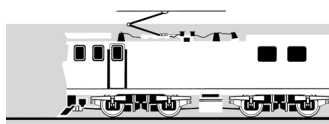
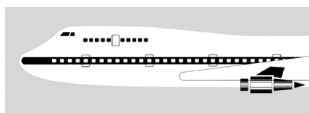


RAILWAY OCCURRENCE REPORT

03-102

hi-rail vehicle 67425, derailment, near Fordell

10 February 2003



TRANSPORT ACCIDENT INVESTIGATION COMMISSION
NEW ZEALAND

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Report 03-102

hi-rail vehicle 67425

derailment

near Fordell

10 February 2003

Abstract

On Monday 10 February 2003, at about 1600, hi-rail vehicle 67425 derailed near Fordell during a special hot weather track inspection on the Marton-New Plymouth Line. The vehicle rolled and came to rest on its side, clear of the track. The driver sustained serious injuries and the vehicle was extensively damaged. As a result, about 90 minutes passed before the driver was able to use his cellphone to alert the Police, and subsequently train control, to his situation. Meanwhile, the designated time of 1615 for the hi-rail vehicle to be off track had elapsed, and the train controller authorised express freight Train 545 to enter the same section of track. The train controller was able to alert the locomotive engineer of Train 545 before he reached the accident site.

The safety issues identified included:

- the training and certification of drivers to operate a hi-rail vehicle
- the operating rules that allowed a train controller to authorise a train to enter a section of track that was already occupied
- the wearing of seatbelts when operating a hi-rail vehicle on track.

In view of the safety actions taken to address the track occupancy procedures, no safety recommendations have been made regarding that issue.

One safety recommendation has been made to the Chief Executive of Toll NZ Consolidated Ltd regarding the wearing of seatbelts and one safety recommendation has been made to the General Manager of Transfield Services (New Zealand) Limited regarding training and certification of hi-rail vehicle drivers.

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Abbreviations

hr	hour(s)
HRV	hi-rail vehicle
km	kilometre(s)
kPa	kilopascals
km/h	kilometres per hour
lb/yd	pounds per yard
m	metre(s)
MNPL	Marton-New Plymouth Line
t	tonne(s)
THR	temporary heat restriction
Toll NZ ¹	Toll NZ Consolidated Ltd
Tranz Rail	Tranz Rail Limited
UTC	coordinated universal time

¹ New owner of Tranz Rail, effective 5 May 2004.

Data Summary

Train type and number:	hi-rail vehicle 67425
Date and time:	10 February 2003, at about 1600 ²
Location:	near Fordell
Persons on board:	crew: 1
Injuries:	crew: serious
Damage:	hi-rail vehicle damaged beyond repair
Operator:	Tranz Rail Limited (Tranz Rail)
Investigator-in-charge:	P G Miskell

² Times in this report are New Zealand Daylight Time (UTC + 13 hours) and are expressed in the 24-hour mode.

Factual Information

1.1 Narrative

- 1.1.1 On Monday 10 February 2003, at about 1510 the train controller authorised the driver of Suzuki Samurai hi-rail vehicle (HRV) 67425 to depart from King Street Marton (0.17 km) and proceed in a westerly direction to 16R Signal Aramoho (43.46 km) on the Marton-New Plymouth Line (MNPL) to carry out a special hot weather track inspection. The HRV was to be off and clear of the track by the designated time of 1615.
- 1.1.2 The driver stopped at about 6.5 km MNPL on a section of track covered by a Temporary Heat Restriction (THR)³ to measure and record the rail temperature and look for signs of track misalignment. After finding that his portable rail thermometer was inoperative, he called his supervisor who instructed him to continue the inspection and keep a sharp lookout for track under stress and at risk of buckling.
- 1.1.3 The driver stopped at 13 km, the next identified THR site where he managed to temporarily repair the thermometer and record the rail temperature. Further rail temperature readings were recorded at 15 km, 15.5 km, 16 km and 22 km.
- 1.1.4 At about 1600, the rear wheels of the HRV derailed at 27.439 km MNPL, about 82 m past the west portal of Tunnel 3 near Fordell. The vehicle had travelled upright for about a further 70 m, when the driver sensed that the front wheels had lost contact with the rails, so he grabbed and turned the steering wheel and applied the brakes. The HRV rolled clear to the left-hand side of the track and came to rest on its side facing the direction from which it had travelled (see Figure 1). The driver estimated he was travelling at about 45 km/h when exiting the tunnel.



