

## Railway accident investigation report

Railway operator : Japan Freight Railway Company.

Accident type : Train derailment.

Date and time : About 19:26, September 11, 2012.

Location : At around 29,032 m from the origin at Goryokaku station, between Kamaya station and Izumisawa station, single track, Esashi Line, Kikonai Town, Kami Iso District, Hokkaido.

### SUMMARY

On September 11, 2012, the inbound High Speed Freight 2050 train, composed of 21 vehicles, starting from Goryokaku station bound for Miyagino station of Japan Freight Railway Company, departed from Goryokaku station at 18:58, 62 minutes behind the scheduled time, i.e., 17:56. As the train stopped by an emergency brake acted automatically at around the up line starting signal in Izumisawa station, the train driver got off the locomotive and check the situation of the train according to the instruction from the train dispatcher, and found that the coupler of the brake pipe hose between the 9th and the 10th vehicle, freight wagons, was decoupled and all two axles in the rear bogie of the 9th vehicle derailed to left.

There were the driver in charge and the other driver scheduled to operate the other train from Aomori signal station to Goryokaku station, but there was no casualty.

### PROBABLE CAUSES

It is probable that the accident occurred as the first axle in the rear bogie of the Ko-Ki 106 type freight wagon climbed up the outer rail and derailed, because the wheel load of the outer rail side wheel reduced at the accident site while the train passed the 300 m radius right curved track.

It is probable that the wheel load acting on the outer rail side wheel reduced by a large rolling vibration of the freight wagon running around the accident site.

Although statuses of the train operation, the maintenance of the vehicles and the railway track were implemented in accordance with the regulations of Japan Freight Railway Company and Hokkaido Railway Company, established based on the ministerial ordinance, it is probable that the freight wagon vibrated in rolling mode significantly by the combination of the following factors, .

- [1] The specification of the suspension device of the Ko-Ki 106 type freight wagon was that the rolling motion of the vehicle body would not converged in a short time, as the damping was small compared to the Ko-Ki 104 type freight wagon, when the loaded weight is relatively light.
- [2] The load was relatively light and the center of gravity of the freight wagon was in a high position.
- [3] The combination of alignment and cross-level at around the accident site, which were relatively large as close to their maintenance standard values, and were distributed along the track including the wave length components liable to introduced rolling motion of the body

against the balanced speed in the curved track, had possibilities to promote the generation of rolling motion of the body.