident occurred as a result of the impact with the track magnets 500Hz, 1000/2000Hz, from the route light signal X1P by the bogie reinforcement in the wheel area from the 5th axle journal of axle 5-6 from the 9th wagon from the locomotive, outside the structure clearance.
The contributory factor was the weakening of the fastening system bogie reinforcement in the wheel area, by loosening the interior fastening device (screw) and its cutting, as well as the absence of 3 fastening devices (2 exterior screws and 1 interior screw).
During the investigation the elements to determine with precision the circumstances and the moment when the bogie reinforcement in the wheel area exit the structure clearance.
The underlying causes were not identified.
The root causes were not identified.
The safety recommendations were not established

3.4.32. The railway incident occurred on the 18th of February 2011, in the Branch of the Railway County Craiova "Regional Center of Operation, Maintenance and Railway Repairs", running section Filiaşi – Strehaia (double line elefctrified), in the passenger train running no. 9191 (owned by SNTFC „CFR Calatori" SA) by exceeding the maximum speed limit imposed of 30 km/h from km. 290+550 to km. 290+750.
The investigation report was finished on the 26th of May 2011

Direct cause
The incident occurred as a result of a human error manifested by the exceeding the maximum running speed, imposed by the speed limit in the Speed restriction approval bulletin and signaled on the train.
The factors that favored the incident were:
Non-observance the maximum running speed imposed by the speed limit, and the non-observance of the speed limit indicators contrary to the provisions of *Instructions for the locomotive staff of railway transport No 201.*, art. 125 paragraph. (1), (3), (4), and Signaling Regulation *no.004*, Chapter VIII, Section 16 , art.141 paragraph. (2) and (3).
The underlying causes were not identified.
The root causes were not identified.
The safety recommendations were not established

3.4.33. The railway accident occurred on the 18th of February 2011, in the Branch of the Railway County Timişoara "Regional Center of Operation, Maintenance and Railway Repairs", running section Nădab - Ciumeghiu, by the derailment and overturning of 9 wagons from the freight train composition no. 50505 (belonging to SC UNIFERTRANS SA) when passing the railway station Chişineu Criş on direct line III over the switch no. 3 from the X end of the railway station.
The investigation report was finished on the 02nd of November 2011

Direct cause
Running of the axles from the second bogie of the wagon no.88536656453-6 (the 5th from the train composition) together with the axle of the first bogie from the wagon no.88536656616-8 (the 6th in the train composition), with the left wheels in the running direction on the right stock rail of switch no. 3 and with the right wheels on the curve stock rail of the same switch, followed by the falling of the right wheels between the curve stock rail and right point switch and of the left wheels between the right stock rail and curve point switch, at 11 m from the point of switch tongue.
This was possible given that, when the train no. 50505 pass over the switch no.3, this switch half-opened, because the switch wasn't blocked.
The factors that contributed to the half-opened switch no.3:
- incorrect position of the pincer end for fastening the switch no.3 – when the 5th wagon in the train composition pass over, this was inside the locking box on the inside locking bar;
- the vibrations of the component parts of the switch no.1 send to component parts of switch no.3, under the conditions of rolling stock running over these switches, together with the fact that the distance between the check rail end of the frog switch no.1 and points of switch tongue no.3 was of 1m, between the two switches was no intermediate panel to mitigate these vibrations (last joint of switch no.1 is peak joint for switch no.3);
- detachment of flexible straight point of switch tongue when crossing with the rolling stock wheels over the coupling hook, due to the guidance forces generated by the rolling stock in motion.

The underlying causes were not identified.
The root causes were not identified.
Safety recommendations
The safety recommendations are addressed to the Romanian Railway Safety Authority as independent body designated to monitor, promote and harmonize the regulatory framework for railway safety, including the railway safety national norm system.
The safety recommendations are directed to address the following aspects:
1. Identify and implement a technical solution that locking the switch and remove the key for point lock can be made only after the switch locking.
2. Identify and implement a technical solution through which to remove the detachment of flexible point of switch tongue with inside locking with pincer in the railway stations with insurance systems with key locking for switches position control.
3. Clearing the ambiguous from the regulatory framework on how to check the status of the switches with key locks with or without block, created by using two different expressions used to define the same state of a switch, "assured switch" and "locked switch".

3.4.34. The railway incident occurred on the 01st of April 2011, at 17:30, in the Branch of the Railway County Bucureşti "Regional Center of Operation, Maintenance and Railway Repairs", running section Predeal – Ploiesti Vest, line I between the railway stations Valea Largă and Comarnic, at km. 115+980, by hitting by the passenger train no. 1930 (belonging to SNTFC „CFR Călători" SA) of subassembly of horizontal sleeper of an

equipment belonging to S.C.PORR TECHNOBAU UNWERT A.G. VIENA stopped on line II. The investigation report was finished on the 22nd of April 2011.

Direct cause
Entry the subassembly of the of horizontal sleeper of Robel crane type PK150 no.4043 performing maintenance works to the railway line Câmpina – Predeal, part of the pan-European Corridor IV on line II in structure clearance of line I of train no. 1930 as a result of no limiting devices.