Figure 1
Hi-rail vehicle 67425 at the accident site

³ A 40 km/h temporary speed restriction on identified sections of track that were at risk of misalignment in hot rail conditions.

- 1.1.5 The driver who was wearing a seatbelt at the time of the accident, suffered back and rib injuries and lost consciousness for about 90 minutes. He managed to free himself from the vehicle and place danger flags on the vehicle wheels, before climbing a hill to a location where he was able to use his personal cellphone to call the police.
- 1.1.6 In the meantime, at 1732, expecting HRV 67425 to have been off-track by 1615, the train controller issued a track warrant to the locomotive engineer of shunt service P29 to travel from Marton and enter the loop at Ruatangata (21 km) to cross Train 545 (see Figure 2).
- 1.1.7 At 1736 the train controller issued a track warrant to the locomotive engineer of Train 545 to travel from 16L Signal Aramoho (43.61 km) to the mainline at Ruatangata to cross shunt service P29.

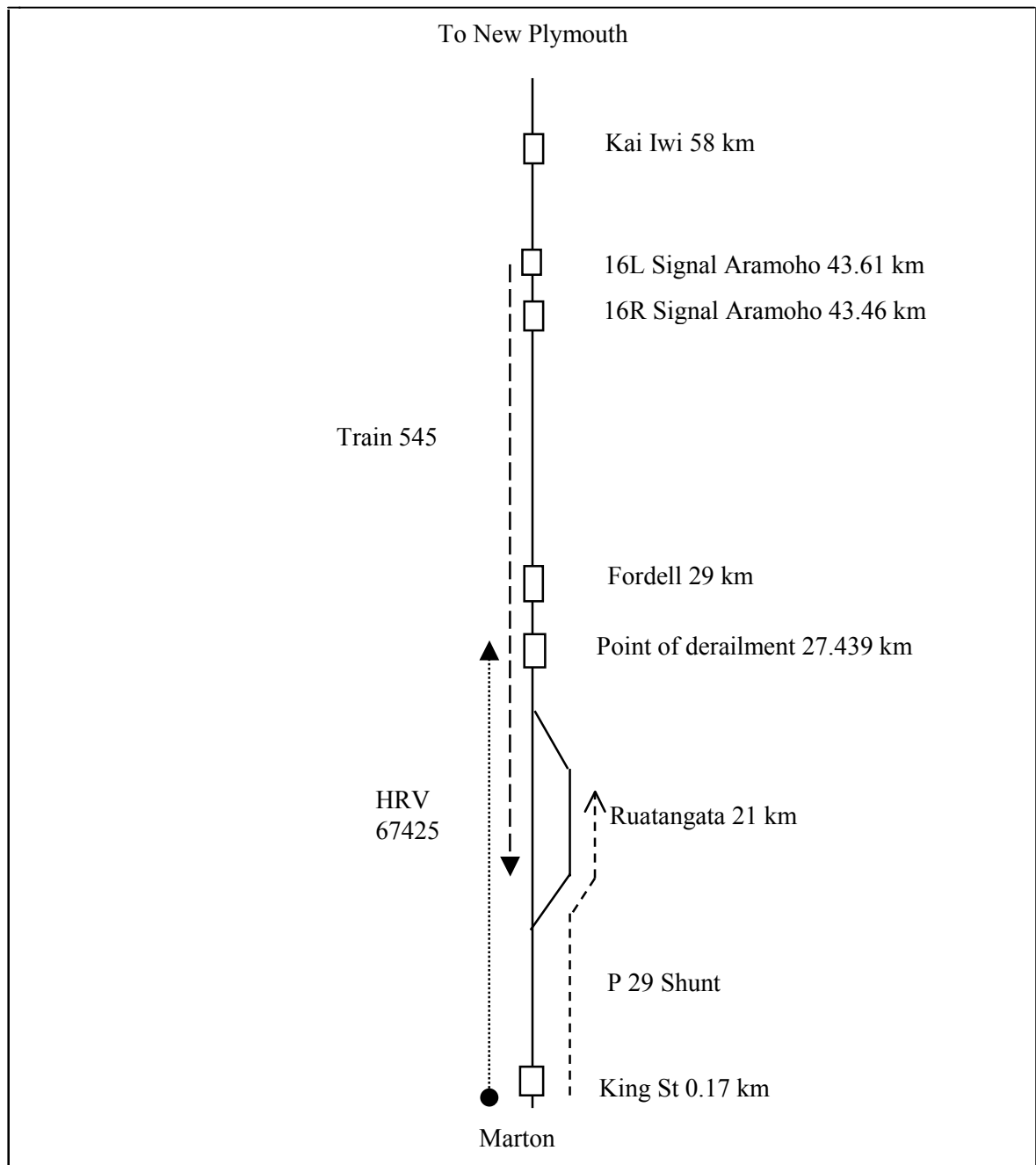


Figure 2
Marton to Kai Iwi track section (not to scale)

- 1.1.8 At 1742, the train controller received a telephone call from the Police advising that a track ganger had been involved in an accident and that his vehicle was trackside somewhere between 25 km and 29 km MNPL. The Police confirmed that an ambulance had been dispatched from Wanganui.
- 1.1.9 The train controller immediately contacted the locomotive engineer of Train 545 who had already entered the track section that had been occupied by the HRV and instructed him to proceed with caution to Fordell, about 4 km away, and wait for further instructions.
- 1.1.10 At about 1750 the Police advised the train controller of the number of the cellphone from which the emergency call was made. The train controller called the driver, established his location and continued talking to him until assistance arrived on site.
- 1.1.11 The train controller authorised the locomotive engineer of Train 545 to proceed from Fordell at a speed of about 10 km/h and be prepared to stop short of any obstruction on the track. At about 1810 the locomotive engineer saw the HRV clear of the track at 27.5 km and he used the emergency radio channel in the locomotive to confirm the details with the train controller. The locomotive engineer stopped his train beside the HRV, took the portable radio from the locomotive and walked up the hill to locate the operator and assess his condition.
