

Railway serious incident investigation report

Railway operator : East Japan Railway Company.

Serious incident type : Vehicle damage, railway serious incident related with malfunction, damage, destruction, etc., effecting the safe train operation in the running gears, brake equipment, electric devices, coupling devices, train protection system, etc., of the vehicle, prescribed in Number 8, Clause 1, Article 4, of the Ordinance on Report on Railway Accidents, etc.

Date and time : About 07:23, September 26, 2014

Location : In Ohnagaya tunnel, between Igashima station and Higashi-Gejo station, single track, Ban-etsu-West Line, Aga Town, Higashi-Kanbara District, Niigata Prefecture.

SUMMARY

On September 26, 2014, the outbound Local 221D train, composed of 5 vehicle, starting from Aizu Wakamatsu station bound for Niigata station, Ban-etsu-West Line of East Japan Railway Company, departed from Igashima station about 2 minutes behind schedule, and ran to the next Higashi-Gejo station. While the train ran in coasting operation from the velocity of about 72 km/h in Ohnagaya tunnel, the employee of the company noticed that the passenger door for getting on and off in the right side of the second vehicle opened and he notified it to the train driver. The driver notified from the employee, confirmed that the lamp indicating all doors were closed was off, and immediately applied an emergency brake to stop the train.

There were about 140 passengers, train driver and 2 conductors onboard the train, but there was no casualty by such as fell from the train.

PROBABLE CAUSES

It is probable that the two doors in the right side of the second vehicle opened because the line voltage, DC 24V, of the power supply in the front vehicle was applied to the electric circuit of the one-man door control switch in the second vehicle via vehicle bodies of the front and the second vehicle due to the following two phenomena occurred simultaneously, in the serious incident.

[1] The electric circuit board for resistors of the ventilating fans for the cabin touched with the frame of the ventilating fan deice and insulation was deteriorated, in the front vehicle.

[2] The sheath of the wire for the door opening command in the one-man door control switch circuit for the right doors in the second vehicle, were damaged and its exposed core wire touched with the metal part of the heat protecting board attached to the vehicle body.

It is somewhat likely that the resister circuit board contacted with the frame of the ventilation fans because the gap for insulation between them could not be kept by the vibration etc., of the vehicle body.

In addition, it is probable that the sheath of the wire for the right door opening command had damaged and its core wire was exposed due to the damage of the wire sheath covered by the heat resistant cloth, as the results of rubbing between the heat protecting board and the bundled wires in

the gap at the seam joining the wire ducts, caused by the improper consideration in design and construction work of the wiring works in under floor of the vehicles against the jolts and vibration in the running train.