Australian Government
Australian Transport Safety Bureau

Derailment of freight train 331

Lowdina, Tasmania | 9 April 2013

Investigation

ATSB Transport Safety Report
Rail Occurrence Investigation
RO-2013-012
Final – 15 October 2013

Cover photo: **ATSB**

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Addendum

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Safety summary

What happened

At about 2119 on 9 April 2013, freight train 331 derailed while travelling between Burnie and Boyer in Tasmania. The train travelled for about 2.5 km while derailed and came to a stop at Lowdina, about 48 km north of Hobart.

Derailment site at Lowdina

Source: ATSB

What the ATSB found

The ATSB investigation found that a large twist defect in the track near Lowdina caused the leading wheelset of the third wagon's trailing bogie to unload and derail.

The investigation further found that it is likely that a previously undetected, small to medium sized twist defect, either at or near the derailment site, developed under the passage of train 331.

What's been done as a result

Prior to this incident, the network owner/manager (TasRail) had identified the need to renew the track infrastructure in the area of the derailment and anticipates that the track between Colebrook and Campania should be renewed by June 2014.

Safety message

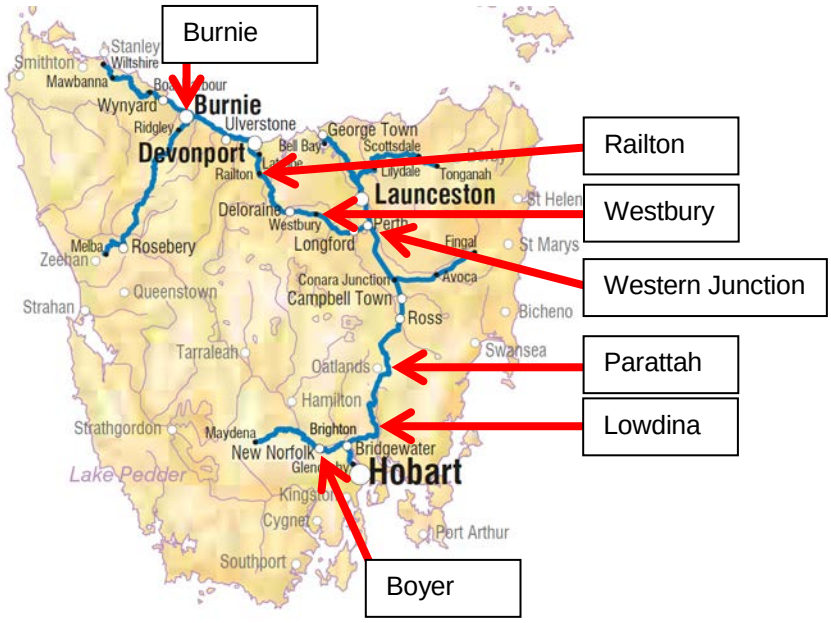
Early detection and conscientious management of track defects is critical in maintaining safe rail operations.

Contents

The occurrence

At about 0941 on 9 April 2013, intermodal freight train 331 departed Burnie bound for Boyer in Southern Tasmania (Figure 1). The train was operated by a single driver and consisted of 5 locomotives (two of which were non-powered) hauling 28 wagons. It weighed 1122 t and was 586 m long.

Figure 1: TasRail network



Source: NatMap, Geoscience Australia

During the journey, routine driver changes were made at Railton and Westbury and, at 1507, the train arrived at Western Junction, where shunting operations were carried out. At 1542, the train departed Western Junction.

At about 1946, a further routine driver change was performed at Parattah. At 2000, after completing a roll-by inspection, the train departed Parattah. It travelled southwards towards Boyer through tight curves and steep grades at speeds between 19 km/h and 42 km/h, with the driver controlling the train's speed using the train braking system, as dynamic braking was not available[1]

The driver noted that the train's air brakes applied a little harder than normal and took longer than expected to recharge. He determined that there was no real concern and adjusted his driving practices accordingly. He also noted that he did not experience any in-train forces, buff (compression) or draft (tensile), during braking.