- 1.1.12 The locomotive engineer stayed with the operator until an ambulance arrived at about 1823.

1.2 Site information

- 1.2.1 Marks on the track indicated that the right-hand rear hi-rail wheel climbed the high-leg⁴ rail at 27.436 km, between Ruatangata and Wanganui, as the HRV was travelling westward around a 330 m long, 320 m radius left-hand curve on a descending gradient of 1 in 114. The hi-rail wheel travelled on the railhead for 3 m before it dropped off to the outside of the railhead.
- 1.2.2 The HRV travelled with the rear wheels derailed and the front wheels on the rail to 27.502 km where the flange of the left-front hi-rail wheel climbed the railhead on the low-leg side of the curve before dropping off at 27.510 km. The HRV came to rest a further 39 m past the second drop-off point.
- 1.2.3 The derailment curve consisted of heavy weight (90 lb/yd) rail, secured to treated pinus radiata sleepers with standard N type⁵ fastenings. Measurements taken after the accident showed that there were 15 points of side wear on the high-leg rail and 14 points of top wear on low-leg rail. Transz Rail standards required heavy weight rail be transposed⁶ when reaching the limit of 14 points of wear.
- 1.2.4 The last EM 80⁷ track evaluation recording car run over the derailment curve was carried out 19 November 2002. The subsequent exception report did not identify any track geometry that was outside maintenance standards.
- 1.2.5 A hi-rail rail lube truck was used to apply graphite grease to the gauge side⁸ of the high-leg rail on curves between Marton and Wanganui during the morning of the day of the accident. A thick film of grease remained on the high-leg rail on the derailment curve.

⁴ The high leg rail is the outside rail on a curve.

⁵ The N type fastening consisted of a canted bedplate under the foot of the rail and secured to the sleeper with a minimum of 2 screw spikes with associated spring washer and rail clip.

⁶ Rail on a curve was transposed when the high-leg rail and the low-leg rail was interchanged.

