

IZKI-732-61/2009

FINAL REPORT OF FINDINGS
regarding the category A18 serious accident
which occurred at 9:27 on 30.08.2009 at a category 'A' level crossing
at kilometre 80.791 at Łowicz Główny station on line 003
Warsaw Central – Kunowice

drawn up by the railways commission appointed pursuant to § 9(1) and (2) and § 10(1) and (2) of the Regulation of the Minister of Transport of 30 April 2007 (Dziennik Ustaw [Official Journal] No 89 item 593) on serious accidents, accidents and incidents on railway lines, the composition of which was supplemented by the decision of the Chairman of the State Commission on Rail Accident Investigation pursuant to § 10(3) of the above-mentioned Regulation in letter number L.dz.2017/09 of 09.09.2009.

Composition of the Commission:

- | | |
|--------------------|--|
| 1. Andrzej Gniwek | Chairman of Railway Commission
Permanent member of the State Commission on
Rail Accident Investigation, Warsaw |
| 2. Ewa Kaczmarek | Commission member
Movements Controller, Railways Centre,
Warsaw |
| 3. Dariusz Broda | Commission member
Route Controller, Railways Centre, Warsaw |
| 4. Robert Guzek | Commission member
Automation Equipment Instructor, Railways
Centre, Warsaw |
| 5. Ireneusz Waluga | Commission member
Train driver instructor, PCC Rail S.A. |

I. DESCRIPTION OF FACTUAL SITUATION

1. How the accident happened:

Entry onto a category 'A' crossing operated from an secondary signal box, with the gates open, road warning signals functioning and gongs sounding loudly, by a Fiat Brava car, registration number LWN-7034, driven by C (a man), in which a woman and a child were also travelling as passengers, in front of a moving train – a light locomotive, 510150, travelling on the Ponętów – Warsaw Rembertów route. The locomotive, owned by PCC Rail S.A., was travelling on line track 2 from the direction of Jackowice station. Having passed without authorisation through an entry signal showing 'Stop', the driver continued travelling on station track 2.

2. Location of accident:

Line number 003 Warsaw Centralna - Kunowice station track 2 kilometre 80.791 on a category 'A' level crossing intersecting with a public highway – the two-lane municipal street 3-go Maja (province of Łódź).

3. Description of accident:

On 30.08.2009, a road vehicle (Fiat Brava car with registration number LWN-7034, driven by a man) entered onto a category 'A' level crossing at kilometre 80.791 with open crossing gates into the path of train 510150 – a light locomotive, series 311D no 08 belonging to PCC Rail S.A., travelling on track 2 from the direction of Jackowice station on the Ponętów – Warsaw Rembertów route. The locomotive was driven by a train driver from PCC Rail S.A. and was controlled from cab no. '1'. For the train 510150 despatched from Jackowice station at 9:20 in the direction of Łowicz Główny station, no authorising signal had been given at entry signal $K^{1/2}$ operated at the request of the train dispatcher by the signalman at secondary signal box ŁG2 (Annexes 5 and 6). This request was not given because of a decision by the section controller relating to the holding of light engine 510150 and agreement on the route to the destination station, in view of track closures on line 003 track 1 on the Sochaczew – Teresin route. The train dispatcher carried out the controller's request pursuant to section 47, paragraph 4. A change of route for subsequent travel would have meant a change of road through the track layout in the station and the locomotive being directed onto station track 10.

Approaching a entry signal $K^{1/2}$, the driver of light engine 510150 did not establish radiotelephone contact with the train dispatcher at Łowicz Gł. station to find out why this signal was showing 'Stop' (Annex 20), as required by the order in instruction Ir-1 (R-1) § 41(16), point 3 and instruction Ir-5 (R-12) § 14(2) and (3).

Train operation on the Jackowice – Łowicz Główny route were conducted on the basis of a properly-functioning automatic two-way line block system on a

type Eac two-track line. The train driver operating the train 510150 was exceeding the speed limit for this route of 70 km/h and the design speed limit for the locomotive of 100 km/h, passed an entry signal K^{1/2} showing 'Stop' without authorisation and continued travelling on station track two towards the crossing operated from post ŁG2, located at kilometre 80.791, without giving the warning signals 'Attention'.

The first person to notice the fact that the entry signal had been passed was the gatekeeper of the level crossing at km 81.570 (the last crossing on the route in the train's travel direction). When the locomotive had passed, he took steps to notify the train dispatcher at Łowicz Gł. station, but because of the rapid passage of the locomotive (about 20 seconds elapsed from passing entry signal K^{1/2} to hitting the car on the crossing), the telephone report via the dispatcher/crossing post communications system arrived after the accident had occurred. The first person to notice the locomotive travelling in the station was signalman Tadeusz Pacler, who was carrying out his duties at signal box GL2. He commenced immediate closure of the level crossing gates; at the moment the 'Close' button was activated and for 8 seconds thereafter the initial warning for level crossing users was in effect, i.e. activation of warnings on road warning signs (red light flashing and acoustic signal) (Annex 5). Such action taken at the moment of immediate danger provided the best chance of avoiding a collision, as the first thing it did was to warn drivers of road vehicles that it was not permitted to enter onto the level crossing. At the same time the senior signalman was giving manual visual signals indicating 'Stop' from the window of the signal box in the direction of the locomotive cab, which required the driver to stop immediately (Instr. Ie-1) § 11(3). However the train driver did not respond to these signals.

At this time a road vehicle was approaching the level crossing from the right (left side of the moving locomotive). The car driver, seeing that the gates were open, despite the road warning signals that were operating, flashing with an alternating red light and with gongs sounding loudly (preliminary warning), drove onto the crossing without stopping, right in front of the oncoming locomotive – and at this point there was a collision with the train 510150 travelling on track 2.

The recordings on the speedometer tape show that, after leaving Kutno station and having covered 1100 metres of track, when an increase in speed from 23 km/h to 90 km/h over 1650 metres had begun, the locomotive's speed was between 83 and 104 km/h (Annex 30), which means that the train driver did not keep to the speed limit of 70 km/h for this route and on 6 occasions exceeded the design speed of the locomotive of 100 km/h (101 km/h, 102 km/h, 104 km/h, 105 km/h). The impact of the locomotive 510150 with the road vehicle on the level crossing at km 80.791 occurred at a speed of around 64 km/h (Annex 80). After travelling 112 metres, the speed fell to 30 km/h; the train driver did not apply sudden braking (Annex 90). The front of the locomotive stopped at kilometre 80.674.

