



INVESTIGATION REPORT

Concerning the fire occurred at the locomotive DHC 321 belonging to SNTFM “CFR Marfă” SA, in the running of the freight train no.80090, in the branch of Regional Center of Operation, Maintenance and Railway Repairs Brasov, in the station Bărăbănt, on 22 august 2011



FINAL EDITION

26 october 2011

NOTICE

In the case of the accident occurred on 22 august 2011, in the running of freight train no.80090, through a fire occurred at locomotive DHC 321 (running hauled) in the station Bărbănt, in the running section Vințu de Jos – Coșlariu, the Romanian Railway Investigating Body has developed an investigation action in accordance with the provisions of the HG no.117/2010. Through the performed investigation, the information concerning the occurrence of this accident were gathered and analyzed, the conditions were established and the causes determined.

The action of the Romanian Railway Investigating Body, does not aim to establish the guilt or the responsibility in this case.

București, 26 october 2011

I consider positive

Director,

Dragoș FLOROIU

I ascertain the compliance with the legal provisions concerning the conduct of the investigation and the drawing up of this investigating report that

I submit for approval

Chief investigator

Nicu PĂLĂNGEANU

The present notice part of the Investigation Report of the accident occurred on 22 august 2011, in the branch of Regional Center of Operation, Maintenance and Railway Repairs, in the running freight no.80090, belonging to SNTFM “CFR Marfă” SA, in the running section Vințu de Jos – Coșlariu , (electrified double line) in the station Bărbănt, a fire occurred at the locomotive DHC 321 (running hauled).

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I. PREAMBLE

I.1 Introduction

The fire occurred on 22 august 2011 in the running of freight train no.80090 at the locomotive DHC 321 (running hauled), represents an accident which is found in article 7 item (1) paragraph (e), 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 hereinafter referred in the investigation report as „**Regulation**”.

Given above and under the article 19, item (2) of Law no.55/2006 concerning the *railway safety* in conjunction with article 48, item (1) of **Regulation**, a commission of investigation was established by the Romanian Railway Investigating Body.

Through the investigation action carried out were collected and analysed information in relation with the occurrence of the accidents, conditions were set and causes determined.

The action of the Romanian Railway Investigating Body did not aim to establish the guilt or the responsibility.

I.2 Investigation process

Right after the occurrence of the accident, the Romanian Railway Investigating Body was informed in written and verbally by CNCF „CFR” SA about that. After the displacement to the place of occurrence, has been informed about the following:

- Locomotive DHC 321, running hauled after the freight train no.80090 from station Vinu de Jos to station Teiuş, stopped in current line in the railway station Bărbănt;
- Damaged electric wiring for controlling the hydraulic transmission;
- Damaged electric wiring of the speed recorder corresponding to the driver’s cab I;
- Damaged air filters Diesel engine supercharged;
- the line and the area of the accident were not damaged.

In case of this accident were no fatalities or injuries.

At the accident place were present the representatives of:

- Inspectorate for Emergency Situations “Unirea” of Alba County, Fire Station Alba Iulia;
- Operational Department of the Railway Transports Police;
- Romanian Railway Safety Authority;
- National Railway Company ”CFR” – SA;
- National Railway Freight Transport “ CFR Marfă” SA.

By decision no.69/ 23.08.2011, of the OIFR director, in accordance with the provisions of article 19, item (2) from Law no.55/2006, regarding *railway safety*, in conjunction with article 48(1) from **Regulation**, the investigation commission was appointed and consisting of:

- Sever PAUL - investigator - main investigator
- Vasile SAV - safety regional inspector SC – Branch Freight Transilvania - member
- Vasile COTELEA - safety regional inspector – Branch Freight Transilvania - member

A. ACCIDENT BRIEF PRESENTATION

A.1 Brief description

On the 22.08.2011 in the running of the freight train no.80090, in route Vințu de Jos, train composed of hauling locomotive EA 740, locomotive ED 016 (inactive), 28 wagons and locomotive DHC 321 (inactive), at the entry in the railway station Bărbănt, in the current line Vințu de Jos – Coșlariu (electrified double line), a fire occurred in the area of hydraulic transmission of the locomotive DHC 321, situated and extinguished by engine driver that operated the locomotive and the driver of the hauling locomotive, with their extinguishers.