At 2118:20, the driver made a light brake application to control the train's speed on a steep down grade. About 25 seconds later, he made a slightly heavier brake application, about 15 per cent of full capacity, and at 2118:53, he released the locomotive's independent brakes. The train's speed was 37 km/h, slightly less than the posted speed limit of 40 km/h.

At 2119:05, the leading wheelset of the third wagon's (IB197R) trailing bogie travelled over a twist defect on a tight left-hand curve and climbed the high rail before derailing to the right-hand side of

[1] Generally on steep grades, trains would predominantly use dynamic braking in the locomotives to control speed however, the majority of the TasRail locomotive fleet are not currently fitted with dynamic braking

the track at the 50.490 km point south (kps)[2]. About 20 m later, the trailing wheelset in that bogie also derailed to the right-hand side of the track in the direction of travel.

Train 331 continued with the driver unaware of the derailment. The train brakes were released about 45 seconds later at a speed of about 28 km/h. The train's speed gradually increased to about 39 km/h before it climbed a short uphill section and then levelled off towards Lowdina. The train approached Lowdina travelling at a speed of about 22 km/h, below the permitted speed limit of 25 km/h.

At 2123:25, the derailed bogie struck a set of points at Lowdina. The impact resulted in the third wagon completely derailing followed by the fourth (QM6F) and fifth (QS59P) wagons derailing and separating, spilling their containers around the adjacent area. Wagon IB197R was carrying two containers of sodium hydrosulphite[3] and wagon QM6F was carrying an ISO tank of phosphoric acid solution. [4] The separation caused the train's brakes to apply, as designed, and it stopped about 90 m later.

The driver notified the train control centre, then activated his personal monitor and walked back to check the cause of the loss-of–air. [5] He was aware that dangerous goods were on the train, their position in the consist and what precautions he should take.

The driver discovered that the derailment had involved the dangerous goods. He updated train control and they began to arrange a response. He did not detect any leaks and secured the train by applying the wagon hand brakes.

A short time later, a number of TasRail employees arrived on site to assist with the incident, one of whom specialised in dangerous goods management. About 2 hours later, phosphoric acid was discovered leaking from the top hatch of the ISO tank. Once it was determined that it was safe to do so, a number of spill kits were deployed to contain the leak.

At 2351, the Tasmanian Fire Service HAZMAT team were advised of the spill. At about 0030 on 10 April, they arrived on site and took control of the response. It was estimated that about 89 litres of phosphoric acid escaped from the ISO tank, most of which was contained on site. At about 1200, the site was declared safe by the HAZMAT team and investigation/recovery operations began soon after.

Figure 2: Dangerous goods

Source: ATSB

While wagons QM6F and QS59P were found to be repairable, wagon IB197R was destroyed as a result of the derailment.

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2 Measured from Hobart on the South Line.

3 Spontaneously combustible dangerous goods - class 4.2 - UN No. 1384.

4 Corrosive dangerous goods - class 8 - UN No. 1805.

5 The driver is required to walk back and ascertain the reason for the event, if safe to do so, and is required to activate a personal monitoring device, which is used to remotely monitor the welfare of drivers when outside the cabin.

Approximately 800 steel sleepers were replaced along with about 24 m of rail and associated fasteners and switch gear. The track was reopened to rail traffic on 12 April.

Context

Location

Lowdina is located about 48 km by rail north of Hobart on the South Line between Colebrook and Campania (Figure 1). The track in the area has many tight curves (generally 160 m radius but as low as 100 m) and steep grades (1:40) with a track speed limit of 40 km/h in the area of derailment.

The single track consists of narrow gauge (1067 mm nominal) 41 kg/m rail mounted on steel sleepers with resilient fasteners on a bed of ballast. Axle loads are limited to a maximum of 18 t. The track is bi-directional, meaning that trains run in both directions on the same track, with loops for passing and crossing movements. Authority to travel between sections is via a track warrant.