According to the timetable RJ, order 909553, the foreseen speed for train 510150 was 70 km/h; and on the Jackowice - Łowicz Główny route, 70 km/h (Annex 10).

The platform of the level crossing is made of Mirosław Ujski type reinforced concrete panels and partially of CBP in good condition, and the approach road is asphalted and in good condition.

Route number 2 is made of jointless rail, with UIC60 rails, PS94 concrete sleepers, SB fastenings and chipping ballast in a generally good condition.

Railway employees involved in the accident and other individuals and witnesses:

- driver of the train 510150, locomotive running light, 311D-08, employee of PCC Rail S.A.
- train dispatcher at ŁG signal box, on duty at the time the accident occurred (from 6:00 to 10:00), employee of Łowicz Główny Operations Section, PKP, Railways Centre, Warsaw
- signalman at ŁG signal box, on duty at the time the accident occurred (from 6:00 to 10:00), employee of Łowicz Główny Operations Section, PKP PLP, Railways Centre, Warsaw
- signalman, performing duties of senior signalman at secondary signal box ŁG2, employee of Łowicz Główny Operations Section, PKP PLP, Railways Centre, Warsaw
- signalman, subordinate of senior signalman at secondary signal box ŁG2, additionally operating gate equipment at cat. 'A' crossing km 80.791, employee of Łowicz Główny Operations Section, PKP PLP, Railways Centre, Warsaw
- train dispatcher at ŁG signal box, on duty after the accident had occurred (from 10:00 to 18:00), employee of Łowicz Główny Operations Section, PKP, Railways Centre, Warsaw
- signalman at ŁG signal box, on duty after the accident had occurred (from 10:00 to 18:00),

employee of Łowicz Główny Operations Section,
PKP PLP, Railways Centre, Warsaw

Railway infrastructure:

1. Trackside rail movements control equipment on the two-track electrified Jackowice – Łowicz Główny route, equipped with Eac type automatic two-way line block system. On the day of the accident there were no entries in the documentation at the dispatching ŁG signal box (Annex 6) that might have indicated faulty signs given by signals in the automatic block system for the Jackowice-Łowicz Główny route. This is further borne out by the fact that during the playback of conversations recorded on 30.08.2009 by recording equipment KSRC 206 at Łowicz Gł. station and IRYS F-707 at Jackowice station, no reports were found from the driver of train 510150, nor any reports from drivers of other trains (Annex 12 and 20).

As part of the commission's investigation at the accident site, a check was made on the indication given by signal sbl 836 with W18 indicator, when entry signal $K^{1/2}$ was showing 'Stop' and on the visibility of the entry signal; the Commission's checks excluded any failures (annex 'Report of inspection of the accident site' – Annex 1 and photographic documentation, Annex 43).

2. Station rail movements control equipment at Łowicz Główny station, equipped with an electromechanical block system serving to link the signalman's actions in the area of secondary signal box ŁG2 to the consent of and requests from the train dispatcher at the ŁG control signal box as regards preparing travel roads and issuing authorising signals for trains to pass. Issue of an authorising signal by the signalman at entry signal $K^{1/2}$ for trains travelling on track 2 from the direction of Jackowice is dependent on the train dispatcher blocking the order issue block to this signal, which causes unblocking of the order receiving block in the block apparatus at the secondary signal box. Securing a travel route and issuing by the signalman an authorising signal allowing a train to pass (in this case the issue of an authorising signal at entry signal $K^{1/2}$) is only possible after the crossing has been closed, because the gate equipment is engaged depending on the passage of trains. During the Commission's investigations at the accident site, an attempt was made at signal box ŁG2 to get entry signal $K^{1/2}$ to show 'Road Open' with the crossing gates open, as well as an attempt to get the substitute signal SZ to show on signal $K^{1/2}$ without obtaining an order for SZ from the train dispatcher. These checks confirmed that it was not possible to issue the 'Road Open' signal or the SZ signal (Annex 5).

During the Commission's investigations following the accident, it was confirmed that there was an existing telephone request and application for preparation of a travel route between the dispatching and secondary signal boxes

for down trains on track 2 travelling from the direction of Jackowice. This restriction had been caused by damage to control cable 911 between the ŁG control signal box and the ŁG2 secondary signal box (Annex 2). No restriction had been introduced on operating the station block and train approaches were taking place via authorising signals, while the ongoing restriction obliged the train dispatcher and the signalman to keep a full log of traffic and also required the dispatcher to issue consent on each occasion by telephone for an authorising signal to be sent to entry signal $K^{1/2}$ by the signalman. This in no way alters the fact that a condition for sending this signal was still the prior closure of the crossing gates of the level crossing at km 80.791 by the signalman at box ŁG2 (Annex 5).

On the day of the accident, the Commission also made a list of the events that were recorded at the EAB-7 control panel from the SPR2 equipment at the crossing at km 80.791. Final confirmation of passage before the accident, allowing an authorising signal to be sent to entry signal $K^{1/2}$, took place on the day of the event at 9:23:13 hours, where there was also a later recording of the request 'Open', 'Cancel confirmation' and 'Disengage warning' (Annex 5).

3. Gate equipment at the level crossing at km 80.791, type SPR2, is operated from an EAB-7 control panel. The equipment was functioning normally on the day of the accident and the events recording time was in line with the actual time confirmed by the normal functioning of the signal box clock.

During the Commission's investigation at the accident site, the record of events on the EAB-7 control panel between 9:10:51 and 9:33:49 on 30.08.2009 was noted. Immediately before the accident, at 9:26:59, 'Request for closure' was recorded (at this point the signalman started closing the gates), and at 9:27:01, 'Engage warning' (preliminary warning lasting 8 s was engaged) (Annex 5).

4. Permanent way for track 2 on the Jackowice – Łowicz Gł. route: jointless track 2, laid in 2004, UIC 60 rails, PS 94 concrete sleepers, type SB fastenings, chipping ballast in generally good condition. On the approach to the entry signal from km 82.030 to km 81.406 there is a curve of radius R- 1216m, from km 81.406 to km 81.200 (the location of the entry signal) the track is straight, from km 81.200 to km 80.943 (location of turnout 66 at the station) there is a curve of radius R- 820m. (Annex 42).