The underlying causes were not identified.
The root causes were not identified.
The safety recommendations were not established

3.4.35. The railway accident occurred on the 18th of April 2011, at 23:27, in the Branch of the Railway County Craiova "Regional Center of Operation, Maintenance and Railway Repairs", running section Roşiori Nord – Craiova (electrified double line),in the railway station Jianca, in the switch no. 7 area from the cross-over 5-7 from the X end of the station, by the derailment of the first bogie of the locomotive EA 45-0374-4 hauling the passenger train no. 360-1, belonging to SNTFC ,,CFR Călători'' SA Bucureşti.
The investigation report was finished on the 15th of December 2011

Direct cause
Loss of the guiding capacity of first axle on the curve of switch no.7 as a result of the load transfer on the left wheel determined by the diameter difference of the same axle wheels, followed by climbing the left rail.
The factors that contributed were:
- the difference of de 2,29 mm between the wheels diameters (left - right) from axle no.1;
- exceed the value of the q_R maximum limit permitted provided in UIC-510-2 leaflet for the right wheel from axle no.1;
- the existence of scratches on the flange flank and on the running surface as a result of the turning process

The underlying causes were not identified.
Root cause
Absence of a procedure on how to check roller positioning for measuring the running tread diameter of wheels after turning with lathe type Hegenscheidt 102.
Safety recommendations
Completing the technical specification – *Reshaping the railway vehicles tires on the wheel lathe type Hegenscheidt 102* – with:
1. section reffering to roller maintenance, diameter checks and how to position the rollers to measure the running tread diameters of wheels after turning;
2. filling the measuring sheet draw up after reshaping the tires with the average value of measured roughness.

3.4.36. The railway incident occurred on the 20th of April 2011, in the Branch of the Railway County Craiova "Regional Center of Operation, Maintenance and Railway Repairs", between the railway stations Băbeni - Alunu (non-electrified single track), in the freight train traffic no.39235/39236 (belonging to SC SERVTRANS INVEST SA) hauled by locomotive DA 1643 with driver and driver's assistant, both employed by SC SERVTRANS INVEST SA – Râureni working point, when the maximum set speed of 15km/h and 30 km/h was exceeded, provided in the working timetable and approved bulletin of speed limit on different line sections, between the railway stations Băbeni – Alunu and return.
The investigation report was finished on the 27th of June 2011.

Direct cause
The incident occurred as a result of a human error in the locomotive driving process manifested by the non-observance by the driver of speed limit indicators, which led to the exceeding of the maximum running speed, imposed by the speed limits recorded in the working timetable and approved bulletin for speed limits (BAR) limitations that were marked on the route.
The underlying causes were not identified.
The root causes were not identified.
The safety recommendations were not established**.**

3.4.37. The railway incident occurred on the 20th of April 2011, in the Branch of the Railway County Bucureşti "Regional Center of Operation, Maintenance and Railway Repairs", between the railway stations Chitila and Bucureşti Nord, passing the entry signal YIIIK from the railway station Bucureşti Nord (in stop position indicating red) by the train no. 98916 (composed of the gang car UAM 215 – P – 062 and 2 small wagon RDC 148 and RDC 007) and trailing of switch no. 1M.
The investigation report was finished on the 27th of June 2011.

Direct cause
Unstop of the train no. 98916 before the entry signal YIIIK from the station Bucureşti Nord although it's colour was red „STOP without passing the signal!". This was possible as a result of a human error error in the locomotive driving process of the train no. 98916, manifested by the non-observance by the driver of the entry signal indication YIIIK from the railway station Bucureşti Nord.
The underlying causes were not identified.
The root causes were not identified.
The safety recommendations were not established

3.4.38. The railway accident occurred on the 11st of May 2011, at 22:30, in the Branch of the Railway County Timişoara "Regional Center of Operation, Maintenance and Railway Repairs", in current line II (electrified double line),between the railway stations Merişor and Băniţa at km.66+500, by a fire at the electric locomotive EA 40-0791-0 hauling the freight train no. 20936.
The investigation report was finished on the 16th of December 2011.

Direct cause
Short-circuit between the power supply cables of the electric drive motor of screw compressor, caused by bringing into contact of cable conducting core due to the overheating and melting the isolated layer.

The factors that contributed were:
- No correlation of the copper section from supply cable of the electric drive motor from compressor (DA General Cable 750VF/1x16 mm2) with the current conditions, configuration , temperature and cable ventilation;
- Malfunction of static convertor because the current value of the internal protection against overcurrent and short-circuit was higher than the maximum current value supported by the General Cable 750VF/1x16 mm2;
- Absence of protection devices against overcurrent and short-circuit of the electric circuit for supplying the compressor electric motor.

Underlying causes

Non-observance of the standard SR EN 50343:2006 *Railway applications. Rolling stock.Rules for cable assembling*.
The root causes were not identified.

Safety recommendations
1. Checking the heating temperature of locomotive electric circuits by thermovision process, at final tests after planned repairs;
2. Checking the protections of locomotive electric circuits at final tests after planned repairs;
3. In the technical specifications on construction or modernization of rolling stock to be included SR EN 50343:2006 *Railway applications. Rolling stock. Rules for cable assembling*.

3.4.39. The railway incident occurred on the 11st of May 2011, at 22:30, in the Branch of the Railway County Craiova "Regional Center of Operation, Maintenance and Railway Repairs", in the railway station Plopşoru, by the derailment of the locomotive DA 1619 by axles 2,3,4,5 over the switch no. 12 at the receiving route into the railway station of rake of wagons CM 6.
The investigation report was finished on the 13rd of December 2011.

Direct cause
The railway incident occurred as a result of passing the shutting signal M10 without observing the instructional provisions and in the handling conditions of 12/18 under the locomotive. The shutting signal was indicating blue colour, meaning „shunting forbidden beyond the signal".
Favoring factors
- malfunction of telephone communications between the railway stations Plopşoru and Motru-Cocoreni section;
- wrong working way in case of malfunction of telephone communications between the railway stations Plopşoru and Motru-Cocoreni section contrary to the provisions of the Regulation for train traffic and shunting of railway vehicles no. 005/2005 art.191 and chapter no. 11 from technical operation plan of the railway station Plopşoru.
- allowing access to public infrastructure of the locomotives belonging to CFU Motru-Cocoreni section without operational radiotelephone equipment on CFR own frequency contrary to the provisions of the Regulation for railway technical operation no. 002/2001 and provisions from the Instruction no. 322/1975, chapter 2 point 2.6 on the efficient use of radiotelephone equipment, maintenance, breakdown repairs and its repairs.
- handling of interlocking system type CR3 without observing the instructional provisions contrary to the Regulation for train traffic and shunting of railway vehicles No. 005/2005 art. 64 and Report no.37 from 17.02.2011.
Underlying causes
Entering into railway a glued insulated joint (JIL), with lenght of 0,8m from the switch tip contrary to the provisions of Order no. 402/224 col.1970 of Tracks and Equipments General Division from 10.08.1970, Regulation for entering into railway of glued insulated joint (JIL).
The root causes were not identified.
The safety recommendations were not established.