By the unique number 112, the movement inspector on duty from station Bărbănt, has approved the Inspectorate for Emergency Situations- Fire Station Alba Iulia, they have not intervened because at their arrival the fire was burned out.

The locomotive DHC 321 running in cold position in the freight train no.80090 composition, belonging to SNTFM “CFR Marfă” SA and it was operated by the engine driver.

The accident site is located in the are of km 413+650 in the current line II Vințu de Jos- Coșlariu, disposed in embankment profile, straight track, with a gradient of 1,45‰ in the running direction, indirect fastening type K.

The site of the railway accident is located in the running section Vințu de Jos- Coșlariu, belonging to CNCF “CFR” SA - Regional Center of Operation, Maintenance and Railway Repairs Braşov.

A.2 Causes of the accident

A.2.1 Direct cause, factors that have contributed

Direct cause of the accident is the excessive heating procedure of the hydraulic transmission, due to exceeding speed limits by operating mode (hydraulic transmission being damaged) on the route Vințu de Jos – Bărbănt (about 15 km), followed by ignition deposits of the oil products from distributor area of the hydraulic transmission and supercharged air filters Diesel engine.

Factors that contributed to the accident occurrence:

- non observance of the provisions of “Exploitation guide for locomotive type LDH 1250 CP” edition 2004, regarding the procedure mode in the damaging cases of the EP valve S9 of the hydraulic transmission (maximum speed is $\frac{1}{2}$ from V_{max} suitable to the selected operation mode and exploitation of the locomotive in the the „ rail damage” on the start convector), respectively the running on a distance about 12 km with higher speeds of 50 km/h, given that the light mode of operation has the maximum authorized speed of 50 km/h, and the heavy mode of operation has the maximum authorized speed of 30 km/h;
- the oil overflow of the hydraulic transmission on the oil gauge due to the excessive overheating and fluidization.

A.2.2 Underlying cause

The underlying cause of this accident is the non observance of the provisions of „Instructions for the staff locomotive activity in railway transport” no.201/2007, article 41-(2), respectively the engine driver did not write in the free pass, orders and movement registry of Vințu de Jos railway station about the running conditions of the locomotive from the station mentioned above until the traction unit for performing the necessary remedies, given that the locomotive damage imposed the running with low speed, according to provision of “Exploitation guide for locomotive type LDH 1250 CP”.

A.2.3 Root cause

There weren't identified root causes of this railway accident.

A.3 Severity level

According to the provisions of the *Regulation*, the event is qualified as railway accident, according to the provisions article 7, paragraph (1), point e.

A.4 Safety recommendations.

The present Investigating Report will be transmitted to the Romanian Railway Safety Authority, public railway infrastructure manager CNCF “CFR” SA and railway freight operator SNTFM “CFR Marfă” SA.

B. INVESTIGATION REPORT

B.1 Summary of the accident

On 21/22.08.2011 the locomotive DHC 321 performed as a shunting locomotive in Station Vințu de Jos. Around 23:00, the driver who was running and operating the locomotive observed that the hydraulic transmission wasn't coupling although the Diesel engine was racing. After the performed checking he observed that the EP valve S9 for the start-up converter of the hydraulic transmission wasn't working. He notified the traction operator from the Regional Center of Brașov Freight about the malfunction and he performed the service in accordance with the provisions „Exploitation advisor”, by screwing up the entire running control screw in the mode “RAIL DAMAGE” on the operating mode “hard”. Around 01:20 the staff change was made, the locomotive will run in hauling mode to Shed Teiuș, on route Vințu de Jos – Coșlariu – Teiuș.

At 05:15, according to disposition RC3 – 25, the locomotive DHC 321 has been dispatched in hauling mode without speed restriction, on signal train 80090 from station Vințu de Jos to station Coșlariu.

Around 05:50, after running about 15 km, in passing through station Bărbănt, the driver who was operating the locomotive felt a smell of smoke and burned isolation and he communicated to the engine of the hauled locomotive to stop the train. After the stopping of the train, at opening the visiting doors of the dynastatrtter, the driver observed the release of smoke with fire in the transmission area.

The locomotive DHC 321 driver stopped the Diesel engine and intervened with the extinguishers for stopping the fire. The fire was burn out around 06:30 with own means and with the help of the hauled locomotive driver.

The IDM from the station Bărbănt has noticed the RC operator and the station chief and he phoned the emergency service number 112.

At 06:14 the contact line II Bărbănt – Sântimbru has been turned off and the contact line related to lines 3-7 from station Bărbănt.

