### REPORT No. PKBWK 02/2021 (excerpt)

### from an investigation of a serious A20 category accident that occurred on 21 October 2020 at 12:52 PM on the Rokiciny - Baby route, track no. 2, C category level crossing, at km 120,779, railway line no. 1, Warsaw West - Katowice, area of the infrastructure administrator PKP Polskie Linie Kolejowe S.A., Railway Line Facility in Łódź

### A brief description of the incident, the place and time of the major accident, and its consequences

On 21 October 2020, at 12:52 PM, during the journey of the MPE71106 fast passenger train of the carrier PKP Intercity S.A. on the Zielona Góra - Warsaw East route, at the c category level crossing located at km 120.779 of the railway line no. 1 on the Rokiciny - Baby route, a passenger car Volkswagen Passat drove in front of the said train and, as a result, the EP07-411 series electric locomotive crashed into the front part of the car at the train speed equal to 118 km/h.

The driver of the passenger car did not stop the vehicle before the level crossing, despite the fact that the S1 signaling device of the automatic crossing system (ACS) was alternately emitting a red flashing light forbidding entrance into the crossing and despite the B-20 “Stop” sign, crossed track no. 1, and then drove straight in front of the train moving on track no. 2. The collision resulted in the death on the spot of the driver and the passenger of the car. The crash into the car caused it to be suspended on the buffers and to tear off the locomotive scraper, which got under the first wheelset and caused derailment of the locomotive with that wheelset to the right side in the direction of travel. The locomotive moved with the first wheelset derailed until it stopped. As a result of the impact, the buffers of the locomotive penetrated into the passenger car causing the vehicles to become jammed. In this position, the car was pushed until the locomotive stopped. The front of the train stopped at km 120.282, i.e. 497 meters from the centerline of the crossing. The driver of the train immediately used the “Radio-stop” and reported the accident to the train dispatchers of the Rokiciny and Baby stations, and informed them that both tracks of the railway line had to be closed. The serious accident resulted in two fatalities and material losses, i.e. total destruction of the passenger car, damage to the EP07-411 locomotive, and damage to railway infrastructure.

### Direct cause:

The passenger car, Volkswagen Passat entering the C category level crossing directly in front of the approaching MPE71106 passenger train.

### Root cause:

An intoxicated driver (blood ethanol content - 3.92 per mille) driving the passenger car.

### Indirect causes:

1. Failure to exercise extreme caution and failure of the driver to ensure, before entering the level crossing, that a train is not approaching.

2. The car entering the crossing despite the alternating flashing red light emitted by the signaling device of the Automated Crossing System (ACS), which prohibited entry into the crossing.

3. Failure of the car driver to respect the B20 “STOP” sign before entering the level crossing.

4. Failure of the car driver to react to the Rp1 “Attention” signal given by the driver of the train no MPE71106.

### Systemic causes:

Not stated.

### RECOMMENDATIONS TO PREVENT SUCH ACCIDENTS IN THE FUTURE OR LIMIT THEIR CONSEQUENCES

1. The District Roads Authority in Tomaszów Mazowiecki will add the F-6a road sign on the road approaching the county road no. 4321E (access road to the crossing) on the left side of the level crossing at km 120.779 of the railway line no. 1.
2. The District Roads Authority in Tomaszów Mazowiecki will take actions to ensure that all irregularities reported by the infrastructure administrator PKP Polskie Linie Kolejowe S.A. resulting from inspections and diagnostic tests of level crossings carried out by the infrastructure administrator PKP PLK S.A. are eliminated immediately.
3. The District Roads Authority in Tomaszów Mazowiecki will remove the B-20 signs at the level crossing at km 120.779 of the railway line no. 1 and at other crossings of cat. C located within the roads managed by it in agreement with the railway infrastructure administrator in accordance with the Regulation of the Minister of Infrastructure and Development, currently in force, issued on the basis of Art. 7(2)(2) and Art. 7(3)(2) of the Act of 7 July 1994 - Construction Law. The above is an obligation for all road administrators.
4. The County Roads Authority in Tomaszów Mazowiecki will take actions to remove the trees and shrubs growing near level crossings to ensure continuous visibility of traffic lights, gate equipment, and road signs.
5. The infrastructure administrator PKP Polskie Linie Kolejowe S.A. and other infrastructure administrators will take actions in order to ensure that their employees, including staff of rail traffic posts reporting incidents at level crossings to the Emergency Notification Center, will use the identification number of the level crossing, which will contribute to quicker launching of a rescue operation, and those entities will regulate this matter in Technical Regulations of the stations.
6. The infrastructure administrator PKP Polskie Linie Kolejowe S.A. and other infrastructure administrators will include in the topics discussed in periodical instructions for train dispatchers the rules to follow in the event of threats to traffic safety and railway incidents included in sec. 69-79 of Instruction Ir-1 of PKP PLK S.A. and in relevant regulations of other infrastructure operators.
7. Railway infrastructure administrators and road administrators will take measures to improve cooperation at the stage of design, implementation, and final acceptance of investment projects in accordance with applicable regulations concerning access to level crossings.
8. The infrastructure administrator PKP Polskie Linie Kolejowe S.A. will dismantle the inoperative cabinet supplying power to the signaling equipment located on the right side of the crossing. Additionally, during diagnostic tests of all crossings, it should be checked if in the field of visibility from the access roads at the distance of 5 meters from the crossing there are power supply cabinets of ACS devices or other structures obstructing visibility of the train front end and, if such structures are identified, they should be removed or moved to another place to improve visibility. The infrastructure administrator PKP Polskie Linie Kolejowe S.A. will carry out urgent physical removal of inoperative equipment and structures after acceptance for operation.
9. The infrastructure administrator PKP Polskie Linie Kolejowe S.A. will speed up its activities with regard to the installation at level crossings of equipment for monitoring offences committed by the drivers who use those crossings, to enable imposing fines, as agreed on 27 June 2019 with the Chief Road Transport Inspectorate on the initiative of the Chairman of the National Railway Accident Investigation Committee.
10. The railway carrier PKP Intercity S.A. will take actions aiming to ensure correct registration of parameters in recorders installed on powered railway vehicles. Additionally, in the framework of the safety improvement programs of the Safety Management System (SMS), PKP Intercity S.A. will include carrying out additional checks on the correctness of the parameter recordings in the recorders of powered railway vehicles.
11. The carrier PKP Intercity S.A. will continue systematically equipping powered railway vehicles, including the EP07-411 locomotive, with route monitoring systems (digital cameras) thus implementing the order of the President of the Railway Transport Office to that effect.