⁷ The EM80 continuously measured track geometry condition and compared the actual values against pre-determined maintenance limits.

⁸ The gauge side is the side of the railhead in contact with a flanged wheel.

1.3 Operating system

- 1.3.1 Track Warrant Control (TWC), which operated between Marton and Lepperton on the MNPL was an alternative to a signal system for trains operating on routes with low traffic density. TWC was a process for ensuring that one train only had authority to occupy a particular section of track.
- 1.3.2 Although the HRV was operating within TWC territory, there was no requirement at the time for HRVs to operate with a track warrant⁹. The on-track movement of an HRV was governed by Tranz Rail Operating Rule 915 that required the inquiring person in-charge of an HRV to advise the train controller of their:
- identity
 - on tracking location
 - off tracking location
 - nature of work
 - protection required
 - time required to complete the work.
- 1.3.3 The train controller was required to refer to the train movements plotted on the train control diagram and, after taking account of the requested on-track time would either authorise the movement or instruct that the movement not take place. When a movement was authorised, then the completion time for track occupancy became the designated time for the movement to be clear of the track. The designated time in this case for the HRV movement from Marton to Aramoho was 1615.
- 1.3.4 Tranz Rail operating procedures were such that the controller considered that the track occupation had been completed and that the HRV was “off and clear of the track” by the designated time unless he was informed otherwise.
- 1.3.5 A Track Warrant Computer System (TWACS) was provided to assist the train controller prepare and verify a track warrant. Before issuing a track warrant, the train controller was required to positively establish that there was no other track warrant in force within any part of the limits of the warrant about to be issued.

1.4 Training and certification for HRV operators

- 1.4.1 The driver of an HRV must hold a current Tranz Rail Level C operating certificate attained by attending a 5-day general knowledge engineering course and demonstrating an understanding of:
- General Rules
 - Signal Rules
 - All forms of protection and Engineering Rules
 - Radio communication
 - Trolley and HRV operation.

The theoretical training was supported by a period of on-the-job training where trainees worked with a licensed driver to demonstrate competence over a range of field exercises.

⁹ An authority issued by a train controller defining limits and other instructions for the occupation of a mainline.

- 1.4.2 Tranz Rail Code Supplement Q511 Hi-rail vehicles and trolleys stated in part:

PART 2 INSTRUCTIONS APPLICABLE TO HI-RAIL VEHICLES (HRVs) ONLY

- 2.2 The speeds of HRVs [on-track] are limited as follows:

Vehicles up to 2000 kg unladen weight: 50 km/h maximum, except on curves.

The speed of these vehicles, when travelling on curves, must be 10 km/h less than the speed value of any curve, such that the maximum speed is 50 km/h at any time.

For all HRVs, all line speeds, curve speeds and other permanent or temporary speed restrictions must be observed.

- 2.8 Seat Belts: The wearing of seat belts is not compulsory when HRVs are on track.

1.5 Personnel

The HRV driver

- 1.5.1 The driver had been an employee of Transfield Infrastructure Services Limited¹⁰ (Transfield) since 23 March 2002, before which he had about 27 months track experience with Tranz Rail.
- 1.5.2 The driver passed the theoretical component of the Level C operating certificate on 8 November 2001. He, along with other members of his work group attended and passed refresher training 11 days later. The driver's on the job training records for having demonstrated competence while operating a Suzuki Samurai, Isuzu NKR or Ford Transit HRV had not been signed off.
- 1.5.3 There was no record available of a safety observation having been carried out on the driver while he was operating an HRV. However, safety observations on the other members of the track gang took place on 5 August 2002, but the driver was on protection duty that day.
- 1.5.4 The driver was on sick leave from 26 November 2002 until the day of the accident. He received a medical clearance to undertake light duties during his first week back at work with a return to normal duties a week later.
- 1.5.5 On the day of the accident he reported at his Aramoho depot and at 0800 attended a safety briefing where his manager covered a number of track occupancy issues that included:
- getting the right information from train control and having an exact understanding between the track user and train control of the nature and location of the intended track occupation
 - writing down the track occupancy information
 - repeating the written track occupancy information to train control
 - calling off and clear by the designated time.
- 1.5.6 After the briefing, his supervisor advised him that because he was on light duties he was to drive a Suzuki Samurai on-track between Aramoho and 71 km and carry out site inspections with a weed spray contractor. This was the first occasion that he had driven that particular class of HRV. However, he said that because he was comfortable operating the Isuzu NKR on-track, he did not expect any problems operating the Suzuki. The operator was not shown or advised of the differences between the Isuzu and Suzuki HRVs.