The contact line was put under voltage at 08:35, but at 08:40, the train has been retired in station Bărbănt.

The accident site is located in the area of km 413+650, on the running line II Vințu de Jos-Coșlariu, disposed in transversal profile embankment, straight track and with grade of 1,45% in the running direction.

Current line II Vințu de Jos- Coșlariu is electrified, and the running of the trains is done by automatic line block system. (BLA)

After the accident were not injured persons.



Geographical position of the accident

B.2 Circumstances of the accident

B.2.1 Parties involved

2.1.1 The involved employees belonging to SNTFM “ CFR Marfă” , Transilvania Freight Branch, Teiuș Shed.

2.1.2 The locomotive DHC 321 the property of SNTFM “ CFR Marfă” being maintained by the employees belonging to Section I.R.L.U Dej – SC “ Maintenance and repairs of locomotives and equipment - CFR IRLU” SA Bucuresti.

2.1.3 The railway infrastructure where the accident occurred, belongs to CN CF “CFR” SA and is maintained by the employees of Section L9 Alba Iulia.

2.1.4 The signalling, centralization installations and the interlocking system between Vințu de Jos and Bărbănt railway station are under the management of CNCF “CFR” SA- Regional Center of Operation, Maintenance and Railway Repairs and are maintained by the employees of Section CT3 Alba Iulia.

2.1.5 The installation of railway communications from Bărbănt railway station is under the management of CNCF “CFR” SA and is maintained by the employees of SC TELECOMUNICATII CFR SA.

2.1.6 The power installation and electric traction (IFTE) are under the management of CNCF “CFR” SA and are maintained by the employees of SC ELECTRIFICARE CFR SA.

2.1.7 The installation of railway communications from the involved locomotives is the property of SNTFM “CFR Marfă” and is maintained by the employees of Section IRLU Dej – SC „Maintenance and repairs of locomotives and equipment - CFR IRLU” SA București.

The investigating commission questioned the employees involved in the driving/assisting of the locomotive and took statements from the operator on duty of the Regional Center Braşov, movement inspector on duty in Bărbănt railway station and Vintu de Jos railway station.

B.2.2 The consists and the equipments of the train

The train no.80090 was composed of the hauled locomotive EA 740, locomotive ED 016 (inactive), driving being provided by a complete team, composed of the driver and the driver assistant.

The hauled locomotive and the involved locomotive in the accident belong to SNTFM „ CFR Marfă” SA.

At the involved locomotive in the accident, the safety and vigilance devices (DSV) were functioning, the punctual control installation of the speed and autostop (INDUSI) isolated.

B.2.3 Railway equipment

The involved railway infrastructure, respectively running lines I and II between railway stations Vințu de Jos and Bărbănt, is under the management of CNCF “CFR” SA- Regional Center of Operation, Maintenance and Railway Repairs Braşov and is maintained by the employees of Lines Section no. 9 Alba Iulia.

The line II is in a straight line, built with rail type 65, on reinforced-concrete sleepers T17, with indirect fastening type K, with running speed limit - 70km/h for freight trains and 80 km/h for passengers trains.

Current lines I-II are electrified.

B.2.4 Communication facilities

Communication between the engine drivers and the movement inspectors was ensured through the radiophone installation.

B.3 Accident Consequences

B.3.1 Fatalities and injuries

Following the railway accident there were no injured people and victims.

B.3.2 Material damages

- To the locomotive, according to the estimate
no B.2/2402/2011
of the SC „ CFR – IRLU” SA – Section Dej - 2056,97 lei;
- To the lines - there weren't;
- To the installation - there weren't;
- To the environment - there weren't;
- **Total - 2056, 97 lei**

B.3.3 Consequences of the railway accident in railway traffic

The running line, between Vințu de Jos and Bărbănt railway stations was closed for the railway traffic on line II from 05:50 to 08:40, respectively from the hour of the accident occurrence and until the hour of the withdrawal of train no.80090 in railway station Bărbănt.

Delayed Trains:

Due to the railway accident occurrence train no.80090 had a delay of 220 minutes.

B.4 External circumstances

On 22.08.2011, at the hour of the railway accident occurrence, the visibility was good, clear sky and without wind, and the temperature was of approximately +20°C.

