

RAILWAY OCCURRENCE REPORT

**CANADIAN NATIONAL RAILWAY COMPANY
DERAILMENT**

**CN FREIGHT TRAIN NUMBER 716-23
MILE 57.50, CN CAMROSE SUBDIVISION
DUHAMEL, ALBERTA
25 JUNE 1994**

REPORT NUMBER R94E0062

The Transportation Safety Board of Canada (TSB) investigated this occurrence for the purpose of advancing transportation safety. It is not the function of the Board to assign fault or determine civil or criminal liability.

RAILWAY ACCIDENT REPORT

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Summary

A Canadian National Railway Company (CN) freight train proceeding southward on the CN Camrose Subdivision derailed the 33rd to the 55th cars from the locomotives as the train passed over the public crossing at Mile 57.5 near Duhamel, Alberta. There were no injuries. There was substantial damage to 1,350 feet of track.

Other Factual Information

At approximately 1015 mountain daylight time (MDT) CN freight train No. 716-23, operating with three locomotives and 99 empty sulphur cars, was proceeding southward over a public crossing at Mile 57.5 when the train sustained a train-initiated emergency brake application. The crew conducted the necessary emergency procedures and determined that 23 empty sulphur cars had derailed immediately south of the crossing.

The CN Camrose Subdivision is a single main track that extends southward from Edmonton to Mirror in the province of Alberta. Train movements on this subdivision are controlled by the Occupancy Control System (OCS) authorized by the Canadian Rail Operating Rules (CROR) and supervised by a rail traffic controller (RTC) located in Edmonton. The crossing for eastbound motorists included an ascending four per cent grade to the tracks with a three per cent descending grade after the crossing.

At approximately 0945 MDT, a tractor-trailer with a double drop low-boy, eight wheel trailer carrying a backhoe, travelled eastbound over the public crossing. The tractor-trailer unit was 27.74 metres long with a maximum clearance under the loaded trailer of 20.32 centimetres. The Motor Transport Service (MTS), in the province of Alberta, issue permits to trucking companies authorizing movement over Alberta highways. The MTS permits provide the trucking companies with additional information regarding road bans and clearance restrictions. Railway crossing information is not included. The trucking company was in possession of an MTS permit.

The driver operated the rig at a slow speed as he crossed the track but dragged his trailer at the crossing. He stopped and inspected the crossing but was uncertain as to what damage if any had been inflicted on the track. He then proceeded to his destination, unloaded the backhoe and advised his company supervisor of the incident at approximately 1010 MDT.

At 1017 MDT the trucking company supervisor called the CN Rail Building and Bridges (B&B) foreman in Hobbema, Alberta and advised him of what had occurred and the location. The trucking supervisor had no readily accessible information as to who should be contacted in situations involving the railway. The B&B foreman decided to inspect the crossing but while en route the train derailed at the crossing.

An examination of the crossing, following the derailment, revealed substantial disturbance to the track infrastructure. Scrape marks, 1.22 metres from the west rail, were observed on the gravel road extending from the west rail. The west outside crossing plank was split and both the crossing plank and the west rail displayed clear indications that they had been contacted by a blunt object. The west rail head on the field side, adjacent to the split plank, was found with a number of batter marks that

appeared to trail off towards the gauge side of the west rail head. The west rail was observed to have moved away from the tie plates and spikes.

The low boy trailer was examined, following the incident, and determined to have sustained a groove in the front bottom passenger side leading edge of the underframe.

Analysis

The marks found on the gravel road, crossing plank, rail head and trailer confirm contact at the crossing. The clearance between the bottom of the trailer and the grade shifting from ascending to descending rendered contact between the trailer and the rail inevitable.

The west rail was knocked from its securement and either shifted creating an immediate wide gauge situation or widened under the load of the train. Once contact between the wheel and the rail could no longer be maintained a derailment occurred. The damage to the track in this instance, was not sufficient to provide visual warning to the crew of the approaching train.

Although the truck driver felt that he had made contact with the rail, he was both unable to adequately assess the extent of damage and was also unaware who should be informed in such circumstances. Approximately 30 minutes elapsed from the time the track was damaged until the train derailed. The MTS permit does not include crossing information or railway telephone numbers to be called in the event of an emergency. Immediate notification to the railway would have prevented the derailment.

Findings

1. The train was operated in compliance with the company procedures and government regulations.
2. A tractor-trailer, hauling a low boy trailer, dragged over the crossing and damaged the west rail.
3. The west rail had been dislodged from the rail fastenings and the truck driver was not able to assess the damage inflicted on the track infrastructure.
4. The track was either knocked from its proper position or shifted under the train creating a wide gauge situation triggering the derailment.
5. The truck driver did not immediately notify the railway to alert them of the damage and timely notification would have prevented the accident.

6. Neither the road authority nor the railway company have established procedures to sensitize crossing users to the potential dangers associated with contacting the tracks or provided a means to facilitate contact with the railway on an emergency basis.

Causes and Contributing Factors

The derailment occurred because the rail had become dislodged after a tractor-trailer dragged across the crossing dislodging the track and creating a wide gauge situation leading to derailment.

Safety Action

The Transportation Safety Board forwarded a Safety Advisory to Transport Canada (TC) indicating that TC in conjunction with federally regulated railways may wish to explore means for providing readily accessible railway crossing information and emergency railway telephone numbers to the trucking industry.

In response TC indicated that CN Rail had introduced a 800 emergency telephone number on the Southern Ontario District as a pilot project. The number will be displayed at public crossings and signal bungalows. It is anticipated that the posting of the number in this manner will eliminate confusion as to which authority should be contacted in the event of an emergency. TC is monitoring this pilot project and if it proves successful, other federally regulated railways will be approached to implement the same program. In addition, TC is exploring, with their provincial counterparts, the possibility of including railway/highway clearance information when issuing permits to the trucking industry.

This report concludes the Transportation Safety Board's investigation into this occurrence. Consequently, the Board, consisting of Chairperson, John W. Stants, and members Zita Brunet and Hugh MacNeil, authorized the release of this report on 21 August 1995.