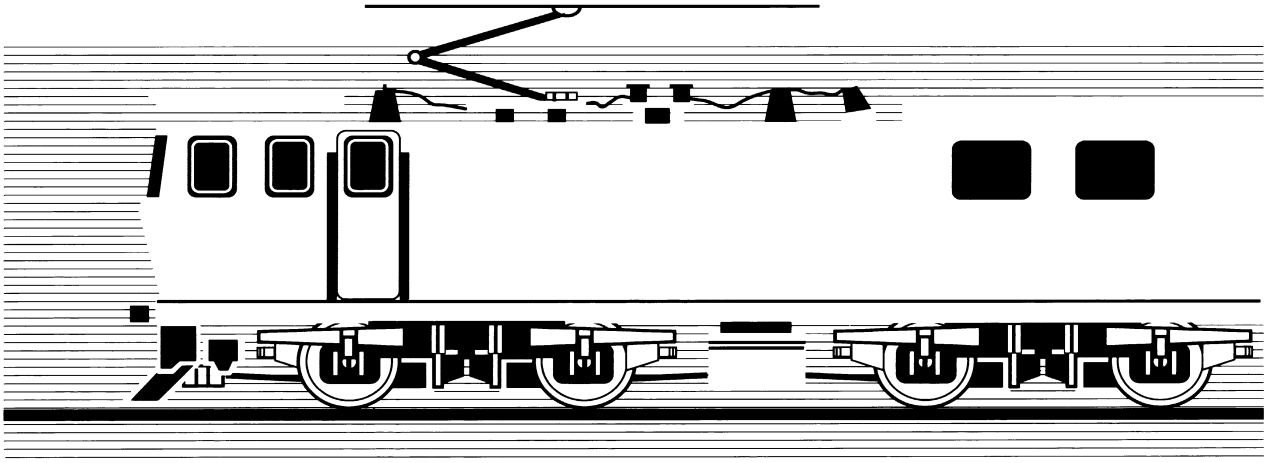
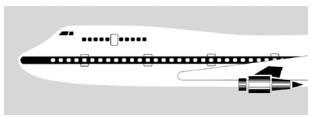
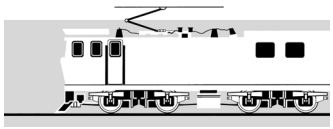
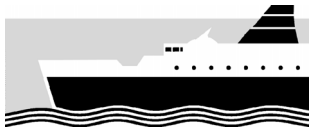


RAILWAY OCCURRENCE REPORT

02-120 **electric multiple units, Trains 9351 and 3647, collision, Wellington** **31 August 2002**

TRANSPORT ACCIDENT INVESTIGATION COMMISSION
NEW ZEALAND

The Transport Accident Investigation Commission is an independent Crown entity established to determine the circumstances and causes of accidents and incidents with a view to avoiding similar occurrences in the future. Accordingly it is inappropriate that reports should be used to assign fault or blame or determine liability, since neither the investigation nor the reporting process has been undertaken for that purpose.

The Commission may make recommendations to improve transport safety. The cost of implementing any recommendation must always be balanced against its benefits. Such analysis is a matter for the regulator and the industry.

Report 02-120

electric multiple units Trains 9351 and 3647

collision

Wellington

31 August 2002

Abstract

On Saturday 31 August 2002 at about 1515, Train 9351, a Tranz Metro[1] Johnsonville to Wellington electric multiple unit passenger service collided with Train 3647, a Tranz Metro Upper Hutt to Wellington electric multiple unit passenger service, as both trains were approaching the Wellington platforms on converging tracks.

There were no injuries to passengers or crew and only minor damage to the trains.

The safety issues identified included the well-being of the electric multiple unit driver of Train 9351 and his resulting capacity to recognise and respond to a danger signal indication.

One safety recommendation was made to the Managing Director of Tranz Rail.

[1] Tranz Metro was the group within Tranz Rail with responsibility for the operation of suburban train services in Wellington.