3.4.40. The railway accident occurred on the 20th of May 2011, at 13:30, in the Branch of the Railway County Braşov "Regional Center of Operation, Maintenance and Railway Repairs", running section Braşov - Deda (electrified single line), in the railway station Gheorghieni, passing over the switch no.6, on common crossing by the derailment of the

first axle from the first bogie in the running direction from the locomotive EA 179 hauling the freight train no. 50562-1, belonging to SC UNIFERTRANS SA Bucureşti.
The investigation report was finished on the 08th of June 2011.

Direct cause
Lateral shoulder made at the insulating joint (polarity) next to the expansion joint between the butt-end of the rail from the transition panel 49/60 right side and the butt-end of the direct line from the switch end of the turnout no. 6, which allowed the climbing of the rail surface of the deflecting line with wheel from the right side of the first axle from the locomotive first bogie, runningof this flange of wheel on the head of rail to the common crossing, followed by the fall of the wheel in the right side of the guard rail.
The factors that contributed to the lateral shoulder were:
- mechanichal wear of the upper surface of the sleeper next to the expansion insulated joint and next sleeper on the transition coupon 60/49 from the switch no.10;
- loose coach screws at the metal plate on the right side from the sleeper before the polarity point;
- horizontal screws from the polarity point, having their heads into the fish plate on the right side of the joint;
- deteriorated technical condition of lignofolium fish plate from the insulated joint on the right side from the switch end of turnout no.6.
The underlying causes were not identified.
The root causes were not identified.
The safety recommendations were not established

3.4.41. The railway accident occurred on the 25th of May 2011, at 03:40, in the Branch of the Railway County Constanţa "Regional Center of Operation, Maintenance and Railway Repairs", running section Capu Midia – Palas, between the railway stations Năvodari - Constanţa Mărfuri at km 16+500 in the running of the locomotive DA 1528 (belonging to SC Grup Feroviar Român SA Bucureşti) that was running in the train composition no.79156 (composed of the locomotive DA 1528 first amd DA 1562 hauled), by a fire in the engine room, in the electric traction motor area no. 2 and no. 3,.
The investigation report was finished on the 11st of October 2011.

Direct cause
Occurrence of a short-circuit between the supply cables A and E of the traction motor no.3 as a result of disruption of insulation in the contact area between the two cables, fact that led to a current strenght peak for motor supply, followed by the welding of the two cables metal part, as well as the other cables insulation ignition from the traction electric motor no.3, and extending to the supply cables from the traction electric motor no.2.
The factors that contributed
The disruption of insulation occurred as a result of mechanical wear in the contact area of the electric traction motor A (armature) and E (field magnet) supply cables insulation.
The underlying causes were not identified.
The root causes were not identified.
Safety recommendations
1. Identifying and implementing solutions to ensure protection for supply cables from electric motors against the mechanical wear in the contact area between them.

3.4.42. The railway incident occurred on the 31st of May 2011, in the Branch of the Railway County Bucureşti "Regional Center of Operation, Maintenance and Railway Repairs", running section Bucureşti Nord – Ploieşti Sud between the railway stations Brazi – Ploieşti

Sud passing by the passenger train no. 5021 of the branch line signal X , of PM Ramificaţia Ploieşti Triaj indicating "red" („STOP without passing the signal!").
The investigation report was finished on the 21st of June 2011

Direct cause
Unstop of the passenger train no. 5021 before the branch line signal X of PM Ramificaţie Ploieşti Triaj although this was indicating red *(„STOP without passing the signal!")* and of caution signal for the railway station Ploieşti Sud Pr XB (off). This was possible due to a human error in the passenger train no. 5021 driving, manifested by the non-observance by the driver of the branch line signal X of PM Ramificaţie Ploieşti Triaj and of the caution signal Pr XB of the railway station Ploieşti Sud.
The underlying causes were not identified.
The root causes were not identified.
The safety recommendations were not established

3.4.43. The railway incident occurred on the 02nd of June 2011, in the Branch of the Railway County Craiova "Regional Center of Operation, Maintenance and Railway Repairs", running section Roşiori Nord-Caracal, in the railway station Măldăieni, by passing the exit signal Y 3 from line III of the railway station by the hauling locomotive DA 654 (belonging to S.C. Cargotrans Vagon S.A. Bucureşti) of the freight train no.20938.
The investigation report was finished on the 20th of June 2011.

Direct cause
Unstop of the freight train no. 20938 before the exit signal YIII of the railway station Măldăieni although this was indicating *„stop without passing the signal!")*. This was possible due to a human error in the locomotive driving process, manifested by the non-observance by the driver of the exit signal YIII indication from the railway station Măldăieni.
The factors that contributed
- The equipment for the punctual control of the speed INDUSI of the train hauling locomotive was removed from service (failure), which allowed the train to pass over the 500 Hz track magnet corresponding to the exit signal YIII without it activate the train emergency braking;
- the radiotelephone station on the hauling locomotive of the train was receiving interrupted, leading to no correct receive of communications made by the movement inspector to the locomotive staff.