¹⁰ A service provider responsible for maintaining the infrastructure network to standards set by Tranz Rail.

- 1.5.7 The operator was given a book of On Track Time Tracker forms (see Figure 3) by his supervisor and briefed on the mandatory use of the forms to record the physical limits of the track authority and the time which he was to be off and clear of the track.

Tranz Rail	
On Track Time Tracker	
Line _____	Date _____
Between _____	Stn _____ Stn _____
Metrage From _____ km	To _____ km
Time Now _____	Clear By _____
Timer Activated _____	Black Command Entered _____
Other Information (Trains, HRV, Staff on track)	

Signature _____	

Figure 3
On Track Time Tracker form

- 1.5.8 The driver completed the site inspections with the weed spray contractor at about 1330. At 1415 his supervisor requested him to undertake a special hot weather track inspection between Marton and Kai Iwi (58 km).
- 1.5.9 After arriving at King Street Marton by road at about 1510, the driver advised the train controller of his location and requested authority to travel to Kai Iwi to carry out a special hot weather track inspection.
- 1.5.10 The train controller acknowledged the call and asked the driver how long would he need to go as far as Aramoho initially. When advised that the driver would need about an hour, the train controller authorised a track occupation from King Street Marton to 16R Signal at the north end of Aramoho and be clear of the track by 1615. The train controller also advised that there were no other track occupancy inquiries and that Train 545, an express freight service from Whareroa to Palmerston North was the next opposing train and had not yet departed Whareroa.
- 1.5.11 The driver started to read back his authority but became confused and asked the train controller to repeat the authority. The operator then repeated correctly his limit as 16R Signal Aramoho and that he had until 1615 for the running of Train 545 which was not yet out of Whareroa.

- 1.5.12 The driver did not record all the information on the “On Track Time Tracker” form. No entry was made in the allocated space for Time Now, Off By, Other Information, and the form was not signed.

1.6 HRV 67425

- 1.6.1 Since 1988, Tranz Rail placed 80 Suzuki SJ413 model road/rail vehicles into service. The hi-rail equipment fitted to these vehicles was based on a Queensland Rail design. The vehicles had narrow Olympic 16x5 tyres with full width contact on the rail. Derailments due to track twists were common if the vehicle’s suspension and rail wheel suspension was not set up correctly. A 3-monthly inspection requirement was set to manage the identified risk.
- 1.6.2 The SJ413 models were phased out over a period of time by the introduction of the Suzuki Samurai SJ80 model from 1998. HRV 67425 was one of the last of the SJ80 series vehicles and was commissioned in 1999. Tranz Rail issued Operators and Maintenance Handbook M9420A for the Suzuki Samurai Rail/Road Vehicle that stated in part:

Wheel Rims

The wheel rims have been changed to suit rail operation.

The vehicle is fitted with 3 no. 5.5x16 rims for the front axles and a spare (a 6 mm high “F” is stamped on the rim) and 2 no. 6.0x16 rims (a 6 mm “R” is stamped on the rim) on the rear axle.

The rear wheel rims will not fit the front wheel hubs.

For punctures occurring on track the spare wheel can be used to get the vehicle to the nearest off tracking point.

The 6.0x16 rim must be put back onto the rear axle as soon as puncture repairs have been carried out.

Monthly Inspection by Team Leader

Check correct road wheel rims and tyres are mounted on each axle.

On/Off Tracking (after gaining approval from Train Control)

Turn the front wheel 4-wheel drive hubs to the “lock” position

Select 4WD (high ratio) on the transfer gearbox (4WD light illuminates on dash).

Operation on Rail

Do not steer the vehicle when on track.

The maximum speed for a Suzuki Samurai Road/Rail Vehicle on-track is 50 km/h.