Contents

Figures

Abbreviations

EAP	Employee Assistance Programme
EMU	electric multiple unit
km	kilometre(s)
km/h	kilometres per hour
m	metre(s)
Tranz Rail	Tranz Rail Limited
UTC	coordinated universal time

Data Summary

Train type and number:	electric multiple units Trains 9351 and 3647
Date and time:	31 August 2002 at about 1515[2]
Location:	Wellington
Persons on board Train 9351:	crew: 2 passengers: about 20
Persons on board Train 3647:	crew: 2 passengers: about 34
Injuries:	crew: nil passengers: nil
Damage:	minor to both trains
Operator:	Tranz Rail Limited (Tranz Rail)
Investigator-in-charge:	D L Bevin

[2] All times in this report are New Zealand Standard Time (UTC+12) and are expressed in the 24-hour mode.

1 Factual Information

1.1 Narrative

1.1.1 On Saturday 31 August 2002, Train 9351 was the scheduled 1500 electric multiple unit (EMU) passenger service from Johnsonville to Wellington. It consisted of one DT non-powered passenger car and one DM powered passenger car, crewed by an EMU driver and a guard. Train 9351 was scheduled to arrive in Wellington at 1521.

1.1.2 On the same day Train 3647 was the scheduled 1430 EMU passenger service from Upper Hutt to Wellington. It consisted of one ET non-powered passenger car and one EM powered passenger car, crewed by an EMU driver and a guard. Train 3647 was scheduled to arrive in Wellington at 1520.

1.1.3 Train 3647 departed from Kaiwharawhara, the last station before Wellington, and as it approached Signal 2R (see Figure 1) the driver saw that the signal displayed a "Stop" indication and he stopped at the signal while a freight train crossed the main line in front of him. At the same time he saw an EMU (Train 9351) proceeding towards Wellington on the Johnsonville Line to his right and above him.

1.1.4 When Signal 2R changed to a "clear proceed" indication, the driver of Train 3647 powered up his train and continued towards Wellington. When the speed reached about 65 km/h he shut off the power and coasted. His train caught up with and passed Train 9351, which was running on an adjacent track and he did not see Train 9351 again until after the collision.

1.1.5 As Train 3647 approached Signal 39 the driver saw it was displaying a "clear proceed" indication for his train and noticed that Signal 38, the equivalent signal for trains from the Johnsonville Line, was displaying a "caution proceed" signal. Both trains were under braking as they approached their respective signals.

1.1.6 Train 3647 passed Signal 47, the next signal in advance, which was displaying a "caution proceed" indication, and the driver increased his braking as the train went through the crossovers enroute to Platform 3, where it was to berth. It was at this time that he felt a "couple of shudders" and thought he had experienced an earthquake but the movement ceased when the train, which was coasting, stopped.

1.1.7 The driver then realised his train had derailed and when it stopped he wound down his cab window and looked back. He saw the other EMU in an unexpected position, so he went to the other side of his train and again looked back to see that the rear car on his train was leaning over at about 30 degrees. He lowered the pantograph from the overhead power supply before climbing out of the train and walking back with the guard to the rear car. He operated the emergency controls located on the outside of the passenger car to open the doors to evacuate the passengers because it was not possible for them to safely get through to the front car because of the lean on the rear car (see Figure 2).

1.1.8 After the passengers had been evacuated from the rear car, the driver and guard returned to the front car and evacuated those passengers through the luggage storage area at the front of the car. Once all the passengers were clear of the train the guard directed them to the platform.

1.1.9 The driver of Train 9351 said that when his train had emerged from Tunnel 3 on the Johnsonville line he noticed an EMU stopped at 2R Signal. He thought that was unusual so tuned his radio to channel 1 in case the signalman wanted to contact him.

1.1.10 As Train 9351 descended the gradient towards Wellington the driver saw that 145 Signal, the next signal applicable to his train, was displaying a "caution proceed" indication. However, he did not remember seeing 38 Signal the next signal in advance, or the indication it was displaying.