The accident took place in the area of km 413+650 in straight line, on line with rail type 65, on reinforced-concrete sleepers T17, with indirect fastening type K, track with joints, with slope of 1,45%, double electrified line.

The visibility of the colour-light signals was according to the provisions of the regulations in force.

B.5 Investigation course

B.5.1 Brief presentation of the involved staff testimonies

B.5.1.1 Brief presentation of the involved railway staff and manager testimonies

The engine driver who was driving and operating the locomotive DHC 321, on 22.08.2011, in the moment of the accident occurrence, stated the following:

- He received the locomotive (damaged with the hydraulic transmission) in Vințu de Jos railway station in order to accompany it till Teiuș Shed;
- For receiving he performed the necessary checks to the locomotive aggregates, without irregularities, except the hydraulic transmission which has the valve S9 damaged.
- After coupling to signal train no.80090, he released the screw command, he isolated the INDUSI installation and he handled the driver's automatic brake valve KD2 in position III;
- He handled the reversing gear on position „forward” and at the train departure he handled the control switchgroup in position I;
- After the departure from Vințu de Jos railway station he performed a visual inspection at the dynastarter, and he followed the temperatures and the manometers pressures, without irregularities;
- In the area of caution signal from Bărbănt railway station, he noticed the smell of smoke in the driver's cab and he informed the driver of the hauling locomotive to stop the train;
- After stopping the train a fire started, he stopped the Diesel engine and he managed to extinguish the fire with his own extinguishers.
- Mentions that after performing the inspection departing from Vințu de Jos railway station, visiting doors from dynastarter remained open and the fire started in its area.
- Did not establish traffic conditions for the locomotive, running with the speed of approximately 50 km/h, although had to run with maximum speed of 30 km/h.
- Had the obligation to notify the traction operator, that the locomotive runs with reduced speed of up to 30 km/h, but he said he did not answer the phone.
- Of departing from station, after performing the train running air brake test and until the accident occurrence no breakings were made in the train running and the locomotive run having no breaks.

The engine driver, who was driving and operating the locomotive DHC 321, on 21/22.08.2011, in the moment of the accident occurrence, stated the following:

- He received the locomotive in good condition on 21.08.2011, at 18:45 in Vințu de Jos railway station ;
- He performed the shunting in Vințu de Jos railway station and he hauled a train to the company Kronospan, the locomotive was functioning normally.
- After returning from the company Kronospan, at coupling to the train that he was going to haul he noticed that the hydraulic transmission was not coupling although the Diesel engine was racing.
- After he performed the locomotive checking he noticed that S9 valve was not working;
- He notified the traction operator about the fault occurred and for hauling train to the Vințu de Jos railway station proceeded in accordance „Guideline of breakdown repairs” tightening the screw command of the hydraulic transmission;
- Considering that he was going to haul a trainhe used the locomotive on “hard” operating mode the switch for the transmission putting on the “fault” position;
- He was running to Vințu de Jos railway station, the locomotive was functioning normally.
- at around 1:20 he handed the locomotive, by communicating to the driver that was going to accompany her to Teiuș Shed about the noticed fault;
- at the inspection carried out with the driver that received the locomotive ,he did not reveal any irregularities;

Movement inspector on duty in Vințu de Jos railway station, on 21/22.08.2011 stated the following:

- He dispatched the freight train no.80090 at 05:22, being formed of locomotive traction EA 740 and EA 016, 28 wagons and the locomotive DHC 321 in “hailed” condition at the train signal, according to the Disposal RC₃ SIBIU no.25;
- At the visual inspection performed by the movement inspector to the train departure, he did not notice irregularities that endanger the traffic safety.

Movement inspector on duty in Bărbănt railway station, on 21/22.08.2011 stated the following:

- After receiving the passing notice from Alba Iulia station for the freight train no.80090, performed passing route on direct line 3 for passing train from station Alba Iulia to Sântimbru railway station on running line II;
- At the visual inspection performed by the movement inspector to train no.80090 he observed at the locomotive DHC 321 rear of the train a fire that started.
- He contacted the hauling locomotive driver through RTF requiring the stopping of the train;
- He notified the RC operator, the station master and the unique emergency service 112;
- At 06:15 the contact line, line II Bărbănt – Sântimbru has been turned off and the contact line related to lines 3-7 from Bărbănt railway station;
- The fire was burn out around 06:30.