6 Monthly Road/Rail Inspection (by Mechanical staff)

Staff undertaking inspection and/or set-up of all Road/Rail vehicles must be an “Approved Person”.

The following inspections, set-up and periodic maintenance must be completed every six months and in conjunction with:

- any certificate of fitness inspection
- after any derailment or accident
- after the installation of any new or reconstructed road/rail equipment.

- 1.6.3 The 6-monthly inspection in conjunction with the certificate of fitness on HRV 67425 was carried out on Friday 7 February 2003. The HRV failed the initial examination because of a broken earth strap and a loose locknut on the left rear mudguard. The required repair work was completed and a certificate issued before the HRV went back into service on the morning of the accident.

1.7 Post-accident vehicle inspection

- 1.7.1 After the accident, the drive select lever was found to be in 2-wheel drive, the gear lever in neutral and the hub locks engaged on the front wheels. The static suspension loadings were measured and were within the specified +/- 200 kPa tolerance.

	Front Driver	Front Passenger	Rear Driver	Rear Passenger
Target	1400 kPa	1400 kPa	1200 kPa	1000 kPa
Actual	1450 kPa	1450 kPa	1250 kPa	1000 kPa

- 1.7.2 An examination of the rear hi-rail equipment revealed:
- the right frame cross member was bent at the suspension unit and twisted away from the rear wheel
 - the pivot arm locking mechanism operated correctly in the raised and lowered positions
 - the treaded wheels turned freely on the axle
 - fresh indentations on right tread consistent with running on ballast
 - half of the right wheel flange was covered with a thick layer of grease
 - the full wheel flange circumference was covered with a light layer of track grease in the flange root radius of the left wheel
- 1.7.3 There was an elliptical indentation of 65 mm x 40 mm in the sidewall bead of the tyre just below the inflation valve on the right rear road wheel. Rail wear was visible on the tread of both rear tyres but there was no evidence of rubber tear, burns or balls resulting from brake application on the rear tyres.
- 1.7.4 The left rear road wheel rim was marked with "F" indicating that it was a front wheel rim. Its use on a rear wheel was permitted under emergency conditions only.
- 1.7.5 The pivot arm locking mechanism on the front hi-rail equipment operated correctly in the raised and lowered positions. However, the right frame cross member was bowed and twisted at the suspension unit mounting.
- 1.7.6 There was an impact indentation about 25 mm in diameter and a corresponding scrape mark approximately 35 mm long directly adjacent to the flange and 4.5 mm of guttering wear on the left front rail wheel.
- 1.7.7 A rail saw and hand tools were conveyed in the rear compartment of the HRV which was separated from the driving compartment by a cargo safety barrier. The barrier remained intact during the accident. However, the left-hand side of the roof structure folded at the safety barrier but the space for the driver was undamaged. The track equipment remained on the cargo side of the barrier.