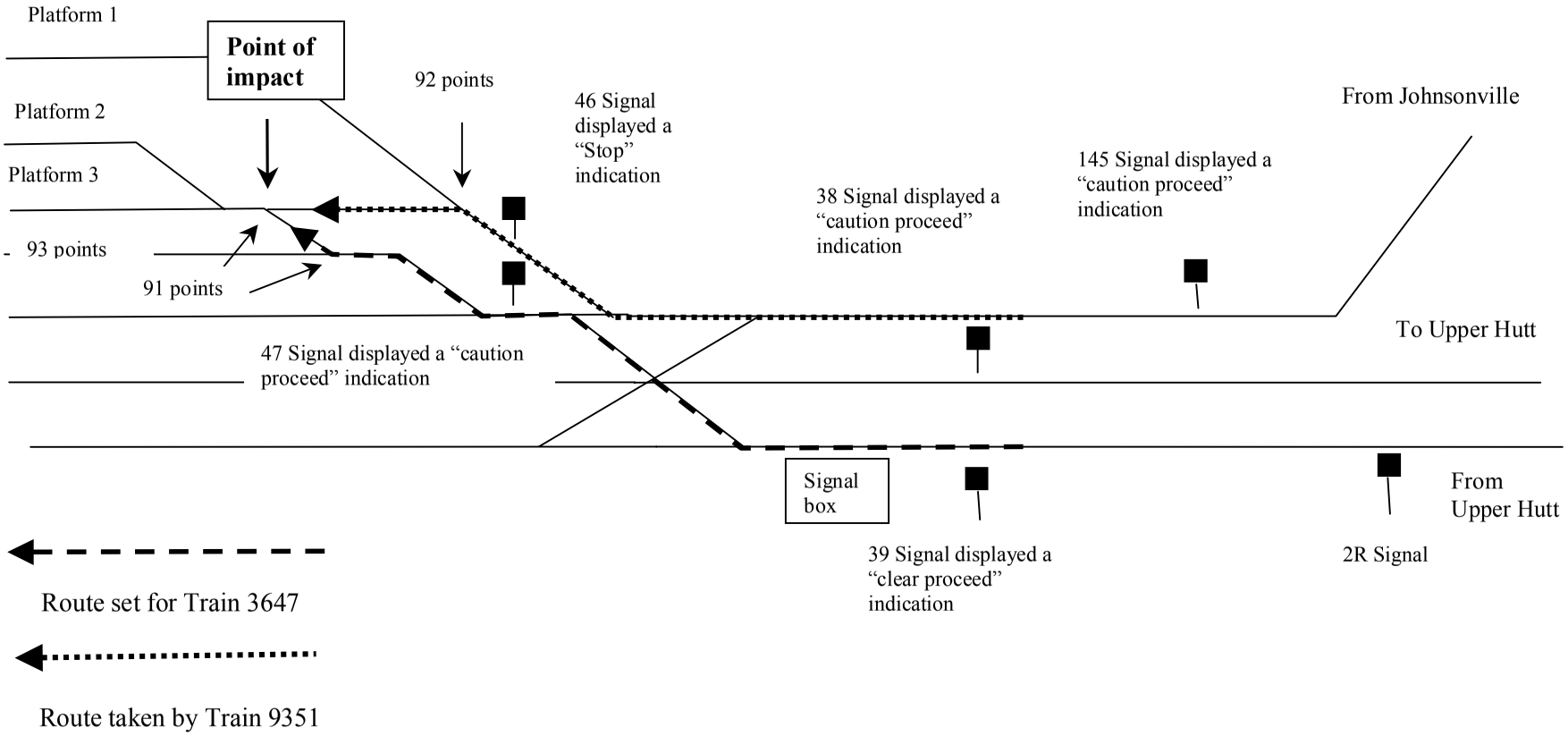


Figure 1
Wellington track layout showing point of impact (not to scale)

Figure 2
The rear car of Train 3647 showing the damage sustained

Figure 3
The rear car of Train 3647 at the point of impact

1.1.11 As his train ran along beside Train 3647, the driver of Train 9351 saw a "caution proceed" indication on a signal he thought was for his train and acted on it. As he did so he glanced briefly at Train 3647 because of their closeness and when he looked back to the front he saw the leading car of Train 3647 crossing in front of him. He immediately made an emergency brake application but he could not stop his train before it collided with the front of the rear car of Train 3647.

1.1.12 The driver of Train 9351 later recounted that the signal indication he had acted on was on 47 Signal and was for Train 3647. The signal indication he should have responded to was that displayed by 46 Signal, which was opposite 47 Signal, and was displaying a "stop" indication.

1.1.13 Minor damage occurred to the leading end of the rear car of Train 3647 (see Figure 2) and the leading end of the front car of Train 9351 (see Figure 4).

Figure 4
Damage to leading car of Train 9351

1.2 Site details

1.2.1 The collision occurred at the approaches to the platforms in a complex area of signals, points and crossings used to route arriving and departing trains between the platforms and the main lines into and out of Wellington.