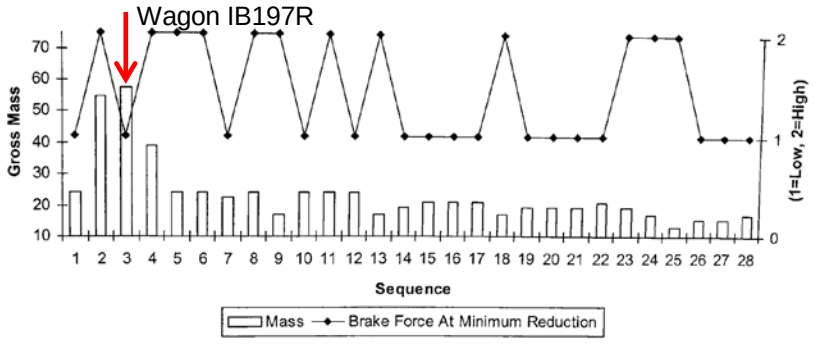
The rail network is owned and managed by TasRail, based in Launceston.

Train information

The train was marshalled with loaded wagons predominating towards the front of the train and empty wagons towards the rear of the train (Figure 3). The line in Figure 3 represents the brake force for each wagon at minimum brake pipe reduction (brake application).

Based on the available evidence, train handling is not considered to be a contributing factor in this derailment. Furthermore, it is considered that any in-train forces that were the result of braking would have equalised before wagon IB197R travelled over the twist defect and, therefore, did not contribute to the incident.

Figure 3: Consist mass distribution graph



Source: ATSB

Wagon IB197R

Wagon IB197R was a skeletal beam wagon (Figure 4) capable of carrying the equivalent of three TEU[6]. The wagon was constructed in 1992 in New Zealand and consisted of the skeletal deck, three-piece bogies, gap type side bearers and a single stage braking system. The wagon was limited to carry up to 72 t gross.

On the day of the derailment, the wagon was carrying two TEU (20.9 t each), one either end over the bogies.

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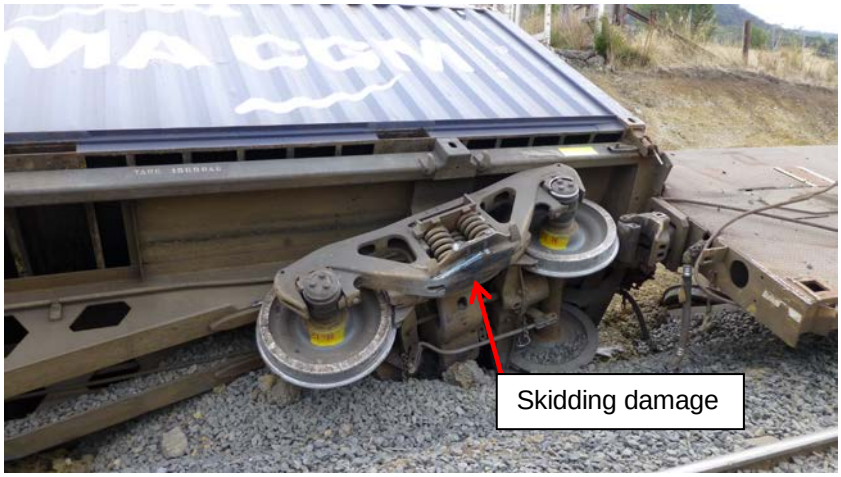
6 Twenty-foot Equivalent Unit, a standard shipping container.

Figure 4: Wagon IB197R

Source: ATSB

The trailing bogie on wagon IB179R was identified as the first to derail based on the amount of wheel and bogie damage. This was consistent with travelling in a derailed state for almost 2.5 km (Figure 5).

