

Railway accident investigation report

Railway operator	Kumamoto Electric Railway
Accident type	Train Derailment
Date and time	About 21:26, February 22, 2017
Location	At around 2,227 m from the origin in Kita-Kumamoto station, between Fujisakigumae station and Kurokami-machi station, single track, Fujisaki Line, Kumamoto City, Kumamoto Prefecture

SUMMARY

At about 21:26, February 22, 2017, the outbound 59 train, composed of two vehicles started from Fujisakigumae station bound for Miyoshi station of Kumamoto Electric Railway, departed from Fujisakigumae station in one-man operation. Immediately after that, while the train was operated at about 20 km/h in around the Between Kurokami and Fujisaki No.8 level crossing, the driver of the train felt a shock and applied the emergency brake to stop the train.

All axles in the front bogie in the 1st vehicle were derailed to right when the train stopped. The investigation implemented after the accident showed that all axles in the rear bogie of the 1st vehicle had derailed to right once and restored to the track after that.

There were about 50 passengers and the driver onboard the train, but no one was injured.

PROBABLE CAUSES

It is probable that left wheels of the 1st axle in the front bogie and all axles in the rear bogie of the 1st vehicle fell to the inside of the gauge, due to the large gauge widening by the passing train in the 200 m radius right curved track, and ran as spreading the gauge, and then the 1st axle in the front bogie derailed to right and the 2nd axle in the front bogie followed to derail, as all axles in the rear bogie had restored to the track by the guardrail, in the accident.

As for the large gauge widening, it is somewhat likely that the gauge was widened dynamically due to the rail tilting etc., caused by the lateral force accompanied with the train running, because the defects of the rail fastening devices had been existed continuously in the curved rack.

Here, it is somewhat likely that the the following (1) and (2) related to the occurrence of large gauge widening which caused derailment

- (1) The continuous defects of the rail fastening devices as dangerous as to cause derailment and the dangerousness of gauge widening enlarged dynamically could not be found definitely in the periodic inspections etc., and the track maintenance had not been implemented based on the results of the inspection.
- (2) The margin against derailment to the inside of the gauge had decreased due to the relatively large slack in the curved track.