1.2.2 The point of impact between the leading car of Train 9351, DM147, and the trailing car of Train 3647, ET3079, was on 93 points, where the 2 routes converged, about 56 m beyond 46 Signal.

1.2.3 The 38, 39, 46 and 47 Signals were defined as stop and stay signals and, together with the other signals and points for the approaches to the platforms, were operated from the Wellington signal box.

1.2.4 A permanent speed restriction of 20 km/h was in effect from 0.608 km to the base of the platforms at 0.00 km. The point of impact was 325 m from the base of the platforms and 283 m from the commencement of the speed restriction.

1.3 Signalling

1.3.1 Train movements into and out of the platforms in Wellington were controlled from the signal box located near the entrance to the platforms. From the signal box the signalman had an unobstructed view of train movements within that vicinity. Signal indications and track occupancy data was recorded on the signal monitor log. The log was downloaded following the collision and supplied for analysis.

1.3.2 The 145 Signal was classified as an intermediate signal and was positioned about 1100 m from the northern end of the platforms. It was the first signal encountered by trains approaching Wellington on the Johnsonville Line and indicated to EMU drivers the status of the section ahead and the indications being displayed on the next signal in advance, in this case 38 Signal (see Figure 5).

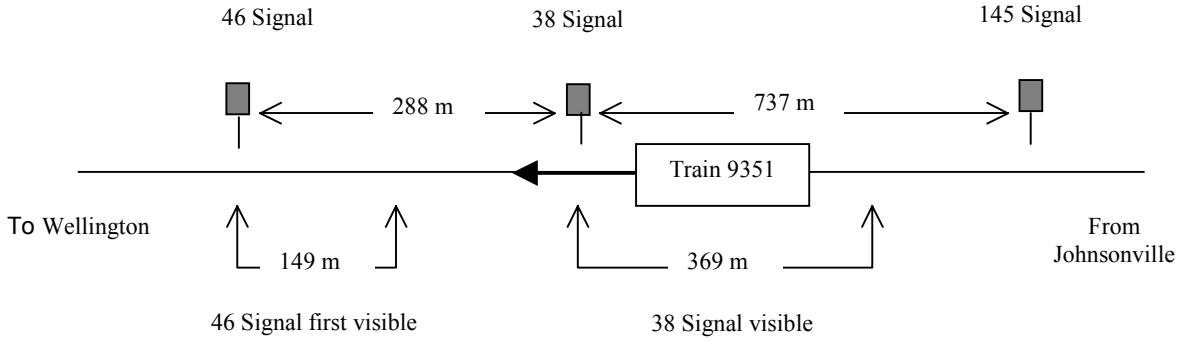


Figure 5
Positions of signals approaching Wellington on the Johnsonville Line (not to scale)

1.3.3 The 38 Signal was the down home signal and was positioned 737 m past 145 Signal. It also indicated to the driver the status of the section ahead and the indications being displayed on the next signal in advance, in this case 46 Signal. 38 Signal was visible for 369 m as trains approached it.

1.3.4 The 46 Signal was a directing signal positioned 288 m past 38 Signal. The signal became visible from a distance of about 150 m but the presence of overhead power poles alongside the track meant it was sometimes obscured as trains approached it.

1.3.5 A Review of Signalling and Related Operations in Relation to SPAD (Signal Passed at Danger) commissioned by the Director of Land Transport Safety and undertaken by international consultants in November 2002 made the following comments:

- The directing signals outside Wellington A Box (46, 47, 48 and 49) were considered problematic, especially when coming in from the Johnsonville line. The signal for the Johnsonville line (46) was far to the right coming in and out of view, while the signal in clear view (47) was for another line.
- A planned comprehensive review of signals was mentioned in TRL's 22 point plan for SPAD reduction, and a review of Wellington suburban signals was recommended following the August 31 collision. TRL has stated that these signal reviews had been initiated. Our discussions with management, however, indicated that at the time of our review, progress on these was slow.

The Review recommended that:

- The signal-by-signal SPAD risk assessment planned by TRL should be expedited. Those signals identified as high-risk should receive engineering interventions preferentially.