Figure 5: Trailing bogie of wagon IB197R



Source: ATSB

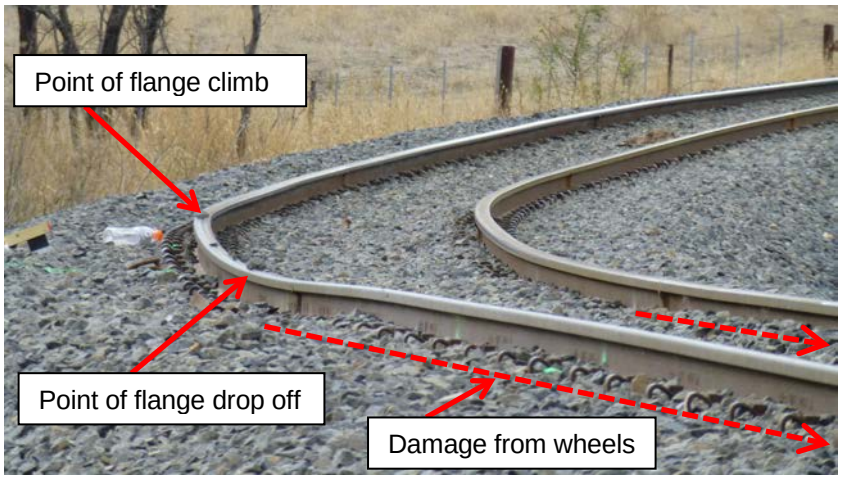
A post-derailment inspection conducted by TasRail indicated that the wagon was in serviceable condition before the derailment. Its bogies and wheelsets had been recently overhauled and no issues were found that may have contributed to the derailment.

Examination of track post derailment

An onsite inspection was conducted on 10 April 2013 by the ATSB investigation team, TasRail, and an officer from the Office of the National Rail Safety Regulator (ONRSR).

Evidence of flange climb was found on the high rail in a curve exit (Figure 6) at the 50.4847 kps. The flange mark ran across the rail head and dropped off the field side of the high rail about 7 m further along the track.

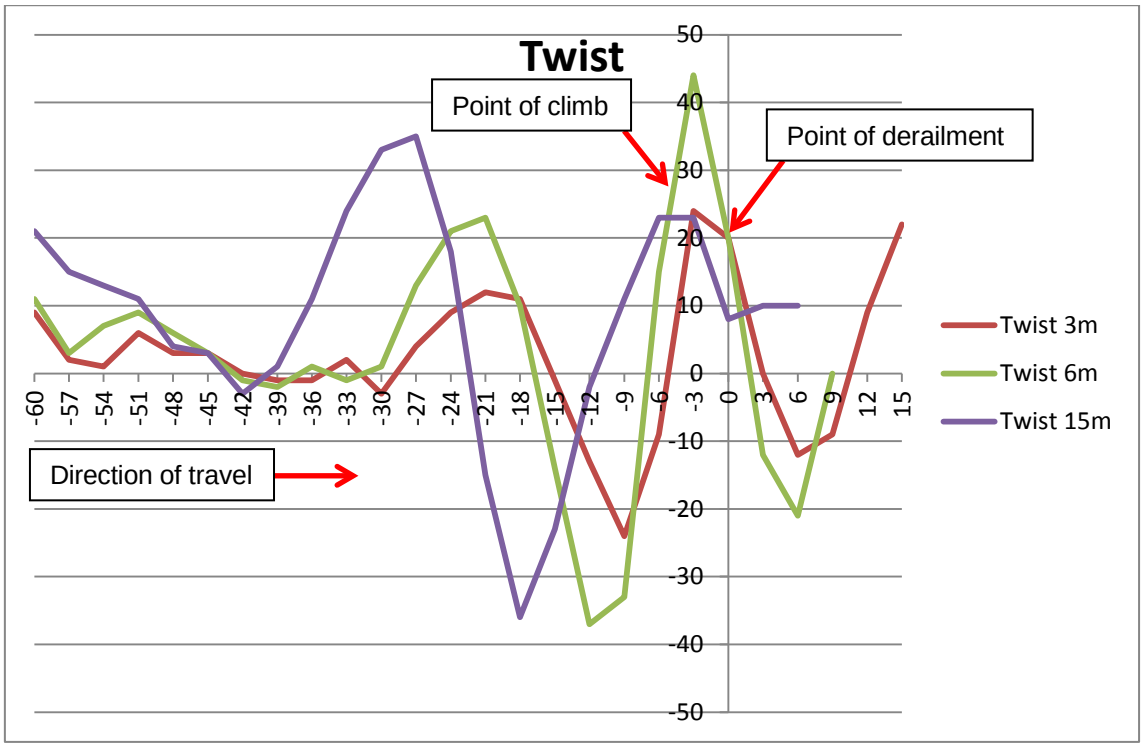
Figure 6: Twist in track at point of derailment