5. Information on level crossing at km 80.791: (Annex 60)

a) nature of crossing surface:

- CBP reinforced concrete plates - 4 large pieces, 10 slanting pieces, adequate condition, and Mirosław Ujski plates - 72 pieces, good condition

b) nature of approach road surface

- asphalt, good condition

- c) intersection angle
 - 76 degrees
- d) signalling on track side
 - indicator W6a was located by tracks 1 and 2 at kilometre 81.600
- e) signalling on road side
 - road signs:
 - right side: A9 2 signs, G1-a, G1-b, G1-c, G2 no signs A9 and G-1f on left side of carriageway
 - left side: A9, G1-a, G1-b, G1-c, G2
 - light warnings – two type EHZ33-00 twin-chamber road signalling units on the side from which a road vehicle would approach from the street 3-go Maja
 - acoustic warning (one type EHZ 3307 bell on each side of the crossing)
- f) link (interlinkage) between crossing equipment and station movements control equipment
- g) visibility: from 5 and 10 m 1040m is required, actual 10m
from 20 metres 497m required, actual 10m
- h) last diagnostic test was performed on 31.07.2009; in point 18 it is noted that for track 1, right side, visibility is restricted by the signal box and a container (Annex 1)
- i) mirror at drive 3 intended to make observation of road vehicles approaching from the right-hand side of the crossing easier

Performance of works in the accident vicinity:

On the day of the accident no works were in progress in the accident vicinity.

Course of events to the time of the accident

30.08.2009

In the description of the PIAP-type speedometer there is a lack of correspondence between the recording time and the actual time (the time was confirmed as being about 3 minutes ahead of local time). This time should be deducted from the readings of the PIAP recorder. Following adjustment, the record of events (from last use of SHP [automatic train braking equipment]) is as follows (recording of events from archive in EAB-7 panel at box LG2 as per times in line with actual, registered on the day of the accident):

- 9:28:29 (*according to PIAP recorder*) driver of train number 510150 used SHP, travelled 200 metres, passed the entry signal K¹/₂ at km 81.205, travelled 51 metres along station track, began braking and restricted speed to 91 km/h, then to 64 km/h (Annex 80)
- crossing gatekeeper of level crossing at km 81.570 calls train dispatcher at LG signal box on dispatcher/crossing post link (Annex 14)

- signalman at ŁG2 notices locomotive and starts closing gates; according to the time of recording taken from the events archive of the EAB-7 panel, 'Request for closure' took place at 9:26:59 (Annex 5)
 - according to the time of recording taken from the events archive of the EAB-7 panel, at 9:27:01 the preliminary warning lasting 8 s was engaged (Annex 5)
 - having travelled a further 212 metres along station track 2 towards the crossing, at 9:27 the locomotive collided with a vehicle on the crossing at a speed of about 64 km/h; the locomotive halted at km 80.684 (Annex 80)
 - accident notified by signalman at ŁG2 to train dispatcher
 - train dispatcher summoned to telephone by gatekeeper at km 81.570 crossing and information on accident given
 - according to the time of recording taken from the events archive of the EAB-7 panel, at 9:33:19 there was a 'Request for opening', and at 9:33:32, 'Request for closure' (probably arrival of ambulance) (Annex 5)
- The total travel time for train 510150 from passing entry signal K¹/₂ until it hit the vehicle on the level crossing was about 20 seconds (Annex 80).

Implementation of accident procedures:

Course of events from the time the accident occurred on 30.08.2009

- at 9:27:19 hours the locomotive collided with the car on the crossing (Annex 5 and Annex 30)
- the signalman at signal box ŁG2 notifies the train dispatcher at signal box ŁG of the accident by telephone, then the train dispatcher receives a report from the gatekeeper at crossing 81.570 that a locomotive has passed signal K¹/₂ (Annex 4)
 - at 9:27:30 hours the dispatcher notifies the platform train dispatcher by telephone and issues a request to notify the ambulance and police services and his superiors; he personally notifies the organisation movements controller and the section movements controller (Annex 15)
- at 9:30 hours track 2 on the Łowicz Główny – Jackowice route and track 2 in Łowicz Gł. station are closed (Annex 1)
- at 9:31 hours the Deputy Director for Roads receives a report of the accident
- at 9:32 hours the fire service transmits a resolution that property involved in the rescue action is to be transferred to a Commission member (Annex 7)
- at 9:33 hours the ambulance arrives (Annex 5)
- at 10:00 hours duty is handed over by the train dispatcher and signalman at the ŁG control signal box of their own volition and duty is taken up by train dispatcher and signalman; the train dispatcher and signalman left their post without waiting for the railway commission and official superior to arrive (Annex 1)
- at 11:32 hours the rescue action is completed (Annex 1)

- at 12:05 hours track 2 on the Łowicz Główny – Jackowice route is opened; track 2 in Łowicz Gł. station remains closed due to its occupation by the damaged locomotive of train 510150 (Annex 1)
- at 15:50 hours PIAP recorder 06/193 is removed from locomotive 311D-08 (Annex 25)
- report by PCC Rail S.A. representative concerning the need to use another traction vehicle to move away the damaged locomotive 311D-08 from station track 2
- at 17:30 hours damaged locomotive 311D-08 is moved away
- at 17:35 hours track 2 in Łowicz Gł. station is opened (Annex 1)

External and weather conditions that might have had an impact on the occurrence of the accident:

Daytime, sunshine, no clouds, no precipitation, temperature around 20°C, visibility very good.

Consequences of accident:

List of victims of accident:

a) driver of road vehicle

(accident victim sheet Annex 101)

b) passengers in road vehicle:

- X (accident victim sheet Annex 102)
- Y (incident victim sheets Annex 100)

c) damage to locomotive 311D-08, at cab ‘1’ end, as in Annex 98

d) interruption to train movements on Jackowice – Łowicz Główny route and on Łowicz Główny – Bednary route from 9:30 to 12:05 hours on 30.08.2009

e) closure of track 2 Jackowice – Łowicz Główny
from 9:30 to 12.05 hours on 30.08.2009

f) there were delays to 11 passenger trains by 915 minutes and to one goods train by 81 minutes.

Estimated losses caused by the accident:

PCC RAIL S.A.

Costs associated with damage to locomotive 311D-08 – **sum of PLN 13 291.25 net (Annex 98)**

Costs of operation of locomotive ET 22-651 PKP CARGO S.A. Company
Central Organisation used to tow locomotive 311D-08 – **sum of PLN 1 204.29**
net (Annex 99)

Total losses caused to PCC Rail S.A. – **sum of PLN 14 495.54** net

PKP PLK S.A.

