NO. 94-105

TRAIN J26

WAIPAHI

3 MARCH 1994

ABSTRACT

A Ganger was called out to a track fault near Waipahi on the evening of 3 March 1993. He estimated that the fault could be repaired just before the expected passage of a freight train. A three way radio conversation was held among the Ganger, the Locomotive Engineer, and the Train Control Officer, but the Ganger's rail-mounted vehicle was shortly afterwards damaged when struck by the train. The safety issue identified was the protection procedures for track workers.

TRANSPORT ACCIDENT INVESTIGATION COMMISSION

RAIL INCIDENT REPORT NO. 94-105

Train Type and Number:	Invercargill-Christchurch Express Freight, J26
Locomotive:	DX 5477/DC 4450
Date and Time:	3 March 1994, 2030 hours
Location:	Waipahi 515.85 km, Main South Line
Type of Occurrence:	Collision with Light Inspection Vehicle
Persons on Board:	Crew: 1 Passengers: Nil
Injuries:	Crew: Nil Passengers: Nil Others: Nil
Nature of Damage:	Minor damage to Light Inspection Vehicle
Information Sources:	Transport Accident Investigation Commission field investigation
Investigator in Charge:	Mr W J D Guest

1. NARRATIVE

1.1 About 1800 hours on 3 March 1994 a Locomotive Engineer reported to Train Control that there was a track misalignment in a curve near the 516 km peg north of Waipahi.

1.2 The Train Control Officer (TCO) arranged for the Ganger for the area to be called out to inspect the fault.

1.3 The Ganger, whose headquarters were at Balclutha, called out a member of his gang, and the two men travelled by road in a Light Inspection Vehicle (LIV) to a level crossing near the 518.50 km peg.

1.4 Before placing the LIV on the track, the Ganger called Train Control on the radio at 1920 hours to obtain clearance. The TCO advised him that northbound train J26 had departed from Invercargill, and would reach Gore in about half an hour. The Ganger replied that he would go on to the track with the LIV and inspect the reported track fault, and that he would contact the TCO again at 2000 hours.

1.5 The Ganger placed the LIV on the track and proceeded northwards to a curve at 515.85 km, where he found the track fault, a rail joint which had moved out of alignment.

1.6 The Ganger did not place any protection on the track to warn approaching trains of his presence, and was not required to do so by NZRL's operating rules.

1.7 At 1947 hours the Locomotive Engineer of J26 advised the TCO that he was through Mataura. The TCO asked him to call him again when he reached Balclutha.

1.8 At 2000 hours the Ganger called the TCO as arranged and asked where J26 was. He said that he wanted another 15 minutes to fix the track fault.

1.9 The TCO and Ganger were both aware that J26 would reach the location where the Ganger was working about 2020 hours.

1.10 The weather was slightly overcast, but it was still light and visibility was good.

1.11 The TCO called the Locomotive Engineer and asked his location. The Locomotive Engineer replied, and asked where the Ganger was. The TCO, the Ganger and the Locomotive Engineer then had a brief three way radio conversation which clearly established the location of the Ganger, and arranged that the train would approach this location at low speed.

1.12 The TCO did not give any directions for the train to stop, and he did not ascertain where the LIV was parked.

1.13 The curve at 515.85 km is preceded when approaching from the south by a long straight of more than a kilometre. About half way along the straight the Locomotive Engineer reduced the speed of the train. He knew he was approaching the Ganger's location but he could not see anything.

1.14 If the LIV had been parked at the entrance to the curve, it would have been visible along the straight.

1.15 The locomotive headlights were shining in accordance with NZRL's standard operating practice.

1.16 The Locomotive Engineer did not sound the locomotive horn.

1.17 At the entrance to the right hand curve the Locomotive Engineer's view was partly obstructed by scrub growing close to the right side of track and by a bank rising to the right. However, between the scrub and the rising bank he caught sight of the heads and shoulders of two men about 100 m away, and recognised one of them as the Ganger.

1.18 The Locomotive Engineer made a brake application to halt the train close to the gang. He did not apply the brakes fully.

1.19 As the train travelled further into the curve, he saw the LIV on the track, closer to the train than the gang. The LIV had been hidden from view by the scrub. The LIV was stopped, and the rear door was wide open. The flashing light of the LIV was not illuminated.

1.20 The Locomotive Engineer made a full brake application, but could not stop the train in the space available. The locomotive struck the edge of the open door of the LIV, and pushed the LIV a few metres down the track. The door was bent, but no other damage occurred. The LIV was not derailed.

1.21 All three men involved in this incident were experienced and held the correct certifications from NZRL to undertake their operating duties.

2. FINDINGS

2.1 The Train Control Officer did not control the approach of J26 to the location of the track gang adequately, in that he did not require the Locomotive Engineer to stop short of the curve, and he did not require the Ganger to mark his location in a visible manner.

2.2 The Ganger did not take adequate precautions to mark his location for the Locomotive Engineer, in that he left no visible indicators for the Locomotive Engineer to see while travelling along the straight and did not switch on the LIV's roof mounted flashing light.

2.3 The Locomotive Engineer did not take adequate precautions to prevent the collision, in that he did not sound the locomotive horn to alert the Ganger while travelling along the straight, and entered the curve at a speed which did not enable him to stop short of any obstruction.

2.4 NZRL operating rules did not require the use of full protection measures by the Ganger because the train was not at risk.

3. OBSERVATIONS

3.1 This is the third occurrence investigated by the Commission since 1 April 1993 in which trains have approached track maintenance workers in an inadequately controlled or unauthorised fashion. The Commission is aware of two other instances which have not been the subject of investigation.

3.2 Full track protection is required by NZRL for any substantial obstruction which may put a train at risk of derailment or collision with a substantial obstruction.

3.3 Full track protection is not required for track staff and their tools unless their activities compromise the integrity of the track.

3.4 Light Inspection Vehicles, and tools which can be lifted off track by two persons are not considered to be substantial obstructions.

3.5 Track staff are more likely to be injured by the unexpected approach of a train than are the crew or passengers on the train. In all cases referred to in 3.1 above, the risk of injury was substantial, and in one case the tools of the gang were thrown against two men, causing serious injuries.

3.6 Full track protection takes time and manpower to institute, and may not be warranted for all track maintenance procedures. However, the circumstances in the incident described in this report suggest that several relatively simple precautions would have reduced the likelihood of collision eg:

- The requirement for the train to stop short of the gang's location until hand-signalled by the Ganger.
- The parking of the LIV, or the placement of a red disc in a location where the Locomotive Engineer could see it clear of the work site.

3.7 In addition, there may be other technology available to enhance protection procedures. The Commission is aware of the development in Europe of low-powered radio beacons which give track gangs warning of a train's approach. The use of portable flashing lights as an indication of the presence of track maintenance staff could also be considered.

3.8 The Commission has previously recommended to NZRL that they review the procedures for providing protection to track gangs. This incident does not require any further recommendation, but does reinforce the need for such a review.

29 June 1994 M F Dunphy
Chief Commissioner