The traction operator on duty at the Regional Center of Braşov Freight, on 21/22.08.2011, stated the following:

- after entering the service, around 20:00, the driver who was operating the DHC 321 locomotive at shunting in Vințu de Jos station, announced he has problems with the locomotive and it must be entered in Teiuş Shed;
- has taken measures to replace the DHC 321 locomotive from Vințu de Jos station, with DA 934 locomotive, which he programmed it to run hailed at train 23570, because it was a lot of shunting to perform.
- After performing the exchanging of locomotives between the drivers, the locomotive DHC 321 was programmed to train no.80090, from Vințu de Jos station;
- The driver of the locomotive DHC 321 has communicated that the locomotive could run with normal speed, hailed at the rear train;

B.5.2 Safety management system

In its tasks and responsibilities, the infrastructure manager CNCF “CFR” SA and the railway freight operator SNTFM “CFR Freight” SA drawn up and implement their own safety management system ensuring the control of the risks associated with the railway operator activity.

B.5.3 Norms and regulation. Sources and references for investigation

At the railway accident investigation the followings were taken into account:

- Minutes concluded on site about the condition of the rolling stock, line and installations;
- photos taken by the investigation commission members immediately after the accident;
- statements of the locomotive team and movement inspector on duty from Bărbănt and Vințu de Jos railway stations;

- minutes prepared by the investigation commission members immediately after the accident;
- documents concerning the maintenance and repair of the locomotive, provided by those responsible for their maintenance;
- examination and interpreting the technical condition the elements involved;
- questionnaires of the exploitation staff involved in rolling stock;
- documents for train running;

B.5.4 Functioning of rolling stock

B.5.4.1 Data found out concerning the locomotive DHC 321

B.5.4.1.1 Resulted data from the checks made by the investigation commission and the staff belonging Secției IRLU and Depoului de Marfă Dej

As a result of checks carried out by the investigation commission, by the repair and exploitation staff of the locomotive, the followings were taken into account:

- the hydraulic transmission shows evidence of excessive heat;
- the electrical control wiring of the hydraulic transmission with overheated insulation;
- overheated EP valve type S9 and S10;
- the electrical wiring from the speed recorder PC1 with traces of heat;
- the sensors for hydraulic transmission with overheated traces;
- damaged supercharged air filters Diesel engine;
- electro pump control Diesel engine and hydraulic transmission shows traces of heat;
- automatic and direct brake of the locomotive in good condition;
- good cleanliness of the locomotive;
- no other irregularities or aggregates damaged by fire.

Thermic influence of fire in the over- supplied air filters area left side of the locomotive



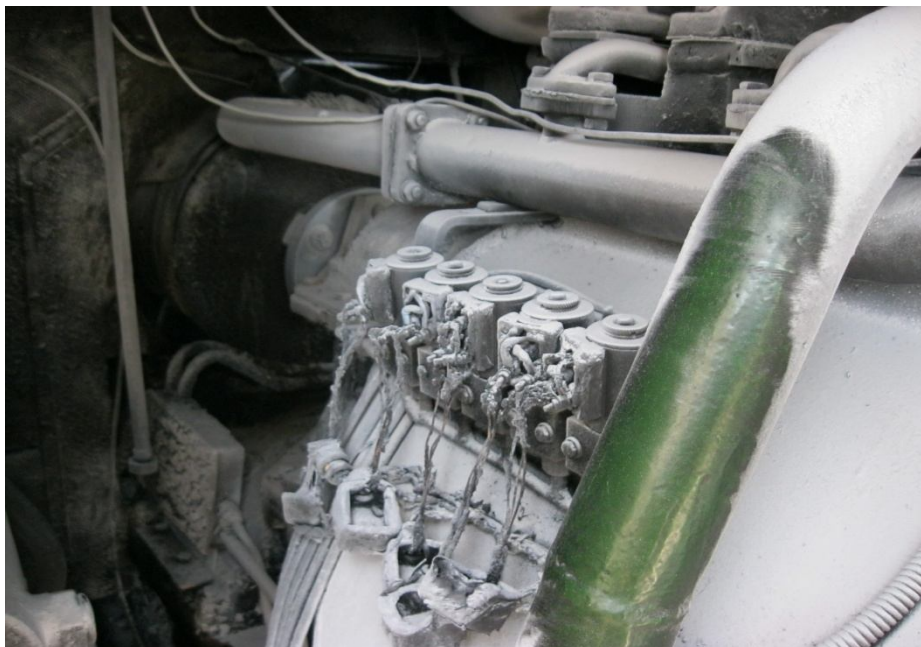
Fire effects on the driver's cabin equipment