No losses to PKP PLK S.A. were recorded

Description of safety management system of rail operation in relation to type of accident:

The operations management system and monitoring of the operations is implemented using:

- automatic two-way line block system on type Eac two-track line on tracks 1 and 2 on the Jackowice – Łowicz Gł. route
- electromechanical station block in Łowicz Gł. station
- automatic train braking equipment (SHP) and active dead man's handle (CA)
- train radio communications on channel 3
- hard-wired movements communications between announcement posts at Jackowice and Łowicz Główny stations
- hard-wired movements communications between control signal box ŁG and secondary signal box ŁG2 at Łowicz Gł. station
- hard-wired dispatcher/crossing post communications between train dispatchers at announcement posts at Jackowice and Łowicz Główny stations and crossing gatekeeper posts on the Jackowice – Łowicz Główny route at km 81.570 and 85.729.

There is a type MB warning communications telephone installed in the building of signal box ŁG2, but the rules did not require traffic managers to get in touch using the dispatcher/crossing post line (annex no. 45).

Exchange of verbal communiques in connection with accident and documentation from recorders:

Jackowice and Łowicz Główny stations, which fall within the area of the Railways Centre in Warsaw, are not equipped with announcement recorders. Łowicz Główny station (control signal box ŁG) is equipped with a type KSRC 206 radiotelephone message recorder, and Jackowice station (central signal box JC) is equipped with a type IRYS F-707 radiotelephone message recorder. The train communications radiotelephones at these stations and on the locomotive that was involved in the accident were in working order. The equipment enabled conversations to be conducted without problems.

However, no conversations were conducted between the dispatchers at these posts and the driver of the locomotive of train 510150; no recordings.

Technical condition of rolling stock – locomotive 311D-08 involved in the accident

Electric locomotive of type **311D**, year of manufacture/modernisation – 2007, factory **08**, built on the basis of a type M62 locomotive at NEWAG S.A. in Nowy Sącz, **declaration of compliance No 9/W4/11/2007**. The locomotive possesses a **certificate T/2008/0094 giving permission for operation of a 311D rail vehicle and a rail vehicle technical certificate DTL/43/08** valid until 04.12.2001 for a mileage of 400 000 km, starting from 50 516 km. The current reading on the mileometer is 111 779 km. (Annexes 21, 22, 23, 24).

Measures taken to protect and secure the location of the accident:

On receipt of information concerning the accident at the category ‘A’ level crossing at km 80.791 involving train 510150 and when it was known that entry signal K¹/₂ showing ‘Stop’ had been passed, at 9.30 hours the train dispatcher at Łowicz Główny station closed track 2 on the Łowicz Główny - Jackowice route and station track 2 for train movements and suspended all train movements until the arrival of the railway commission (Annex 51).

The accident zone was secured by the Fire Service, the Police and the Railways Protection Service until the rescue operation was completed.

Qualifications and working time of railways employees involved in the accident:

- Driver of train 510150 from PCC RAIL S.A., locomotive 311D-08 from PCC RAIL S.A. Qualifications examination as driver of diesel traction vehicles 646/PCC/06 of 15.07.2006, (Annexes 32 and 34), authorising examination for functions on board a series 311D locomotive of 11.07.2007 (Annex 32), last routine examination dated 21.02.2007 with positive result (Annex 32). Holder of licence to drive diesel rail vehicles 53/PCC/06 of 21.08.2006. Routine updating tests of 27.05.2008 with no contraindications to work as driver of traction vehicles and rolling stock inspector (Annex 33). Last routine training session on 11.08.2008; driver did not take part in routine training session held in October 2008 (Annex 76).

In the national rail routes knowledge files (Annex 72), the last journey on the Ponętów – Kutno – Warsaw Gł. Towarowa was recorded as having been on 27.11.2007. The route knowledge sheet showed no current knowledge of routes travelling between Ponętów station and Warsaw Rembertów station (Annexes 73 and 74).

The accident occurred in the thirteenth hour of work, after 11 hours of rest. The driver had begun work on the day preceding the accident, i.e. on 29.08.2009 at 21.00 hours, at Kwidzyń station (Annex 25), from where he drove freight train 559884 to Ponętów station. From Ponętów station to Warsaw Rembertów he then drove a light locomotive as the train 510150 initiated as per order 909553, telegram IDDER1Bc-2439/09 IDDER5Bc-12921/09 (Annex 10).

His worksheet (Annex 27) shows the following entries: acceptance of locomotive at **Kostrzyń** station at 22:00 hours, departure from **Kostrzyń** station at 22:00 hours (entry corrected to 21:30 hours). PCC Rail S.A. traction dispatchers confirm that the driver reported acceptance of locomotive 311D-08 at Kwidzyń station (Annex 36 and Annex 37).

- Senior train dispatcher at Łowicz Główny station, control signal box ŁG. Qualification examination for the post of train dispatcher on 12.04.1999, authorisation examination for post at ŁG Łowicz Gł. station on 25.05.1999, last routine examination for post of train dispatcher on 27.04.2006, result positive. Routine updating tests on 02.04.2009 with no contraindications for post of train dispatcher, authorisation to perform functions of train dispatcher 645/05 (Annex 63). The accident occurred in his fourth hour of work, after 64 hours of rest; he began work at 6:00 hours (Annex 49). Possesses knowledge of RTS at Łowicz Gł. station, confirmed by signature dated 18.04.2009 (Annex 48). Last routine training session on 01.06.2009 (Annex 69).

- Senior signalman at Łowicz Główny station, control signal box ŁG. Qualification examination for the post of signalman on 25.07.1991, authorisation examination for post at ŁG Łowicz Gł. station on 24.01.1992, last routine examination for post of signalman on 29.06.2006, result positive. Routine updating tests on 06.11.2007 with no contraindications for post of signalman, authorisation to perform functions of signalman number 746/05 (Annex 64). The accident occurred in his fourth hour of work, after 36 hours of rest; he began work at 6:00 hours (Annex 49). Possesses knowledge of RTS at Łowicz Gł. station, confirmed by signature dated 20.04.2009 (Annex 48). Last routine training session on 24.02.2009 (Annex 70).

- Senior signalman at Łowicz Główny station, control signal box ŁG2. Qualification examination for the post of signalman on 26.03.1986, authorisation examination for post at ŁG2 Łowicz Gł. station on 28.06.2006, last routine examination for post of signalman on 29.06.2006, result positive. Routine updating tests on 06.03.2008 with no contraindications for post of signalman, authorisation to perform functions of signalman number 755/05 (Annex 65). The accident occurred in his fourth hour of work, after 48 hours of rest; he began work at 6:00 hours (Annex 57). Possesses knowledge of RTS at Łowicz Gł. station, confirmed by signature dated 27.04.2009 (Annex 48) and knowledge of Operating Rules for the crossing at km 80.791, confirmed by

signature dated 10.03.2006 (Annex 58). Last routine training session on 25.02.2009 (Annex 70).

