

## Railway accident investigation report

Railway operator : Seino Railway Co., Ltd.

Accident type : Train derailment

Date and time : About 08:13, October 6, 2016

Location : At around 1,027 m from the origin at Mino-Akasaka station, between Otomezaka station and Mino-Akasaka station, single track, Ichihashi Line, Ogaki City, Gifu Prefecture

### SUMMARY

On October 6, 2016, the inbound 1022 train, composed of total 25 railway vehicles, i.e., a diesel locomotive and 24 freight wagons, started from Otomezaka station bound for Mino-Akasaka station, Ichihashi Line of Seino Railway Co., Ltd., departed from Otomezaka station at 08:08. The driver of the train, while the train was running before reaching Mino-Akasaka station, felt that the velocity decelerated quickly than as usual, then he checked backward of the train and found that the freight wagons were tilted. The driver applied an emergency brake immediately to stop the train.

The driver checked the train and found that freight wagons were derailed, then he communicate with the related staffs such as the station master of Mino-Akasaka station, etc. Station master of Mino-Akasaka station checked the status of the accident site, and found that all 2 axles in the rear bogie of 11th freight wagon and all 4 axles of 12th freight wagon were derailed to left.

There were the driver, the station staff and 2 yard guidance staffs onboard the diesel locomotive, but there was no casualty.

### PROBABLE CAUSES

It is probable that the accident had occurred as the right wheel of the front axle in the front bogie of the 12th freight wagon derailed to inside of track, and after running as widening gauge, left wheel of the axle climbed up left rail and derailed, then the front and rear axles in the rear bogie of the 11th freight wagon and the rear axle in the front bogie and front and rear axles in the rear bogie of the 12th freight wagon were derailed, while the train was running in right curved track of 201 m radius.

It is somewhat likely that the right wheel of the front axle in the front bogie of the 12th vehicle derailed inside the track, because the right wheel of the front axle in the front bogie came out of the inside rail, i.e., right rail, and dropped, as the irregularity of gauge was widened by running trains, by the weakened support force of rail due to the deteriorated sleepers and the floated loosed rail spikes existed continuously, in addition to wider irregularity of gauge.

It is probable that the larger irregularity of gauge and enlarged irregularity of gauge due to passage of trains were related with the lack of the definite management standard to implement proper maintenance about irregularity of gauge, and understanding of maintained status about rail flow\*, sleepers, rail spikes etc., and the maintenance based on the understandings were not implemented well.

\* *"Rail flow" is the plasticity flow of metal on rail surface in the top surface or side surface of rail caused by the large contact pressure due to repeating passage of wheels on the top surface of rail.*