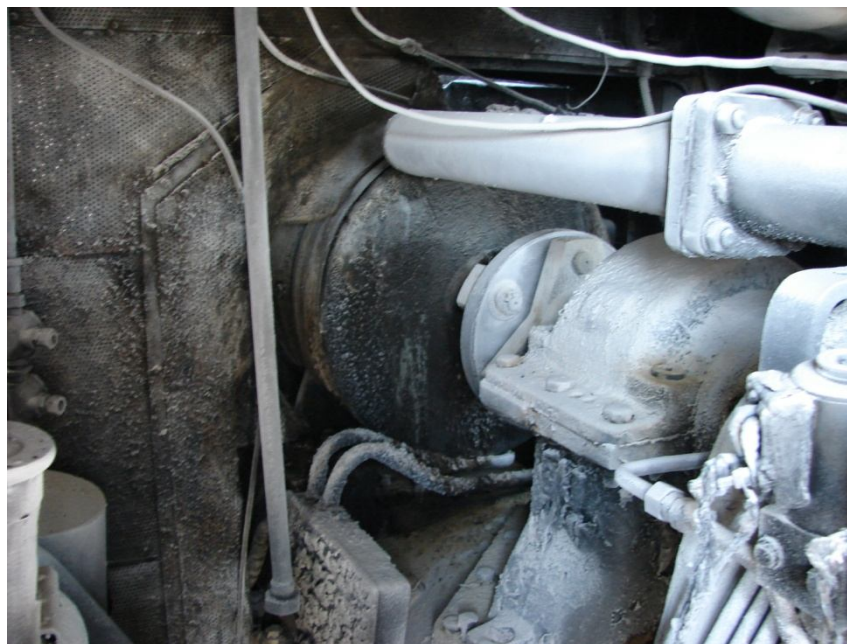


Fire effects on equipment from the TH distribution area and oil gauge



Fire effects on equipment from electro valves S4-S8





5.4.1.2 Resulted data from the document analysis required by the railway operator

- last repair type RR was performed on 19.05.2011 at “Remarul 16 Februarie SA Cluj Napoca”;
- since the repair type RR and until the accident, the locomotive ran a number of 68 148 km;
- last inspection was type „ R1+ CUS” and was performed during 12.08-14.08.2011 at Section Dej belonging to SC „IRLU – CFR „ SA București in accordance with the unified working order no.1458;
- during 14.08 -18.08.2011, the locomotive was stabled in Dej Shed for profiling tyre;
- the locomotive performed shunting operations in Vințu de Jos railway station during 20.08-21/22.08.2011;
- according to the minute no.Rem/26/1942/2011 signed in the Teiuș Shed, in reading the tape speed recorders of the locomotive DHC 321, after putting the train into motion no.80090 at 05:23 (the locomotive running hauled in train composition) and crossing of 15+127 km, at 05:53, the curve speed decreases suddenly from the value of 59 km/h to 0 km/h on a distance of 0+306 km;
- according to the minute no.Rem/26/2165/2011 signed in the Teiuș Shed, in reading the tape speed recorders of the locomotive DHC 321, on the distance from Vințu de Jos – Bărbănt railway stations, out of 15+127 km/h, on a section of 14 km the running speed of the locomotive had values between 30 and 59 km/h;
- according to the minute no.Rem/26/2165/2011 signed in the Teiuș Shed, in reading the tape speed recorders of the locomotive DHC 321, for the service program on 21.08.2011, at 19:37 and until handing the locomotive after damaging the EP valve type S9 on 22.08.2011, the running speed of the locomotive was between 1 and 27 km/h;

- according to the report no.REM/26/1943/2011 signed in the Teiuș Shed, of reading/interpretation of Installation for Fuel Recording – ICL, were revealed the following:
- since 21.08.2011, since 19:35 and until 22.08.2011 at 01:17, the locomotive functioned with Diesel engine in continuous speed between **326 and 612 rot/min**, with a total use of 174,4 kg diesel;
- on 22.08.2011 since 01:17 until 05:51 (time of the fire) the locomotive functioned with Diesel engine in continuous speed between **324 and 470 rot/min**, with a total use of 79,7 kg diesel.