On the day of the accident he was performing the duties of senior signalman.

- Senior signalman at Łowicz Główny station, control signal box ŁG2. Qualification examination for the post of signalman on 04.12.1982, qualification examination for post of crossing gateman on 17.06.2005, authorisation examination for post at ŁG2 Łowicz Gł. station on 16.10.1998, authorisation examination for operation of crossing at km 80.491 on 31.05.1999, last routine examination for post of signalman on 29.06.2006, result positive. Routine updating tests on 23.10.2008 with no contraindications for post of signalman, authorisation to perform functions of signalman number 747/05 (Annex 66), traffic movements management certificate 664/2009 valid until 09.03.2011. The accident occurred in his fourth hour of work, after 12 hours of rest; he began work at 6:00 hours (Annex 57). Possesses knowledge of RTS at Łowicz Gł. station, confirmed by signature dated 24.04.2009 (Annex 48) and knowledge of Operating Rules for the level crossing at km 80.791, confirmed by signature dated 08.03.2006 (Annex 58). Last routine training session on 26.02.2009 (Annex 70). On the day of the accident he was performing the duties of junior signalman and was operating the level crossing.

- Senior train dispatcher at Łowicz Główny station, control signal box ŁG. Qualification examination for the post of train dispatcher on 22.01.1987, authorisation examination for post at ŁG Łowicz Gł. station on 20.01.2003, last routine examination for post of train dispatcher on 26.04.2006, result positive. Routine updating tests on 22.01.2009 with no contraindications for post of train dispatcher, authorisation to perform functions of train dispatcher 648/05 (Annex 67). On the day of the accident he came on duty at 10:00 hours, after 16 hours of rest (Annex 49). Possesses knowledge of RTS at Łowicz Gł. station, confirmed by signature dated 19.04.2009 (Annex 48). Last routine training session on 04.06.2009 (Annex 69).

- Senior signalman at Łowicz Główny station, control signal box ŁG. Qualification examination for the post of signalman on 04.08.1986, authorisation examination for post at ŁG2 Łowicz Gł. station on 09.07.2008, last routine examination for post of signalman on 29.06.2006, result positive. Routine updating tests on 08.07.2008 with no contraindications for post of signalman, authorisation to perform functions of signalman number 762/05 (Annex 68). On the day of the accident he came on duty at 10:00 hours, after 16 hours of rest (Annex 49). Possesses knowledge of RTS at Łowicz Gł. station, confirmed by signature dated 24.04.2009 (Annex 49). Last routine training session on 23.02.2009 (Annex 70).

Mental and physical state of employees having an impact on the occurrence of the accident:

On the basis of the documents in their possession, the Commission found that the employees involved in the accident held valid medical certificates confirming their capacity to work in the posts occupied.

The District Police HQ in Łowicz carried out sobriety tests on the railway employees connected with the accident, with the following findings:

- Driver of train 510150, PCC Rail S.A. – 0.3 ‰ (0.14 mg/dm³ (Annex 93); arrested by the District Police HQ in Łowicz on the day of the accident.
- Driver of road vehicle - 0.00 ‰ (Annex 92)
- Senior train dispatcher – 0.00 ‰ (Annex 92)
- Senior signalman – 0.00 ‰ (Annex 92)
- Senior signalman – 0.00 ‰ (Annex 94)
- Senior signalman – 0.00 ‰ (Annex 94)
- Senior train dispatcher – 0.00 ‰ (Annex 105)
- Senior signalman – 0.00 ‰ (Annex 105)

Ambient and ergonomic workplace conditions:

Ambient and ergonomic conditions could have had a causal link to the accident. On 16.09.2009 the railway commission made a local visit to the area of signal box ŁG2 at Łowicz Główny station, which confirmed the following (Annexes 39 and 39a):

- conditions in the area restrict the visibility of approaching road vehicles from the window of the signal box
- good observation is not guaranteed by the 90 cm diameter mirror situated at drive 3
- visibility of rail vehicles approaching from the Kutno direction is restricted by the EMU sets standing on siding 51
- use of the emergency crossing closure key is envisaged in a situation where the closure buttons are damaged, but not when there is a need to close the crossing immediately, and in view of the mandatory procedure requiring consent from the train dispatcher, confirmed by extracts from the documentation, this does not guarantee rapidity of action in closing the gates
- as it is not possible to open window on crossing side (non-openable window), this prevents road vehicle drivers being given verbal orders by the gate operator
- an MB (local battery) telephone has been installed in the signal box building which is connected to the dispatcher/crossing post communications line, but the crossing operating rules do not include a requirement to make use of this line.

Description of interviews held

- 1.** The train dispatcher at control signal box ŁG, on morning shift on 30.08.2009 until 10:00 hours, in his explanation stated that there had been agreement with the section movements controller regarding the subsequent route and the halting of the locomotive of train 510150 at entry signal K¹/₂ at Łowicz GŁ station. As regards preparing the travel road and the need to give an authorising signal, he did not issue any orders to the senior signalman at signal box ŁG2. He observed locomotive 510150 after it had stopped in the station at the level of the pedestrian footbridge. He received notification of the accident on the crossing from the signalman at secondary signal box ŁG2. He made further notifications as required. At 10:00 hours, he handed over duty to train dispatcher, with justification that he felt unwell, and left the post of his own volition (Annex 15).
- 2.** Signalman at control signal box ŁG, on morning shift on 30.08.2009 until 10:00 hours, in his explanation stated that at the time the accident occurred on the level crossing he was present in the signal box. He found out about the accident from the train dispatcher. He agreed to hand over duty by telephone with signalman, with justification that he felt unwell. At 10:00 hours he left the post of his own volition (Annexes 16 and 89).
- 3.** Signalman at secondary signal box ŁG2 on morning shift on 30.08.2009 as senior signalman, in his explanation stated that directly prior to the accident no train movement or shunting was taking place. The train dispatcher also did not report any such movements. While the junior signalman was closing the gates, he also tried to halt the moving locomotive by giving 'Stop' signals, to which the train driver did not react. He notified the train dispatcher of the accident that had occurred (Annexes 4 and 88).
- 4.** Signalman at secondary signal box ŁG2 on morning shift on 30.08.2009 as junior signalman, in his explanation stated that he was the first to notice the approaching locomotive and immediately set about closing the gates. He saw that at the moment when the preliminary warning came on, road vehicles were still driving onto the level crossing. He also tried to halt the moving locomotive by giving 'Stop' signals, to which the train driver did not react (Annexes 5a and 84).
- 5.** Gatekeeper of level crossing on morning shift on 30.08.2009 at cat. 'A' level crossing km 81.570 stated that, in his opinion the speed at which the locomotive was moving was too big. He did not open the level crossing gates but immediately took steps to notify the train dispatcher, as he could see that the entry signal was showing 'Stop'. But his report arrived just after the accident had occurred (Annex 14).
- 6.** Train dispatcher at control signal box ŁG on morning shift on 30.08.2009 from 10:00 hours, in his explanation stated that he had learned of the accident at the crossing on his arrival at control signal box ŁG. The train dispatcher had

informed him of the circumstances of the accident, handed over duty and left the post (Annex 87).