1.3.6 On 5 May 2003 Tranz Rail advised that:

> …the review specifications are in the final stages of development and we have already asked locomotive engineers (including their signal sighting reps) to identify signals which they consider should be included in the review.
>
> This information will set the agenda for a formal audit of each of these signals, which will be assessed against defined criteria. It is expected this audit will be completed by the end of August 2003.

1.4 Operating details

1.4.1 There were 9 platforms at the Wellington station but during the weekends normal practice was to use a smaller number, with platform 2 used for Johnsonville services, platform 3 for Upper Hutt services and platforms 4 and 5 for Paraparaumu services. Surplus rolling stock was parked at the other platforms during this time.

1.4.2 The approaches to platforms 2 and 3 required the use of about 5 m of common territory track between 91 points and 93 points for berthing trains to those platforms (see Figure 1).

1.4.3 Weekend timetables scheduled trains to arrive in Wellington from Upper Hutt at 20 minutes past the hour and from Johnsonville at 21 minutes past the hour. This was to provide connections with outbound services to Paraparaumu, which departed at 30 minutes past the hour.

1.4.4 Under normal circumstances, Train 3647 would have been berthed at Platform 3 before the arrival of Train 9351. However, on this occasion, it had been delayed at 2R Signal by a freight train berthing in the Wellington freight terminal, which meant that both EMU services had approached Wellington together.

1.5 EMU event recorder

1.5.1 The event recorder data from Train 9351 from Johnsonville was downloaded and supplied for analysis. Train 3647 from Upper Hutt was not equipped with an event recorder.

1.6 Personnel

Driver of Train 3647

1.6.1 The driver of Train 3647 had been a locomotive engineer for about 30 years during which he had driven freight trains and EMUs. For the previous 11 years he had driven only EMUs. He had commenced his shift at 0840 at Wellington.

Guard of Train 3647

1.6.2 The guard of Train 3647 had been employed as a guard for about 14 months. He had commenced his shift at 0745 at Wellington.

1.6.3 The guard had been in the front car talking to some of the passengers as the train approached Wellington. He noticed Train 9351 travelling beside them and thought it unusual as he didn't normally see trains from Johnsonville arriving on Saturday because trains from Upper Hutt usually arrived in Wellington ahead of their scheduled arrival times due to lower passenger loadings.

1.6.4 The guard thought that Train 9351 was slowing down as it ran beside them and he continued talking to the passengers until he felt something " like a ripple of going through points that just aren't set properly and the train sort of rocks…"

1.6.5 When his train stopped, the guard stood up and looked back through the interconnecting door to the rear car. All he could see was the end of the rear car as it leaned at an angle across the window of the door, preventing him from seeing into the car.

1.6.6 The guard and driver climbed down from the train and walked back to the rear car. Together they supervised the evacuation of the passengers and the guard directed them to Platform 4 where they would be met by emergency services. He noticed that most of the passengers just walked to the platform and continued on their way without waiting.

Driver of Train 9351

1.6.7 The driver of Train 9351 had worked for Tranz Rail for about 22 years during which time he became a grade 1 locomotive engineer and had transferred to the EMU driving roster about 12 months previously. He had commenced his shift at 1235 at Upper Hutt.

1.6.8 The driver said that he had woken up at about 0500 on the day of the accident. He said that he had achieved a reasonable night's sleep despite having woken early due to worries about personal issues. He got up about 0800 and remained at home until lunchtime, before going to work. He felt well and confident in his fitness to drive when reporting for duty. His first rostered job was the 1300 EMU passenger service from Upper Hutt to Wellington. The trip was uneventful and he had arrived in Wellington at 1350.

1.6.9 After arriving in Wellington the driver went to the lunchroom and started reading that morning's newspaper. He read an article that was a disturbing reminder of a recent bereavement of a close family member who had died in tragic circumstances. He tore the article from the paper and put it in his pocket before going out to do his next rostered job, an EMU passenger service to Johnsonville.

1.6.10 The driver departed from Wellington at 1432 on Train 9350 and arrived in Johnsonville at 1453. He said that during this journey he had been struggling to concentrate on what he was doing but had not mentioned his difficulties to the guard because he felt it was a personal matter.

1.6.11 Before departing from Johnsonville on Train 9351, the driver again read the article from the newspaper. He became further upset and knew after he had departed that he was not focussed on his work because of his grief. In an effort to get his mind back on what he was doing he changed his method of braking for stopping at platforms enroute.

