# Railway accident investigation report

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| Railway operator | Japan Freight Railway Company |
| Accident type | Train Derailment |
| Date and time | About 03:59, February 23, 2017 |
| Location | In the premises of Kita-Irie signal station, Muroran Line, Toyako Town, Abuta District, Hokkaido |

## SUMMARY

On February 23, 2017, the outbound High Speed Freight 3055 train, composed of 19 vehicles started from Sumidagawa station bound for Sapporo Freight terminal station of Japan Freight Railway Company, departed from Goryokaku station on schedule at 01:10. While the train was running in the premises of Kita-Irie signal station at about 54 km/h, the driver of the train stopped the train by the emergency brake as he felt abnormal vibration, and operated the train protection radio. After he had reported the situation to the train dispatcher, he checked the vehicles and found that the 5th and 6th axles in total six axles of the front, middle and rear bogies of the 1st vehicle, *i.e.*, the locomotive, had derailed to right side of the direction of the train. Then, he reported the situation to the train dispatcher.

There was the driver onboard the train, but he was not injured.

## PROBABLE CAUSES

It is probable that the accident occurred as all axles, *i.e.*, the 5th and 6th axles, in the rear bogie in the 1st vehicle, *i.e.*, the locomotive, of the freight train derailed because the traction device had hung down due to the removal of two fitting bolts fastening the center pin and the traction device in the rear bogie during running operation, following the process described in below.

(1) The left traction link broke when the traction device hit the left guard rail in the Iriechou level crossing.

(2) The wheels in all axles, *i.e.*, the 5th and 6th axles, in the rear bogie derailed to right due to the lateral force in right direction acted on the traction device, as the traction device, hanging more after broken, hit the lead rail of the turnout in the premises of Kita-Irie signal station.

It is somewhat likely that the fitting bolts of the traction device fell away because the fitting bolts had come looser due to vibration etc., during train running after finished the important parts inspection, in which the work to connect bogie and vehicle body had finished in the status that the fitting bolts had fastened temporarily, *i.e.*, the fitting bolts had not been fastened with the determined fastening torque.

It is somewhat likely that the work connecting bogie and vehicle body finished as the fitting bolts had not been fastened by the determined fastening torque, because the works to fasten bolts had been implemented without using the torque wrench and the confirmation of the fastened status had not been implemented, as the assigned role for each worker and the procedures of each work for the bolt fastening works, had not been clearly prescribed.

In addition, it is somewhat likely that the looseness of the bolts could not be detected in the daily inspection and the regular inspection, related with that the measures such as the fitting mark etc., to enable easy visual detection for the looseness were not adopted and the loosed bolts were in the position where the change of the hit sound due to the looseness was hardly observed in the hammering test, because the load weight had acted to the loosed bolts.