7. Signalman on morning shift at control signal box ŁG on 30.08.2009 from 10:00 hours, in his explanation stated that he had been asked to make the change by telephone by the signalman, who had informed him that he could not remain on duty, because there had been an accident at the crossing and he was very upset (Annex 87).

8. The driver of locomotive 311D-08 stated that on 29.08.2009, i.e. the day before the accident occurred, he had consumed alcohol. While travelling with train 510150 travelling light from Ponętów station he had not felt tired. He had a working radiotelephone on the locomotive. He stated that he had very rarely driven on that route in the past. He admitted that he had been moving at a speed of around 100 km/h on the section from Kutno to Łowicz. In his opinion, the last signal in the automatic block had been showing 'a green flashing light', and the entry signal had been showing 'one amber light'. Seeing the car driving onto the level crossing and the open barriers, he had not applied the main brake. He braked using the supplementary brake; he stated that at the time of braking the locomotive was not sanding (Annex 90).

State of buildings and equipment intended for the operation of rail movements:

II. ANALYSIS AND CONCLUSIONS

Reference to earlier accidents that occurred under similar circumstances:

There had not been any accidents at this level crossing in the last 5 years.

Analysis of material from investigations, local visits and interviews and establishment of the actual state of affairs:

On the basis of documents secured, photographs taken at the accident site, records of interviews of individuals involved in the accident, records of equipment tests and analysis of the speedometer tape, the commission established the following:

1. On 30.08.2009 a road vehicle, a Fiat Brava car, drove onto the category 'A' level crossing at km 81.791 with the gates open, in front of a train number 510150 travelling along track 2 from the direction of Jackowice station on the route from Ponętów to Warsaw Rembertów, namely PCC Rail S.A. light locomotive 311D – 08 being driven from cab '1' by a PCC Rail S.A. train driver.

- 2.** The road vehicle, a Fiat Brava car, entered from the right side of the crossing, from the left side of the moving train, and drove onto the level crossing without stopping.
- 3.** Train movements on the Jackowice – Łowicz Główny route were being conducted on the basis of a properly-functioning two-way automatic line block on a two-track line. The driver of train 510150 did not obey the correct indication given by automatic block signal 836 with indicator W18, passed entry signal $K^{1/2}$ showing ‘Stop’ without authorisation and continued on into the station. He thus breached the provisions of the mandatory instructions; Ir-1 § 63(7) and (9) and Ie-1 section II § 3(13) point 1 and point 5 and PMt-1 § 17(9).
- 4.** Approaching entry signal $K^{1/2}$, the driver of light locomotive 510150 did not enter into radiotelephone communication with the train dispatcher at Łowicz Gł. station to find out why this signal was showing ‘Stop’, as he should have according to instruction Ir-1 (R-1) § 41(16) point 3 and instruction Ir-5 (R-12) § 14(2) and (3).
- 5.** The scheduled speed for train 510150 on the Jackowice – Łowicz Gł. route according to the KWR (shortened schedule) was 70 km/h. The speed of the locomotive on the Jackowice - Łowicz Gł. route was between 83 and 104 km/h, which means that the driver did not at any time keep to the scheduled speed of 70 km/h on this route, and on 6 occasions exceeded the design speed of the locomotive of 100 km/h (101 km/h, 102 km/h, 104 km/h, 105 km/h). He thus breached the provisions of the mandatory instructions; Ir-1 § 63(3), § 62(2) and PMt-1 § 17 (2) point 4.
- 6.** Continuing to enter the station, the driver did not give any ‘Attention’ signals at the level of the indicators W6a or on approach to the level crossing, seeing road vehicles going across. He also did not react to the manual signals given from signal box ŁG2 by the senior signalman. He thus breached the provisions of the mandatory instructions; Ie-1 section III § 16(12) point 7, Ir-1 § 63(1) point 3 c) and PMt-1 § 17(2) point 1 and § 18(1) point 12.
- 7.** Approaching the level crossing with open gates, the train driver did not take any firm steps to limit the speed of train 510150 which he was driving; at the time of impact with the road vehicle, this speed was 64 km/h. The excessive speed of the moving locomotive and the ineffective action taken by the driver at the moment of danger, i.e. braking using the supplementary brake and failure to apply sanding, caused an extension of the braking distance and meant that an accident could not have been avoided. He thus breached the provisions of the mandatory instructions; Ir-1 § 83(22).

8. The Commission clearly established that the type SPR2 warning signals at the category A level crossing at km 81.791, operated from signal box LG2, were functioning correctly. The driver of the Fiat Brava car drove onto the level crossing with the gates open and road warning lights operating and loud gongs ringing. The driver of the road vehicle thus committed a breach of the provisions of the Road Traffic Act Articles 28.1 and 28.2.

9. It was established that the signalman operating the level crossing was in the signal box and, in proceeding to close the gates immediately, took the right actions to prevent an accident. In the Commission's assessment, the attempt by the senior signalman to halt the locomotive by giving manual 'Stop' signals was also a correct action and the only one possible in a situation of sudden danger because of the excessive speed of the moving locomotive and its close distance from the level crossing.

The Commission found no improprieties in the proceedings of the signalmen from secondary signal box LG2.

Determining the cause of the accident and the category of the accident:

Primary:

The driver of the locomotive of train 510150 passed the entry signal K¹/₂ showing 'Stop' and entered the station without the permission required by the provisions of the instructions on the running of train movements Ir-1(R-1) and the railways signalling instructions Ie-1(E-1).

Direct:

A direct cause of the serious accident was the failure by the driver of the road vehicle to exercise special caution when approaching a level crossing (Article 28.1 and 28.2 of the Road Traffic Act) and entering onto the crossing with light and acoustic signalling operating, directly in front of an oncoming light locomotive – train 510150.