Guard of Train 9351

1.6.12 The guard of Train 9351 had commenced his shift at 0655 at Paekakariki.

1.6.13 He was travelling in the rear car of Train 9351 as it approached Wellington and, although he had been aware of the presence of Train 3647 as it travelled beside them, he had not seen any signal indications because of his position.

1.6.14 Immediately following the collision the guard checked that all his passengers were unhurt and, after the driver had lowered the pantograph from the overhead power supply, evacuated the train

through the luggage storage area at the rear end of the leading car because he could not operate the passenger saloon doors. He then escorted the passengers on foot to the platforms.

The signalman

1.6.15 The signalman was in his second term of employment with Tranz Rail and had been in the position for 14 months, after working elsewhere for 15 years. In his first employment with Tranz Rail he had been signalman in the Wellington signal box for about 8 years.

1.6.16 The signalman had started his shift at 0650 and had a largely uneventful shift. At about 1509 he set the route and cleared signals for Train 3647 and Train 9351 to approach the Wellington platforms; Train 3647 to berth at Platform 3 and Train 9351 to advance as far as Signal 46 where it was to stop until the route could be set for Platform 2.

1.6.17 Train 3647 from Upper Hutt was later than scheduled arriving, and the signalman had been watching the track indications on his signalling panel as the 2 trains approached. He intended that Train 3647 would berth at Platform 3 before he set the route to berth Train 9351 at Platform 2. As he watched his panel he heard the sound of crunching and turned around to see there had been a collision.

1.6.18 The signalman advised train control and asked the train controller to alert the emergency services. The signalman then went out to the site to assist the passengers and train crews.

The manager

1.6.19 On the day before the collision a brief, informal meeting took place between the driver of Train 9351and his manager. The driver had gone to see the manager in order to try and find out the source of allegations made against him. The manager told him she could not disclose the source because of confidentiality constraints and that the company was not taking any further action regarding the allegations as it considered the matter closed. Although the driver was unhappy, the manager said that, other than express his displeasure, he had not responded in any way that she considered to be abnormal behaviour under the circumstances. She had no concerns regarding his ability to continue driving trains and the driver had not indicated to her that the outcome had caused him any additional stress that required him to be removed from driving duties.

1.6.20 Although the manager was aware that the driver had been under Tranz Rail's Employee Assistance Programme (EAP), she was not made fully aware of the reasons why. The driver had made a self-referral to the programme and, under Tranz Rail's EAP policy, the reasons for such referrals were not usually disclosed to either the Company or to the employees' immediate supervisor by EAP personnel. She said that as a result she would have been unaware of the effect, if any, the meeting could have had on him in relation to his EAP issues.

1.6.21 The driver had been cleared to return to work by Tranz Rail's medical advisor and had been driving trains for 3 days before the meeting so the supervisor assumed that any issues raised during the EAP referral had been resolved.

1.7 Rostering

Driver of Train 3647

1.7.1 In the fortnight ending Saturday 31 August, the day of the collision, the driver of Train 3647 had been rostered and worked a total of 84 hours 30 minutes. He was on his sixth consecutive shift after having been rostered off duty for 3 days.

Driver of Train 9351

1.7.2 In the fortnight ending Saturday 31 August the driver of Train 9351 had been rostered and worked a total of 59 hours 30 minutes. He was on his second consecutive shift after having been rostered off duty for one day.

1.7.3 The incident happened about 2 hours 40 minutes into his shift, which had commenced at 1235.

1.7.4 The driver had been rostered on light duties[3] from Tuesday 30 July to Friday 16 August.

1.8 Recent medical history of driver of Train 9351

1.8.1 The driver had been taking prescribed medication for 2 months prior to the accident, but had made a good response to therapy following appropriate intervention. However, he became concerned that personal stresses, and the possible effects of medication were having an adverse effect on his health and thus his work performance. Through the company's employee assistance programme the driver requested to be removed from driving duties and to be assessed by the company's medical advisor.

1.8.2 The medical advisor assessed the driver on 29 July 2002 and as a result the driver was rostered on light duties with a reassessment with the medical advisor one week later. At this reassessment the medical advisor considered that, although there had been some improvement, the driver was still not fit to return to train driving duties and recommended that he continue on light duties, with a further reassessment on 19 August 2002.