The underlying causes were not identified.
The root causes were not identified.
The safety recommendations were not established

3.4.44. The railway incident occurred on the 30th of May 2011, at 06:00, and notificare by the Traffic Safety General Inspectorate within CNCF "CFR" SA at 02th of June 2011, at 14:30, in the Branch of the Railway County Galaţi "Regional Center of Operation, Maintenance and Railway Repairs", routing the freight train no.90720 (belonging to SC Vest Trans Rail SRL) with the braked weight percentage nonensured, found out at the state inspection performed by the Railway Safety Inspectorte Galaţi.
The investigation report was finished on the 22nd of June 2011.

Direct cause
Non-performance of the specific service duties by the examiner at the train composition no. 90720, by failure to check the automatic brake tightening and of the blocks on the tyre wheels from the wagon no. 33876735603-7.

The underlying causes were not identified.
The root causes were not identified.
The safety recommendations were not established

3.4.45. The railway accident occurred on the 06th of June 2011, at 19:20, in the Branch of the Railway County "Regional Center of Operation, Maintenance and Railway Repairs", on the running line between the railway stations Ineu and Bocsig, at km 44+350, by a fire at the electric diesel locomotive DA 60-0930-2 hauling the passenger train no.3134.
The investigation report was finished on the 28th of July 2011.

Direct cause
Spark from electric discharge between the conductor 778 (concatenation for electric traction motors no.2 and no.5) and conductor 781 (for connection with the reversing gear), followed by ignition of the combustible deposits accumulated in time from locomotive operation and flame spread to the supply cable of the electric traction motors no.4, no.5 and no.6, which led to the spread of fire in the engine room and in driving cab II.
The factors that contributed
Lack of fireproof insulated covering of approximately 80 mm on the conductor 778 of concatenation of electric traction motor no.2 with electric traction motor no.5, in the area near the entrance of cables case, under the existence of direct contact with the conductor 781 which presented aging insulation, favored the start of the fire.
Aging insulation of the strength cables and existence of oil loss, oil, gases due to the lack of joints sealing from that equipments, due to the non-performance at the specific time of repair works, which favored the spread of fire.
Underlying causes
The measures of the act 45/g/2038/2004 of Service Locomotives Modernization within S.N.T.F.C. „CFR. Călători" S.A. were not observed, on measures to prevent the occurence of fire started due to the repair type RR at the locomotive DA-60-0930-2 on 29.09.2005 at SC RELOC SA Craiova;
Non-observance of the locomotive necessary repairs cycle, according to the provisions of *Railway Normativ "Railway vehicles. Review and planned repairs " no. 67-005 from 2008* approved by Minister of Transport Order no. 364/2008, the locomotive was schedule for repair type RG in September 2010 (at 4 ±1 years) and with the mileage between 2 repairs exceeded (435.820 km at 07.06.2011 against 400.000 km between 2 repairs for LDE 2100 CP).
The root causes were not identified.
The safety recommendations were not established

3.4.46. The railway accident occurred on the 19th of June 2011, at 11:16, in the Branch of the Railway County Braşov "Regional Center of Operation, Maintenance and Railway Repairs", running section Braşov – Bucureşti (electrified double line), between the railway stations Timişul de Sus - Predeal, on running line I at km 150+825 by the derailment of the first bogie in the running direction of wagon no. 81536656119-0 in the freight train composition no. 83568, belonging to SNTFM "CFR – Marfă".
The investigation report was finished on the 28th of July 2011.

Direct cause
Climbing the rail from the right side in the running direction by the first wheel no. 8 at km 150+825, the derailment of the first axle from the first bogie in the running direction of the wagon no. 81536656119-0 (wheels no.7 and no.8) followed by the derailment of the

second axle from the same bogie, as a result of load transfer from the first wheel on the wagon frame tilting.

The factors that contributed were:
- lack of higher friction block at the bogie with wheels 1-4 (the second in the running direction), on the left side in the running direction, which determine the tilting of the wagon body to the interior of the curve until its contact with the bogie frame and increasing the amounted play at the friction stone of this bogie to the value of 66 mm, as well as load transfer and reduce the first wheel no.8 guiding force ;
- tightening and inadequate insurance against auto back-off of fastening screws for higher friction stones on the centre casting sleeper;
- improper fastening of friction stone due to the partially missing tolerance plate (cut at the corners in diagonal) in the fastening screws area on the centre casting sleeper;
- additional package at the friction stone composed of several pieces, which did not cover the entire area of settlement;

Underlying cause
- non-meeting with the provisions for the tolerance adjustments and the tolerance packages accepted to be used for the repair of the upper guides during the major overhaul and stipulated in the "Instruction for the control and repair of the chassis and wagon and coach bodies" no. 936/1991, chapter 2, "Technical conditions during the control of the chassis of the wagons and coaches" point 2.3, letter "f", that is the use of the tolerance adjustments, more than a piece, s well as the use of the tolerance packages consisting in more than 2 plates.

Root cause
None
Safety recommendations
None

3.4.47 Railway incident occurred on the 31st of May 2011 in the Railway Branch Bucuresti "Regional center for railway operation, maintenance and repairs", running line Bucuresti Nord - Ploiesti Sud, between the railway stations Bucuresti Nord and Ploiesti Sud, consisting in the passing by the passenger train no. 5021 of the signal in stop position, in the branch line X, of the switch point Branch line Ploiesti Traij on red position ("Stop without passing the signal in stop position")
The investigation report was finished on the 21st of June 2011.

Direct cause
Alteration of the structure clearance of the line I by the railway machine BATIPAL HL 004 (working at the track bed of the line II)
Underlying causes
1. Use of staff untrained in the operation of the railway machine BATIPAL HL 004 ;
2. Lack of provisions on the assurance of the traffic safety and structure clearance where SC Astaldi SpA Italy performed infrastructure works.