B.6 Analysis and conclusions

B.6.1 Analysis of the production of fire

During the shunting operations with the locomotive DHC 321, the driver who was driving and operating the locomotive noticed that the hydraulic transmission wasn't coupling although the Diesel engine is racing by actioning the control switchgroup. After performing the required checks according to "Guideline exploitation for the locomotive LDH 1250 CP", the driver noticed that the EP valve S9 for the functioning of the hydraulic transmission is damaged on the starter converter, notifying the traction operator from the Regional Center of Brașov Freight about the malfunction and he is performing his duty further (hauling of a train for 7 km), reduction gear on "hard" position, according with the provisions from the Guideline, by tightening the screw comand of the hydraulic transmission and running in the "rail damage" mode.

The T operator ordered the locomotive DHC 321 replacement with another one and moving it in hauled condition to the shed, after the staff is changed.

After changing the staff around 01:30, the locomotive is stopped with the diesel engine running until 03:45, then coupling operation is performed at the signal of the freight train no.80090 that the locomotive is going to run up to Teiuș Shed in hauled condition. During this period and up to the accident, the locomotive functioned with one speed of the Diesel engine between **324 and 470 rot/min** (the minimum idling speed is about 325 rot/min).

After running 15 km, of which 14 km with speed between 30 and 59 km/h, the overheating of the hydraulic transmission occurred, formation of gas, ignition of impurity deposits from the distributor and of the supercharged air filters Diesel engine located on the right side in the running section and overflow oil from hydraulic transmission in distributor area and of oil gauge, the fire is maintained by air currents produced during locomotive movement, running with "small" bonnet (the driving position B) in the front, which is why the electrical wiring for EP S4-S8 valves was affected (the left running section).

During normal functioning of the hydraulic transmission, this transmits power of the Diesel engine to driving axle through the reduction gear, drive shafts and quills drive in the primary part, mechanical energy produced by the diesel engine is carrying away the transmission, turning into kinetic energy, and in secondary side again into mechanical energy.

Supercharging of the hydraulic transmission was performed due to the following factors:

- due to the damaged hydraulic transmission which was not coupling, because of the slow rotating Diesel engine and the high running speed, the movement in the kinematic chain engine – wheels passed in reverse, from axels to engine through the hydraulic transmission, the mechanical energy from the axels turning into kinetic energy;
- the kinetic energy inside the transmission was dissipated by friction in thermal energy, which sent heat to the whole transmission;

B.7 Causes of the accident

B.7.1 Direct cause, factors that contributed

Direct cause of the accident is the excessive heating procedure of the hydraulic transmission, due to exceeding speed limits by operating mode (hydraulic transmission being damaged) on the route Vințu de Jos – Bărbănt (about 15 km), followed by ignition deposits of the oil products from distributor area of the hydraulic transmission and supercharged air filters Diesel engine.

Factors that contributed to the accident occurrence:

- non observance of the provisions of “Exploitation guide for locomotive type LDH 1250 CP” edition 2004, regarding the procedure mode in the damaging cases of the EP valve S9 of the hydraulic transmission (maximum speed is $\frac{1}{2}$ from V_{max} suitable to the selected operation mode and exploitation of the locomotive in the the „ rail damage” on the start convector), respectively the running on a distance about 12 km with higher speeds of 50 km/h, given that the light mode of operation has the maximum authorized speed of 50 km/h, and the heavy mode of operation has the maximum authorized speed of 30 km/h;
- the oil overflow of the hydraulic transmission on the oil gauge due to the excessive overheating and fluidization.

B.7.2 Underlying cause

The underlying cause of this accident is the non observance of the provisions of „Instructions for the staff locomotive activity in railway transport” no.201/2007, article 41-(2), respectively the engine driver did not write in the free pass, orders and movement registry of Vințu de Jos railway station about the running conditions of the locomotive from the station mentioned above until the traction unit for performing the necessary remedies, given that the locomotive damage imposed the running with low speed, according to provision of “Exploitation guide for locomotive type LDH 1250 CP”.

B.7.3 Root cause

There weren't identified root causes of this railway accident.

C. Safety recommendations

The present Investigating Report will be transmitted to the Romanian Railway Safety Authority, public railway infrastructure manager CNCF “CFR” SA and railway freight operator SNTFM “ CFR Marfă” SA.

Investigation commission members:

- Sever PAUL – main investigator
- Vasile SAV - member
- Vasile COTELEA - member