1.8.3 Prior to this reassessment the driver's manager advised the medical advisor of allegations relating to the driver's work performance that had been received, and they agreed the medical advisor would discuss them with the driver at his forthcoming assessment. The medical advisor was satisfied with the way that the driver had handled and reacted to the allegations when they were discussed and as a result of this and the driver's overall improvement, the medical advisor had no hesitation in certifying the driver as fit to return to driving duties.

1.8.4 During the 7 working days between receiving clearance to resume driving duties and the accident the driver had felt well and confident that he was mentally and medically fit to drive. His driving performance did not receive any criticism and he experienced no performance concerns or driving incidents during that period.

1.8.5 Although the allegations had been discussed and appropriately responded to by the driver at his last medical assessment, their source had continued to concern him to the extent that the day before the accident, some 2 weeks after that assessment, he went and discussed them with his manager. However, she could not divulge the source of the allegations and as a result his concerns intensified.

1.8.6 Tranz Rail's rules stated that operating employees who suffered any illness or sudden incapacitation were to advise their supervisor or manager. Such employees were deemed to be unfit for operating duties until their condition had been examined and they were recertified as fit to recommence duty.

[3] Light duties included any other tasks that could be done by an employee which did not include the employee's normal operating assignment (eg duties of a locomotive engineer).

2 Analysis

2.1 The practice of 2 trains approaching the Wellington platforms simultaneously was common and was allowed for under the signalling and interlocking arrangements in place at the time. Although there was no physical safety defence included in the signalling system or track-work to prevent a collision in these circumstances, the 20 km/h speed restriction in place on the approaches to the platforms extended the time for drivers to identify and respond to the signals relating to their respective trains. This restriction also meant that the consequences of any collision would be mitigated.

2.2 Data downloaded from the event recorder from DM147, the power car on Train 9351, revealed the following:

- 20 seconds and about 107 m from impact the driver made a brake application that reduced the speed of the train from 29 km/h to 25 km/h in 5 seconds. This speed was then maintained for a further 10 seconds

- 5 seconds and about 38 m before impact the driver made an emergency brake application. The train was travelling at 25 km/h at that time

- 3 seconds and about 16 m before impact, the emergency brake responded. The speed at the time of impact was about 12 km/h.

2.3 Although Train 9351 was travelling slightly faster than the allowable speed shortly before the collision, it is doubtful that this was a contributing factor. The minor damage sustained by both EMUs and the absence of injuries probably reflected the low speeds immediately before and at the point of impact.

2.4 Analysis of the signal monitor log showed that:

- 38 Signal was cleared to "proceed" for Train 3647 at 1508, and 39 Signal was cleared to "proceed" for Train 9351 at 1518

- 38 and 39 Signals both reverted to "Stop" at 1519 after the respective trains passed them

- 47 Signal was cleared to "proceed" for Train 3647 at 1519 and reverted to "Stop" at 1522 after the train had passed it

- 46 Signal was not cleared to "proceed" for Train 9351 and remained at "Stop" at all times.

The log confirmed the signalman's intentions to advance Train 9351 to 46 Signal, where it would be held until after Train 3647 had cleared 91and 93 points and berthed at Platform 3.

2.5 Although 46 Signal was sometimes obscured from the driver of Train 9351 as his train approached it, the preceding signal, 38 Signal, was visible to him from 369 m away. From the indication on 38 Signal he should have expected 46 Signal to be probably at "Stop". However, having not seen 38 Signal he had no expectation for 46 Signal.

2.6 Following the collision Tranz Rail instigated a review of Wellington suburban signalling to be completed by the end of August 2003. In view of this, no recommendation relating to signalling has been made.

2.7 The driver's mental health and fitness for driving duties were probably satisfactory when he

reported for duty, despite some background stress and health problems. However, after reading and re-reading the disturbing newspaper article, he became acutely distressed, and his driving performance impaired. This was probably triggered by a strong stimulus leading him to recall and dwell on a recent tragic bereavement, causing grief and loss of concentration. While he had been able to compensate for the effects of other personal issues and stresses, this additional stimulus had the effect of causing him to suddenly decompensate, to the extent that he was no longer fit to drive.

2.8 Having recognised that he was not focussing on his work, the driver should have stopped at the nearest location where it was safe to do so, and reported that he was no longer fit for duty. Procedures existed for this situation and staff should be made aware of their responsibilities to immediately stand themselves down as soon as it is safe and prudent to do so if they become unwell for any reason while on duty. A safety recommendation to this effect has been made to the Managing Director of Tranz Rail.