Root cause
None.
Safety recommendations
None
The investigation commission considered that it is necessary to take corrective measures in order to improve the railway safety and to prevent the accidents and incidents:
1. the administrator of the railway public infrastructure and the railway supplier SC Astaldi SpA Italy shall work out provisions for the safety railway transports and implicitly for the assurance of the structure clearance where the works are performed;

2. the railway supplier that performed the track bed works shall analyze the occurrence conditions of the railway incident with its all employees with responsibilities in traffic safety.

3.4.48 Railway accident occurred on the 9th July 2011 in the Railway Branch Iasi "Regional center for railway operation, maintenance and repairs", between the railway stations Podu Iloaie and Sarca, at the km 42+620, consisting in the derailment of both axles of the last bogie, in the running direction of the wagon Eaos no. 335 35301 979-7, from the freight train no. 70923, belonging to SC Grup Feroviar Roman
The investigation report was finished on the 5th of September 2011.

Direct cause
Over-climbing of the outer rail of the curve, at the km 42+620, by the right wheel (first in the running direction) of the last bogie of the wagon no. 3353 5301 979-7 (the 39th in the composition of the freight train no. 70923), followed by the fall of the wheel outside track, generating the fall of the left wheel of the same axle inside the track.
The over-climbing happened because of some wagon failures, appeared following a previous incident, in the conditions for wagon running in curve, leading to the increase of the turn strength of the pin in the centre casting and the load transfer of the first wheel of the last bogie of the wagon. The derailment of the second axle is directly generated by the derailment of the first axle.
Factors contributing at the occurrence of this accident were as follows:
- destruction at about 80% of the wear plate type "Railko" from the hemispherical centre casting of the derailed bogie following the hanging and reclining of the wagon in an incident happened on the 21st of June 2011, it leading to the difficulty of the wagon to run on the curve;
- exceeding of the accepted values for the torsion of the wagon chassis, with double values for bogie solebars and up to 9 times at the ends of the …because the catching and reclining of the wagon in the incident occurred on the 21st of June 2011;
- distortion of the bogie frame , which tolerant nominal values were exceeded with values over 10 mm following the catching and reclining of the wagon in an incident happened on the 21st of June 2011;
- constructive changes at the wagon body, at the derailed wagon, by cutting the right side wall (in the running direction) of the wagon body on 2,7 m and its storage on the wagon flat at the same bogie but to left (in the running direction);
- the running with reduced speed on a curve whose effective cant of 110 mm leads to the appearance of an excess of cant over 100 mm and generated the load transfer of the right wheels of the bogie, in the running direction.
These factors generated the conditions for the incomplete turn of the pin in the centre casting, non-permitting the running of the bogie on curve and the load transfer of the first right wheel of the first axle of the last bogie in the running direction.
Underlying cause
None
Root cause
None
Safety recommendations
None

3.4.49 Railway incident occurred on the 16th of July 2011 (notified by the General Inspectorate for Traffic Safety from CNCF "CFR" SA on the 19th of July 2011), in the Railway Branch Bucuresti "Regional center for railway operation, maintenance and repairs", track section Videle – Giurgiu, between the railway stations Radulesti and Giurgiu Nord,

consisting in the exceeding of the accepted maximum speed, by the freight train no. 91950-1 (belonging to SNTFM "CFR Marfa" SA).
The investigation report finished on the 8th of August 2011.

Direct cause
Human mistake consisting in non-paying attention by the driving staff of the train, leading to the exceeding of the maximum speed established in the working timetables for the respective train category.
Contributing factors
The driving staff of the locomotive did not meet with the provisions from the Instruction for the activity of the railway driving staff no. 201, art. 125, paragraph (1) and art. 127 paragraph (f) concerning the exact meeting of the running speed from the working timetables and following of the indications of the measuring equipments, indicators and locomotive display.
Underlying cause
None
Root cause
None
Safety recommendations
None

3.4.50 Railway accident occurred on the 21st of July 2011, in the Railway Branch Bucuresti "Regional center for railway operation, maintenance and repairs", in the running of the freight train no. 70852 (belonging to SC Grup Feroviar Roman SA Bucuresti), hauled by the locomotive 91 53 0 425-210-8, consisting in a fire in the equipments hall, in the coil for the protection against the electric shocks for the traction motor no. 1, on the track section Ploiesti Triaj – Chitila, between the railway stations Peris – Buftea (km 26+700)
The investigation report was finished on the 25th of October 2011.

Direct cause
The fire was generated by the appearance of a short-circuit between the turns of the…self of the traction motor no. 1, following the perforation of the insulation of the turns of the self, followed by the ignition of the electric cables insulation. By the thermic influence happened also the affecting of the coil for the protection against the electric, afferent to the traction motor no. 2, the phenomenon being followed by the fire extension to the burning parts (cable insulation) from the area of the traction motors MT1 and MT2.
Underlying cause
None
Root cause
None
Safety recommendations
None

3.4.51 Railway accident occurred on the 27th of July 2011 in the Railway Branch Cluj "Regional center for railway operation, maintenance and repairs", in the running of the freight train no. 64702-1, consisting in the derailment, during the routing, of one bogie at each of 2 wagons, on the track 4 of the railway station Campia Turzii.
The investigating report was finished on the 15th of September 2011.

Direct cause

De derailment happened because of hitting and climbing of the 3rd axle (in the running direction) of the wagon 31535474833-9 on a component fallen from the wagon on the track, followed by the over-climbing of the line and fall of the wheel outside .

Contributing factors

Breakage of the welding points of the loading and unloading lid and its fall on the track;

Underlying cause

Fitting of another type of lid for unloading than those necessary for the wagon 31535474833-9 during the current repair in the Section IRV Sibiu, on the 28th of June 2011.