A direct cause of the serious accident was the entry without authorisation of a railway vehicle onto the level crossing with gates open.

Indirect:

Exceeding the permitted speed, incorrect assessment of situation and delayed reaction of the train driver when he saw road vehicles going across the crossing because of:

- alcohol consumption
- exceeding permitted working hours.

Other causes:

Systemic:

Other identified failings with no direct causal link to the occurrence of the accident:

1. Failings in entries in technical and movements documentation at the LG post

- In movements log R146 for the route 'from and to Jackowice' (Annex 51), the train dispatcher had made an entry on 30.08.2008 (day shift) in column 2 for down trains in the wrong sequence; instead of 7110, 7118, 510150 he had written: 7110, 510150, 7118 (a comparison was made with R146 for Jackowice station), which is inconsistent with instructions Ir-1 (R-1) § 36(5).
- He had transposed (R 146 as above) one digit in the number of train 510150, which is inconsistent with instructions Ir-1 (R-1) § 7(13).
- In movements log R142 (left-hand side) (Annex 53) he had failed to make an entry for 30.08.2009 (day shift) in column 1 for train 7110 and 7118, which is inconsistent with instructions Ir-1(R-1) § 48(2).
- In movements log R142 (as above, left-hand side) (Annex 53) he had failed to make an entry for 30.08.2009 (day shift) in column 6 and 7 of the minutes when entering times for all trains logged; this is inconsistent with instructions Ir-1 (R-1) annex no. 2 to § 48. Furthermore, passing trains were first entered on a sheet. He explained this procedure by saying that he was eating his breakfast and did not want to mess up the log books.

2. Failings in entries in train documentation

- In the on-board log part II for powered rail vehicle on 29.08.2009, the train driver had made an inadmissible transposition of the hour stating the time of acceptance of the locomotive (Annex 25)
- In the on-board log part II for powered rail vehicle at 19:00 on 28.8.2009 and at 21:00 on 29/08/2009, he failed to make an entry stating the value of 'ON' when the locomotive was handed over (Annex 25)
- In the worksheet for traction team and traction vehicle 'Itinerary no. 1621', the train driver had made an entry stating that he had begun work at 22:00 hours on 29.08.2009 at Kostrzyń station (instead of Kwidzyń); in part 'A' 'Work of traction vehicle' in the column 'Departure' the time of departure from Kostrzyń station (which should have been Kwidzyń) and the time of arrival at Iłów station had been transposed in an inadmissible way (Annex 27)
- The name of the station where the locomotive 311D-08 had been accepted - KOSTRZYŃ as entered by the train driver on the worksheet - did not match the locomotive acceptance entry in the on-board log, where the station name KWIDZYŃ had been entered (Annex 27)

3. Failings relating to lack of confirmation of route knowledge by driver and lack of printout of shortened trains schedule

The driver of train 510150 on the Ponętów – Warsaw Rembertów route was not in possession of a printout of a KWR – an shortened train schedule – which is absolutely binding upon him whilst driving, failed to keep to the scheduled speed and exceeded the design speed of the locomotive on 6 occasions. He also was not in possession of current route knowledge for this section. In a photocopy of the route knowledge sheet for 2009 that was provided (for a period going back 6 months) there was no entry for travel on the Ponętów – Kutno – Warsaw Główna Towarowa section, which points to a lack of knowledge by the train driver of this section. In this respect the train driver had failed to take the steps laid down by the provisions of instructions Ir-1 § 16(1), (2) and (3) and instructions PMt-1 § 11(3) and (4).

4. Failings relating to required train driver rest time before commencing work

As regards the lack of the required rest time for the train driver prior to commencing work on locomotive 311D-08 on 29.08.2009 that was identified, the carrier, PCC RAIL S.A., instigated separate investigatory proceedings. Interviews were held on this subject with traction controllers (Annex 36) and (Annex 37). From the train driver work schedule for the month of August that was provided by the carrier PCC RAIL S.A. (Annex 37a), it may be seen that the required rest times had been provided for in the planned work time.

5. Failings relating to abandonment of duty by the staff of the ŁG post at Łowicz Gł. station following the accident

At the request of IZ Warsaw, investigatory proceedings were instigated on a separate basis by ISE at Łowicz Główny into the circumstances of the wilful abandonment of the day shift at 10:00 hours on 30.08.2009 and quitting of the workplace by the train dispatcher and signalman at control signal box ŁG.

6. Failings relating to the current status of the dispatcher/crossing post communications system

During the investigatory proceedings carried out by the railways commission following the accident, it was found that a dispatcher/crossing post communications telephone had been installed at secondary signal box ŁG2. In the operating rules for the crossing at km 81.791 (Annex 45), which was operated from this post, and with which the employees at signal box ŁG2 had been familiarised, the fact that this telephone was included in the dispatcher/crossing post communications system was not stated. The need to close the gates because of a moving train arose from the orders given by the train dispatcher as part of the preparation of the road, which were sent by telephone via the hard-wired announcements communications system. Closure of the crossing was one of the components of the preparation of the road and at

the same time a condition for the issue of authorising indications for showing at home and starting signals.

An entry of this nature was not provided for in the operating rules for the level crossing at km 81.570 on the Jackowice - Łowicz Główny route. The gatekeeper at this level crossing did not know that it was possible to talk to signal box ŁG2 on a dispatcher/crossing post communications line (Annex 46).

The required entry stating that a dispatcher/crossing post communications telephone had been installed at post ŁG2 had been made in the register for the crossing at km 81.791 (Annex 40), but the register is kept in the section office.

7. Failings in workplace organisation

- the window did not open in the signal box building on the level crossing side
- the mirror installed at drive 3 for observation of approaching road vehicles was too small.

8. Failings in level crossing markings

- lack of road signs A-9 and G-1f – right-hand side of level crossing, left-hand side of street.

Accident category:

The Commission allocated the accident to category **A 18**.

Conclusions and recommendations:

1. IZ Warsaw shall take steps to eliminate the failings covered by the item 'Other identified failings with no direct causal link to the occurrence of the accident' in points 1, 5, 6, 7 and 8.
2. PCC Rail S.A. shall take steps to eliminate the failings covered by the item 'Other identified failings with no direct causal link to the occurrence of the accident' in points 2, 3 and 4.
3. PCC Rail S.A. shall draw up a post-accident bulletin and draw the attention of drivers to it. The bulletin should be sent to PKBWK i UTK Warsaw.