2.9 The driver had been appropriately treated by Tranz Rail's medical staff and the risk of decompensation in this manner could not have been reasonably predicted. He suffered unexpected and unmanageable stress that could not have been foreseen when he was assessed. It was possible that the anonymous allegations made against him and his inability to adequately handle this may have contributed to the ongoing background stress and increased the likelihood of decompensating as he did.

2.10 The allegations against the driver had been investigated and dismissed and neither the medical advisor nor the company had any concerns about their continued effect on his driving performance. The manager's grounds for refusing to disclose the source of the allegations to the driver were valid. Although she recognised that the driver was upset by her response to his request regarding the source of the allegations, his behaviour had given her no obvious signs of any stress and, as she was largely unaware of the reasons for the driver having attended the EAP, she would not have known to look for any such signs. The fact that the driver had been cleared by the Company's medical advisor to return to full duties, and the fact that he had since been driving trains, suggested to her that there were no outstanding EAP issues left unresolved.

2.11 The number and timing of the driver's shifts during the week before the collision, interspersed as they were with days off duty for resting, were not arduous and, therefore, fatigue was not a contributing factor to the accident.

3 Findings

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

3.1 The collision occurred as a result of Train 9351 passing 46 Signal, which was displaying a "Stop" indication.

3.2 The driver of Train 9351 mistook the "proceed" indication displayed by Signal 47 as being applicable to his train and acted on it accordingly, having earlier missed the indication displayed on the preceeding signal applicable to his train.

3.3 The passing of the signal resulted from the driver's loss of attention and situational awareness, consistent with his having been distracted by personal issues and by his expectation that his next signal would display a "proceed" indication.

3.4 Once the driver of Train 9351 had missed the "Stop" indications on 46 Signal there was no physical defence in the signalling system or track-work that could have prevented his train from colliding with Train 3647.

3.5 The known occasional obscuring of 46 Signal should not have diminished its effectiveness.

3.6 The speed of Train 9351 had not contributed to the collision.

3.7 The route setting and signalling was in accordance with Wellington interlocking arrangements and did not contribute to the collision.

3.8 The roster and hours worked by the driver of Train 9351 were not excessive and did not contribute to the collision.

3.9 The driver's ability to carry out his duties safely and effectively was suddenly impaired by acute distress on a background of ongoing stress and depression, causing him to suddenly decompensate. His impaired driving performance and poor concentration as a result contributed to the collision.

3.10 The manager had not detected any unusual behavioural patterns in the driver at their meeting that would had led her to conclude that he was unfit to continue train driving duties.

4 Safety Recommendations

4.1 On 16 September 2003 it was recommended to the Managing Director of Tranz Rail that he:

> reinforce with operating staff the company's procedures for reporting instances of sudden incapacitation through illness or other condition while on duty (035/03)

4.2 On 12 September 2003 the Managing Director of Tranz Rail responded to the preliminary safety recommendation, which was subsequently adopted unchanged as the Commission's final safety recommendation. That response was that Tranz Rail accepted the recommendation.

Approved for publication 24 September 2003

Hon W P Jeffries
Chief Commissioner

Recent railway occurrence reports published by the Transport Accident Investigation Commission (most recent at top of list)

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
01-107	passenger baggage car Train 201, broken wheel, Otaihanga, 6 June 2001
01-112	Shunt 84, runaway wagon, Stillwater, 13 September 2001
01-113	DC4185 light locomotive and private car, collision, Egmont Tanneries private level crossing 164.14 km Stratford, 19 September 2001
01-109	passenger EMU Train 8203, doors open on EMU, Tawa, 16 July 2001
01-108	express freight Train 842, derailment, Otira Tunnel, 7 July 2001
01-106	express passenger Train 600 Bay Express and maintenance plant, collision, Muri, 6 May 2001
01-104	express freight Train 547 and express freight Train 531, collision, Mokoia, 7 March 2001

Transport Accident Investigation Commission
P O Box 10-323, Wellington, New Zealand
Phone +64 4 473 3112 Fax +64 4 499 1510
E-mail: reports@taic.org.nz Website: www.taic.org.nz

Price $ 18.00 ISSN 0112-6962