Root cause

None

Safety recommendations

None

3.4.52 Railway incident occurred on the 29th of July 2011, in the Railway Branch Craiova "Regional center for railway operation, maintenance and repairs", in the railway station Craiova, consisting in the collision of the parapet of the fixed oritor from the track 27 by the train no. 1891, consisting in the motorized train 2004 (belonging to SNTFC "CFR Calatori" SA)

The investigation report was finished on the 19th of August 2011.

Direct cause

Non-stopping of the train no. 1891 in the braking distance afferent to the track 27, that is before the protection parapet. It was possible because a human mistake appeared in the driving of the motorized train, consisting in the non- safety stopping of the train, before the parapet from the track 27.

Underlying cause

None.

Root cause

None.

Safety recommendations

None.

3.4.53 Railway incident occurred on the 30th of July 2011 (notified by the General Inspectorate for Traffic Safety from CNCF "CFR" SA on the 9th of September 2011), in the Railway Branch Timisoara "Regional center for railway operation, maintenance and repairs", track section Caransebes – Lugoj, between the railway stations Cavaran and Zagujeni, consisting in the exceeding of the accepted maximum speed, by the freight train no. 91322 (belonging to SNTFM "CFR Marfa"SA)

The investigation report was finished on the 19th of October 2011.

Direct cause

The non-conformity occurred following the strong sliding of the locomotive, in the conditions of non-favoring time and of line characteristics on the respective distance.

Contributing factors

Non-corresponding adjustment of the locomotive traction force by the engine driver in the conditions of low adhesion until the disappear of the sliding phenomenon.

Non-functioning of the locomotive non-sliding equipement.

Underlying cause

None.

Root cause

None.

Safety recommendations

None.

3.5.54 Railway accident occurred on the 16th of August 2011, at 13,30 hour, in the Railway Branch Craiova "Regional center for railway operation, maintenance and repairs", between Lainici and Meri, consisting in the breakage of the axle no. 2 (in the running direction) from the tower wagon DP 005, running as train no. 28902,
The investigation report was finished on the 11th of November 2011.

Direct cause

The breakage of the axle no. 2 from the tower wagon DP 005 because of the appearance of a crack at the connection between the axle body and the area of pressing on of wheels, being about 70% from the breakage section. The crack was generated by the material fatigue, following the high number of torsion cycles to which the axle of the pair of wheels was subject in operation, from its manufacturing year, that is 1970.

Underlying cause

None.

Root cause

None.

Safety recommendations

None .

3.4.55 Railway accident occurred on the 17th of August 2011, around 19,40 hour, in the Railway Branch Cluj "Regional center for railway operation, maintenance and repairs", in the passenger railway station Dej, in the running of the freight train no. 50562-1, belonging to SC UNIFERTRANS SA Bucuresti, consisting in the passing by the hauling locomotive (DA 1237) of the signal YP in stop position (on "red " position – "STOP without passing the signal in stop position"), followed by its derailment in the ballast bed of the passing track on which the route was made.
The investigation report was finished on the 13th of September 2011.

Direct cause

The derailment of the locomotive DA 1237 occurred following the passing the signal YP in **"stop"** position **("STOP** without passing the signal in stop position"), consisting in non-meeting by the driving staff with its position on red.

Factors contributing to the accident:

- the driving staff did not meet with the minimum time for rest at the end of the railway section.

Underlying causes

None.

Root cause

None.

Safety recommendations

None .

3.4.56 Railway accident occurred on the 20th of August 2011 in the Railway Branch Cluj, "Regional center for railway operation, maintenance and repairs", on the non-interoperable track section Vascau-Halod-Ciumeghiu, between the railway stations Beius and Halod Vest, at the km 69+500, consisting in a fire in the equipments hall of the locomotive 92 53 0 600966-1, hauling the freight train no. 91901
The investigation report was finished on the 27th of October 2011

Direct cause
The fire was generated by a short-circuit at the circuit of 170 V, in the area of the cable for the putting in series of the batteries no. 6 and 7, leading to the melt of the material from the metallic protection pipe and its leakage on the cables for the putting in series of the electric traction motors no. 4 and 5, ignition of their insulation and of the near leaks of oil products.
Contributing factors
- degradation over time of the insulation of the insulating material from the cable for putting in series of the batteries no. 6 and 7;
- leaks of oil products from the constructive sealing areas of the equipments and of the diesel motor and their deposit in hard-to-reach areas.
Underlying causes
Non-control of the condition of the cable for the putting in series of the batteries no. 6 and 7, situated in the metallic protection pipe.
Root cause
None.
Safety recommendations
None .

3.4.57 Railway accident occurred on the 22nd of August 2011, in the Railway Branch Brasov "Regional center for railway operation, maintenance and repairs", in the running of the freight train no. 80090, belonging to SNTFM "CFR Marfa" SA, on the track section Vintu de Jos – Coslariu (double electrified track line), in the railway station Barabant, consisting in a fire at the locomotive DHC 321 (hauled)
The investigation report was finished on the 26th of October 2011.

Direct cause
Over-heating of the hydraulic transmission, because of the exceeding of the accepted maximum speed for the chosen working conditions (the hydraulic transmission being out of order), between Vintu de Jos and Barabant (about 15 km), followed by the ignition of the oil product deposits in the area of the hydraulic transmission distributor and of the air filters, diesel motor supercharging.
Contributing factors
- non-meeting with the provisions from "Operation guide for locomotive type LDH 1250 PH" edition 2004, concerning the way to act in case of failure of the electro-pneumatic valve S9 of the hydraulic transmission (running with maximum speed of 1/2 from maximum speed corresponding to the chosen working conditions in "Damage" conditions on starting converter), that is the running on about 12 km with speeds over 50 km/h, when for easy working conditions the maximum accepted speed in these conditions is 50 km/h, and for difficult working conditions the maximum accepted speed is 30 km/h;
- over-flowing of the lubricant from the hydraulic transmission at the dipstick, because of its over-heating and fluidization.
Underlying cause
Non-meeting with the provisions from "Instruction for the activity of the railway driving staff" no. 201/2007, art. 41-(2), respectively that the driver did not write in the line clear, order and running register from the railway station Vintu de Jos the running conditions of the locomotive from the above mentioned station to the traction unit in order to do the necessary repairs, taking into account that the locomotive failure imposed its running with reduced speed, according to the provisions from "operation guide for locomotive type LDH 1250 PH".
Root cause
None.