Railways Commission:

4. IZ Warsaw shall make an entry in the Operating Rules for the level crossing at km 80.791 governing the question of immediate use of the key to close the gates in a situation where there is a hazard to traffic without the need to seek permission from the train dispatcher and make written entries. It will also analyse the location where the key should be kept to ensure ease of access.

Chairman

Andrzej Gniwek

date.....

Members:	Ewa Kaczmarek	date.....
	Dariusz Broda	date.....
	Robert Guzek	date.....
	Ireneusz Waluga	date.....

IZKI-732-61/2009r

**SUPPLEMENTARY REPORT TO FINAL REPORT OF FINDINGS
concerning the category A18 serious accident
which occurred on 30.08.2009 at 9:27 hours on the Category ‘A’ level
crossing at kilometre 80.791 at Łowicz Główny station on line 003
Warsaw Central – Kunowice.**

drawn up by a railways commission appointed pursuant to § 9(1) and (2) and § 10(1) and (2) of the Regulation of the Minister of Transport of 30 April 2007 (Dz. U. [Journal of Laws] No 89 item 593) on serious accidents, accidents and incidents on railway lines, the composition of which was supplemented by the decision of the Chairman of the State Commission for the Investigation of Railway Accidents pursuant to § 10(3) of the above-mentioned Regulation in letter number L.dz.2017/09 of 09.09.2009.

Composition of Commission:

- | | |
|--------------------|--|
| 1. Andrzej Gniwek | Chairman of Railway Commission
Permanent member of the State Commission on
Rail Accident Investigation, Warsaw |
| 2. Ewa Kaczmarek | Commission member
Movements Controller, Railways Centre,
Warsaw |
| 3. Dariusz Broda | Commission member
Route Controller, Railways Centre, Warsaw |
| 4. Robert Guzek | Commission member
Automation Equipment Instructor, Railways
Centre, Warsaw |
| 5. Ireneusz Waluga | Commission member
Engine Driver/Instructor, PCC Rail S.A. |

The content of the report on concluding findings regarding how the accident happened shall be verified. Following the performance of theoretical calculations (lack of correspondence between times shown on the locomotive's PIAP recorder and the EAB 7 control panel in the signal box building), the following wording has been adopted for the sections 'Course of events to the time of the accident' and 'Course of events from the time of occurrence of the accident'

Course of events to the time of the accident

30.08.2009

In the description of the PIAP-type speedometer there is a lack of correspondence between the recording time and the actual time (the time was confirmed as being about 3 minutes ahead of local time). This time should be deducted from the readings of the PIAP recorder. After the adjustment, the record of events (from last use of SHP [automatic train braking equipment]) is as follows (recording of events from archive in EAB-7 panel at box LG2 as per times in line with actual, registered on the day of the accident):

- 9:28:29 (*according to PIAP recorder*) driver of train number 510150 used SHP, travelled 200 metres, passed entry signal K¹/₂ at km 81.205, travelled 51 metres along station track, began braking and restricted speed to 91 km/h, then to 64 km/h (Annex 80)
- gatekeeper of level crossing at km 81.570 calls train dispatcher at LG signal box on dispatcher/crossing post line (Annex 14)
- signalman at LG2 notices locomotive and starts closing gates; according to the time of recording taken from the events archive of the EAB-7 panel, 'Request for closure' took place at 9:26:59 (Annex 5)
- according to the time of recording taken from the events archive of the EAB-7 panel, at 9:27:01 the preliminary warning lasting 8 s was engaged (Annex 5)
- having travelled a further 212 metres along station track 2 towards the crossing at a speed of about 64 km/h, at a time of about 4 s (half the warning cycle) the locomotive collided with a vehicle on the level crossing at 9:27:05; the locomotive halted at km 80.684 (Annex 80). The time of the collision between locomotive and car has been established theoretically on the basis of locomotive speed recordings from the PIAP recorder.
- when 4 s had elapsed from the moment of the collision, closure of the gates commenced, up to and including closure
- notification by signalman at LG2 to train dispatcher of accident
- train dispatcher summoned to telephone by gatekeeper at km 81570 level crossing and information on accident given

- according to the time of recording taken from the events archive of the EAB-7 panel, at 9:33:19 there was a 'Request for opening', and at 9:33:32, a 'Request for closure' (probably arrival of ambulance) (Annex 5)

The total travel time for train 510150 from passing entry signal K¹/₂ until it hit the vehicle on the level crossing was about 20 seconds (Annex 80).

Implementation of accident procedures:

Course of events from the time the accident occurred on 30.08.2009.

- at 9:27:05 hours the locomotive collided with the car on the level crossing (Annex 5 and Annex 30)
- the signalman at signal box ŁG2 notifies the train dispatcher at signal box ŁG of the accident by telephone, then the train dispatcher receives a report from the gatekeeper of level crossing 81.570 that a locomotive has passed signal K¹/₂ (Annex 4)
- at 9:27:30 hours the dispatcher notifies the platform train dispatcher by telephone and issues a request to notify the ambulance and police services and his superiors; he personally notifies the organisation movements controller and the section movements controller (Annex 15)
- at 9:30 hours track 2 on the Łowicz Główny – Jackowice route and track 2 in Łowicz Gł. station are closed (Annex 1)
- at 9:31 hours the Deputy Director for Roads receives a report of the accident
- at 9:32 hours the fire service transmits a resolution that property involved in the rescue action is to be transferred to Commission member Ewa Kaczmarek (Annex 7)
- at 9:33 hours the ambulance arrives (Annex 5)
- at 10:00 hours duty is handed over by the train dispatcher and signalman at the ŁG control signal box of their own volition and duty is taken up by train dispatcher and signalman; the train dispatcher and signalman left their post without waiting for the railway commission and official superior to arrive (Annex 1)
- at 11:32 hours the rescue action is completed (Annex 1)
- at 12:05 hours track 2 on the Łowicz Główny – Jackowice route is opened; track 2 in Łowicz Gł. station remains closed due to its occupation by the damaged locomotive of train 510150 (Annex 1)
- at 15:50 hours removal of PIAP recorder 06/193 from locomotive 311D-08 (Annex 25)
- report by PCC Rail S.A. representative of need to use another traction vehicle to tow the damaged locomotive 311D-08 from station track 2
- at 17:30 hours damaged locomotive 311D-08 is towed away
- at 17:35 hours track 2 in Łowicz Gł. station is opened (Annex 1).

Chairman	Andrzej Gniwek	date.....
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Members:	Ewa Kaczmarek	date.....
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Dariusz Broda	date.....
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Robert Guzek	date.....
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Ireneusz Waluga	date.....
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