2 Analysis

- 2.1 HRV 67425 had passed a 6-monthly mechanical inspection on the morning of the derailment. A post-accident examination of the vehicle confirmed that both the front and rear hi-rail equipment was locked down and the tyres were inflated within specification. There was no mechanical fault identified on the vehicle that was likely to have contributed to the accident.
- 2.2 The investigation was not able to determine when the spare wheel marked “F” was fitted to the left rear axle and why it had not been identified during the 6-monthly check that was completed on the morning of the accident. Although the vehicle was operating with a non-standard rim there was sufficient road tyre and rail contact to ensure the traction provided by each driving wheel would have been similar.
- 2.3 It was not uncommon for a member of a track maintenance gang who returned to work with a medical clearance for light duties to be assigned protection, inspection or driving duties. On his first day back at work after an 11-week absence the driver was assigned inspection duties. However, although he held the appropriate theoretical qualification, his training records did not indicate that he had been certified in the operation of the Suzuki HRV and therefore he should not have been considered for on-track driving duties.
- 2.4 Because the driver had not received practical training in the safe operation of a Suzuki HRV, he was unaware of the requirements to use 4-wheel drive, and not to use the steering wheel when operating the vehicle on rail. When operating the vehicle in 2-wheel drive, the vehicle became prone to wheel slip under conditions such as grease on the rail.
- 2.5 The damage to the right rear hi-rail wheel suspension and axle assembly was consistent with the right rear rail wheel having derailed first. It was possible the derailment was initiated by an object such as a track component or ballast becoming wedged between the left-front rail wheel flange and the rail, setting up a sudden transverse loading on the right-rear rail wheel. Grease on the high-leg curve rail, which was beyond the maximum wear limits, would have allowed the right rear rail wheel to ride up and climb over the railhead and in so doing the road wheels lost contact with the rail.
- 2.6 When the driver realised the wheels had lost contact with the running rail and were running on the sleepers to the right-hand side of the rail, he reacted instinctively by grabbing the steering wheel and turning it to the left while making a brake application. This action exacerbated the situation by forcing the left-front flange hard up against the rail causing it to climb over the left running rail.
- 2.7 The vehicle rolled and rotated through 180° and came to rest on its side 39 m further down the track. In the accident sequence the communication aerial attached to the roof of the HRV was destroyed. Without the aerial the operator was unable to contact train control via the vehicle selcall radio network when he regained consciousness more than an hour later. The unavailability of radio contact meant the driver’s only recourse was to climb to higher ground until cellphone coverage was available to him. Given his injuries, the climb would have taken considerable effort.
- 2.8 Although not compulsory to do so, the driver was wearing a seatbelt. Had he not been, it was likely he would have suffered more serious injuries. A safety recommendation relating to the wearing of seatbelts has been made to the Chief Executive of Tranz Rail.
- 2.9 While the speed of the vehicle at the time of the accident could not be confirmed, the driver had indicated he was travelling at about 45 km/h which was 5 km/h less than the authorised speed when approaching the derailment curve.

- 2.10 Given that the accident occurred at about 1600 near 27.5 km MNPL, the driver had a further 16 km, and 15 minutes available time, to reach the limit of his authority by the designated time. To achieve this he would have needed to average 64 km/h or 14 km/h more than the maximum authorised speed for the HRV. There was the possibility that the driver was focused on reaching 16 R signal at Aramoho without overrunning his authorised time limit but he could also have off-tracked at any of a number of level crossings before reaching Aramoho and requested further track occupancy authority from train control.
- 2.11 At the time of the accident under Tranz Rail operating rules, the train controller assumed that the track user had cleared the limits of the authority before the designated time unless he was advised otherwise. The designated time for the HRV occupation was 1615 and the train controller had no advice to say that the track was not clear, so at 1736 he issued a track warrant to the locomotive engineer of Train 545 to enter the occupied Aramoho-Ruatangata track section. Transfield's instruction to staff made it compulsory to call train control and advise when clearing the limits of the occupation authority, which was in conflict with Tranz Rail's operating rules. The anomaly has since been overcome with the adoption of enhanced track occupancy procedures.
- 2.12 Had the driver remained trapped in the vehicle and the HRV been foul of the track, it was likely that Train 545 would have collided with the wreckage with possible fatal consequences.
- 2.13 After receiving notification of the accident from the Police, Tranz Rail recovery operation was smooth and well co-ordinated.

3 Findings

Findings are listed in order of development and not in order of priority.

- 3.1 HRV 67425 was given a 6-monthly mechanical certification on the morning of the accident. The inspector did not identify a mechanical fault.
- 3.2 The spare front wheel was fitted to the left rear axle but because the driving wheels were in contact with the rail, equal traction was achieved and no asymmetric drive was present to cause the derailment.
- 3.3 The rear axle of the HRV probably derailed as a result of a sudden increase of transverse loading on the right-rear rail wheel. The combination of excessive rail wear and grease on the railhead reduced the friction between the flange and railhead thereby allowing the flange to climb over the railhead.
- 3.4 The driver had not completed all aspects of the certification process and therefore was unfamiliar with the operating procedures and should not have been permitted to operate the HRV without supervision.
- 3.5 The safety barrier behind the driver contained the equipment within the cargo compartment of the HRV.
- 3.6 Had the driver not been wearing a seatbelt, his injuries were likely to have been more serious.
- 3.7 Tranz Rail operating rules at the time of the accident permitted the train controller to authorise a train service into a section of track that remained occupied after the designated time.