Safety recommendations
None.

3.4.58 *Railway incident occurred on the 2nd of September 2011 (notified by the General Inspectorate for Traffic Safety from CNCF "CFR" SA, on the 22nd of September 2011), in the Railway Branch Brasov "Regional center for railway operation, maintenance and repairs", track section Copsa Mica-Blaj, between the railway stations Micasasa and Valea Lunga, consisting in the exceeding of the maximum accepted speed by the freight train no. 41719 (belonging to SNTFM "CFR Marfa"SA).*
The investigation report was finished on the 13th of October 2011.

Direct cause
A human error appeared in the locomotive driving, consisting in the non-adjustment of the train speed at the hauling conditions on a variable line profile (level-gradient) by the driving staff.
Contributing factors
The driving staff performed the monitoring of the running train on curve without taking into account the running speed from that moment, the line profile (gradient 7,06‰ and the great length of the train (200 m).
Underlying cause
The driving staff did not meet with the provisions of the Instructions for the activity of the railway drivers no. 201, art 125, paragraph (1) and art. 127 paragraph (1) letter f) concerning the exact meeting with the running speeds from the working tables and following the stipulations of the locomotive measuring equipments, indicators, displays.
Root cause
None
Safety recommendations
None

3.4.59 Railway incident occurred on the 15th of September 2011(notified by the General Inspectorate for Traffic Safety from CNCF "CFR" SA on the 2nd of November 2011), in the Railway Branch Brasov "Regional center for railway operation, maintenance and repairs", track section Sighisoara – Blaj (double electrified track line), between the railway stations Micasasa and Valea Lunga, consisting in the exceeding of the maximum accepted speed by the freight train no. 20092 (belonging to SNTFM "CFR Marfa"SA).
The investigation report was finished on the 16th of November 2011.

Direct cause
A human error appeared in the locomotive driving, consisting in the non-adjustment of the train speed at the hauling conditions on a variable line profile (level-gradient 7,06‰) by the driving staff.
Contributing factors
Coming into operation of the command circuit breaker, following the order for its connection, after the technical inspection performed by the driver's assistant in the equipments hall, it diverting the driver from the monitoring of the running speed.
Underlying cause
Non-meeting with the provisions of the Instructions for the activity of the railway drivers no. 201, art 125, paragraph (1) and art. 127 paragraph (1) letter f) concerning the exact meeting with the running speeds from the working tables and following the stipulations of the locomotive measuring equipments, indicators, displays.
Root cause
None.

Safety recommendations
None .

3.*4.60 Railway accident occurred on the 22nd of September 2011, at 7,58 hour, in the Railway Branch Timisoara "Regional center for railway operation, maintenance and repairs", on the running line I, between the railway stations Turdas and Orastie, at the km 457+003, consisting in a fire at the diesel hydraulic locomotive lDH 80-0600-9 (belonging to SNTFC "CFR Calatori" SA), hauling the passenger train no. 347-2.*
The investigation report was finished on the 22nd of October 2011.

Direct cause
The fire started in the box of terminals of the dynastarter, following the over-heating of the contact area between the terminal lug 1B1 and the connection plate in the terminal E2 because of the incomplete contact, followed by the ignition of the connection conductor of the terminal 1B1 with the coil of the auxiliary pole from the field magnet.
Contributing factors
Electric overload appeared in the dynastarter operation following the use of the batteries set with normal operation time exceeded and irregular capacity.
Underlying cause
None.
Root cause
None.
Safety recommendations
None .

3.4.61 Railway accident occurred on the 29th of September 2011, at 4:50 in the Railway Branch Timisoara "Regional center for railway operation, maintenance and repairs", track section Petrosani – Simeria, at the entrance in the railway station Baru Mare, km 53+100, consisting in the fire at the locomotive EA 40-0118-6 (belonging to SNTFM "CFR Marfa" SA Bucuresti), hauling the freight train 27557.
The investigation report was finished on the 5th of December 2011.

Direct cause
The fire was generated by a short-circuit appeared in the circuit of the battery, followed by the melt and ignition of the insulation of the conductors MO and 405, because of the degradation of this insulation, followed by the touch of the metallic core. The degradation of the insulation of the conductors MO and 405 was generated by the mechanic friction between the protection pipe and the conductors, because of the repeated battery displacement for control.
Underlying cause
None.
Root cause
None.
Safety recommendations
None .

3.4.62 Railway accident occurred on the 10th of October 2011, in the Railway Branch Timisoara "Regional center for railway operation, maintenance and repairs", on the running line II (double electrified track line), between the railway stations Baru Mare and Crivadia, at the km 55+350, on the track section Simeria – Petrosani, in the running of the freight train

no. 23814 (belonging to the undertaking SNTFM "CFR Marfa " SA Bucuresti), consisting in the fire at the hauling locomotive EA 40-0045-1.
The investigation report was finished on the 7th of December 2011.

Direct cause
Appearance of an electric arc between the contacts of the line contactors S4.1, following the non-assurance of the necessary contact pressure between them, followed by the over-heating of the contactor, melt and ignition of the insulation of the conductors 51.
Favorable factors
Accidental degradation of the packing from the pneumatic operation mechanism (cylinder-piston) of the line contactor S4.1, it leading to the non-assurance of the contact necessary pressure for the operation of the contactor contacts.
Underlying cause
None.
Root cause
None.
Safety recommendations
None

3.4.63 Railway incident occurred on the 17th of October 2011, in the Railway Branch Timisoara "Regional center for railway operation, maintenance and repairs", track section Strehaia – Caransebes, in the railway station Orsova, consisting in passing the exit signal X4 in stop position, on red position (STOP without passing the signal in stop position"), by the passenger train no. 9551 (belonging to SNTFC "CFR Calatori" SA)
The investigation report was finished on 16th of November 2011.

Direct cause
The railway incident happened because the driving staff did not pay permanent attention to the position of the exit signal X4 of the railway station, did not receive its position, so one did not take the measure for train stop without passing the signal in stop position.
Factors contributing to this incident occurrence:
- making a wrong journey on the line 3 for the train formed on line 4;
- the movements inspector gave the signal "train start", for the train from the line 4 that had no exit route ensured.

Underlying cause
None.

Root cause
None.

3.4.64 Railway incident occurred on the 26th of October 2011, in the Railway Branch Timisoara "Regional center for railway operation, maintenance and repairs", track section Timisoara – Caransebes, in the railway station Recas, consisting in the occupation of the running line to Topolovat – without having the right, by the gang car CIRA no. 069 (belonging to CNCF "CFR" SA), running as train 98976).
The investigation report was finished on the 21st of November 2011.

Direct cause
The railway incident happened following the unstop of the train no. 98976 (gang car CIRA DC-069) in the railway station Recas, according to the running conditions established by the running order .

Factors contributing o the incident occurrence were the next:
- lack of communication/confirmation of the running conditions of the train no. 98976, by radio stations, between the driver of small capacity gang car (gang car CIRA DC-069-train no. 98976) and the movements inspector on duty in the railway station Recas;
- operation of the shunting signal from the line Y II (light …white – shunting permitted after the signal), before the effective stop of the train no. 98976 on the line no. II from the railway station Recas.

Underlying cause
None.
Root cause
None.
Safety recommendations
None.

3.4.65 Railway incident happened on the 14th of November 2011, around 4,50, in the Railway Branch Brasov "Regional center for railway operation, maintenance and repairs",track section Sfantu Gheorghe – Harman (simple electrified track line), in the railway station Prejmer, consisting in trailing the points no. 2by the locomotive EA 030 (belonging to the engine shed Brasov), hauling the passenger train no. 4501.
The investigation report was finished on the 8th of December 2011.

Direct cause
A human error appeared in the service, in the technological process for the train dispatching, consisting in the non-control of the right position of the switch in the ordered route, non-control on site of whole achieved opening and locking of the switch with the assurance hook in a position inappropriate to the train dispatching route.
Contributing factors
Failure of the point machine of the switch no. 2 by losing the control on the command device.
Underlying cause
None
Root cause
None.
Safety recommendations
None

3.4.66 Railway incident happened on the 30th of November 2011, (notified by the General Inspectorate for Traffic Safety from CNCF "CFR" SA on the 30th of November 2011) in the Railway Branch Craiova "Regional center for railway operation, maintenance and repairs", track section Babeni – Alunu, by the exceeding of the maximum running speed established in the working timetables, by the freight train no. 23806, hauled by the locomotives DA 975 and DA 1004 (belonging to SNTFM "CFR Marfa" SA).
The investigation report was finished on the 20th of December 2011.

Direct cause
The incident happened because a human mistake appeared in the driving of the trains, consisting in the non-following and non-meeting with the indication of the indicators for speed restriction, it leading to the exceeding of the maximum running speeds, imposed by the speed limitations and restrictions stipulated in the working timetables, sheet for the notification of speed restrictions and marked on the train.

Underlying cause
None.
Root cause
None.
Safety recommendations
None .

3.5 Accidents and incidents investigated over the last 5 years

Railway investigations between 2007 and 2011 (Romanian Railway Investigating Body was set up in March 2007)

Investigated accidents[1]		2007	2008	2009	2010	2011	TOTAL
Accidents (art. 19, 1+2)	Train collisions	-	-	-	3	2	4
	Collisions between trains and obstacles	-	-	-	-	-	-
	Train derailments	-	5	3	9	19	36
	Crossing level accidents	-	-	-	-	-	-
	Person Accidents generated by the rolling stock in motion	-	-	-	-	-	-
	Rolling stock fires	-	-	-	2	15	17
	Accidents involving dangerous goods	-	-	-	-	-	-
Accidents (art. 19, 1+2)	Train collisions	-	-	-	-	-	-
	Collisions between trains and obstacles	-	-	-	-	-	-
	Train derailments	-	-	-	-	-	-
	Crossing level accidents	-	-	-	-	-	-
	Person Accidents generated by the rolling stock in motion	-	-	-	-	-	-
	Rolling stock fires	-	-	-	-	-	-
	Accidents involving dangerous goods	-	-	-	-	-	-
Incidents[2]		-	-	2	22	29[(2)]	53
TOTAL		-	5	5	36	65	101

(1) one considered the year of the investigation end
(2) one finished also a structural system problem, that is not included in the total number of the incident finished in 2011

4.Recommendations

4.1Short review and presentation of the recommendations

Implementation of the recommendation between 2008 and 2010

Issud recommendations		Stage of the recommendation implementation					
		Implemented		In process		Non-implemented	
Year	[No.]	[No.]	[%]	[No.]	[%]	[No.]	[%]
2008	**24**	5	20,8	-	-	19	79,2
2009	**23**	21	91,3	2	8,7	-	-
2010	**57**	39	68,4	5	8,8	13	22,8
2011	**44**	9	20,4	4	9,1	31	70,5
TOTAL	**148**	**74**	**50**	**11**	**7,4**	**63**	**42,6**

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