4 Safety Actions

4.1 On 1 July 2003 Tranz Rail advised that enhanced Track Occupancy Procedures had been phased-in on the network from 17 March 2003 with implementation scheduled for completion early November 2003. These procedures essentially consisted of 4 specific categories:

- protection by track warrant for HRV movements
- protection by signal blocking in centralised traffic control and double line automatic signal territory for HRV movements
- protection in single line automatic signal territory for HRV movements
- individual train protection for authorised personnel when fouling mainlines and interlocked areas when moving on foot, making minor maintenance corrections or driving close to railway lines in these areas.

From 17 March 2003, all HRV movements within TWC territory on the MNPL have been authorised by the train controller issuing a track warrant.

5 Safety Recommendations

Safety recommendations are listed in order of development and not in order of priority.

5.1 On 20 May 2004 the Commission recommended to the Chief Executive of Toll NZ Consolidated Limited that he:

ensure that where fitted to HRVs, seat belts must be worn by the driver and all passengers when driving on track, except in situations where movements are at slow speed and it is necessary to frequently stop and get in and out of the vehicle. (018/04)

5.2 On 15 June 2004 the Chief Executive of Toll NZ replied in part:

As NZRC (TrackCo) are soon to take ownership of the infrastructure and the contract for its maintenance, Toll NZ does not feel it is appropriate to comment at this stage.

NZRC (TrackCo) should confirm acceptance or otherwise of this safety recommendation.

5.3 On 20 May 2004 the Commission recommended to the General Manager of Transfield Services (New Zealand) Limited that he:

ensure that staff allocated driving duties of on-track maintenance vehicles are appropriately trained and certificated. (019/04)

5.4 On 16 June 2004 the General Manager of Transfield Services (New Zealand) Limited replied in part:

Transfield Services accepts the safety recommendation.

Transfield Services does have an appropriate hi-rail vehicle driver training and certification system which includes appropriate certification in on tracking approvals from Train Control and all the various Safety Rules applying.

There is appropriate practical instruction and on the job training with an experienced operator as part of the overall training.

Regular safety observations on all operators of hi-rail vehicles is also part of the system.

The confirmation of practical training completion will in future be done by a mastery test which will be undertaken by all HRV drivers and records kept of its satisfactory completion. (Toll Rail hi-rail drivers will also be included).

I expect to have the safety recommendation completely implemented by 1 December 2004.

Approved on 26 May 2004 for publication

Hon W P Jeffries
Chief Commissioner



**Recent railway occurrence reports published by
the Transport Accident Investigation Commission
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03-104	express freight Train 380, derailment, Taumarunui, 16 February 2003
03-103	hi-rail vehicle and express freight Train 142, track occupancy irregularity, Amokura, 10 February 2003
03-102	hi-rail vehicle 67425, derailment, near Fordell, 10 February 2003
03-101	express freight Train 226, person injured while stepping down from wagon, Paekakariki, 7 January 2003
02-130	express freight Train 220, derailment, Rukuhia, 18 December 2002
02-127	Train 526, track warrant overrun, Waitotara, 17 November 2002
02-126	hi-rail vehicle 64892, occupied track section without authority, near Kai Iwi, 18 November 2002
02-120	electric multiple units, Trains 9351 and 3647, collision, Wellington, 31 August 2002
02-118	express freight Train 484, near collision with hi-rail vehicle, Tauranga, 7 August 2002
02-117	express freight Train 328 signal passed at stop, Te Rapa 31 July 2002
02-116	express freight Train 533, derailment, near Te Wera, 26 July 2002
02-112	passenger fell from the Rail Forest Express, Tunnel 29, Nihotupu Tramline, Waitakere, Saturday 4 May 2002
02-104	express freight and passenger trains, derailments or near derailments due to heat buckles, various localities, 21 December 2001 to 28 January 2002
02-113	passenger express Train 700 TranzCoastal and petrol tanker, near collision Vickerman Street level crossing, near Blenheim, 25 April 2002
02-107	express freight Train 530, collision with stationary shunt locomotive, New Plymouth, 29 January 2002
01-111	passenger EMU Train 2621, door incident, Ava, 15 August 2001

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