Source: ATSB

TasRail surveyed the site measuring gauge and cant. The results shown in Figure 7 indicate a twist in the track on the high rail side. The twist was in excess of the maximum allowable defect size for 3 m and 6 m lengths, meaning that it was classified[7] as a large defect and, therefore, required immediate attention prior to the passage of the next rail vehicle. Evidence of minor formation heaving was also noted by TasRail during the survey.

Figure 7: Twist measurements.



Source: ATSB

[7] In accordance with TasRail's track maintenance manual TR-INF-GP-001.

Track inspection and assessment

The section of track between Colebrook and Campania was maintained in accordance with TasRail's Track Maintenance Manual[8]. The manual outlined two complementary inspection and assessment types:

- scheduled inspections, and
- unscheduled inspections.

At the time of derailment, TasRail mandated that scheduled inspections for this section of track be performed by track patrols (at intervals not exceeding 96 hours), track twist trolley (at intervals not exceeding 10 weeks), 'front-of-train inspections' (at intervals not exceeding 3 months), detailed inspections on foot (tangent track not exceeding 6 months, curves not exceeding 3 months, points and crossings monthly), rail creep (6 monthly), and the track geometry car (at intervals not exceeding 6 months).

Unscheduled inspections usually occurred in response to defined events such as extreme weather conditions that were known to increase the risk of geometry defects. However, unscheduled inspections could also be initiated through third-party reporting such as train driver reports.

Most track defects were identified during track patrols, twist trolley and track geometry car inspections. Defects were recorded and actioned in accordance with criteria documented in the track maintenance manual using a three tiered classification system consisting of:

- Small – monitor and maintain.
- Medium – An appropriate temporary speed restriction shall be implemented immediately and maintained until such time as the defect has been removed.
- Large – Prior to the passage of any on-track vehicles, immediate temporary repairs shall be completed and an appropriate temporary speed restriction shall be implemented.

While TasRail's classification system has only three tiers, the intervention levels are comparable to those of other narrow gauge operators, for example Queensland Rail, when maximum axle loads, total tonnage, track class and train speeds are considered.

Hazardous location

The TasRail Track Maintenance Manual defines a hazardous location as 'track sections prone to stability failure' and should be monitored and maintained in accordance with the manual through more rigorous inspections. The track at the site of the derailment had not been identified as a hazardous location.

History of the TasRail network

The TasRail network dates back to the late 1800s and its alignment has changed very little since then. The network today consists of nine sectors totalling 632 operational route kilometres. Ownership of the network has passed between Government (both State and Commonwealth) and the private sector. The TasRail fleet is largely second-hand stock from other narrow gauge and standard gauge operators within Australia and New Zealand. On 1 December 2009, TasRail began operation as a State-owned company.

TasRail has widely documented issues with network integrity. In the financial year 2011-12, there were two mainline derailments; 28 October 2011 at Lowdina and 3 November 2011 at Campbell Town. Both occurrence investigations, conducted by TasRail, identified track formation, geometry and wagon related issues.

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[8] Document TR-INF-GP-001, R01

TasRail in its 2011/2012 annual report stated that:

> …the condition of the rail track, combined with the age and design of the current fleet of locomotives and wagons are consistently identified as contributing factors to derailments.

In August 2012, TasRail submitted a rail revitalisation program to Infrastructure Australia as a bid for Commonwealth funding. Their submission notes that:

> The lack of investment in the rail infrastructure, and the impact of the deteriorated asset condition on safety, reliability and consequently market share, has been broadly observed and well documented over a lengthy period of time. Due to the nature of the problem being asset condition, options other than asset renewal have not been considered (noting that the associated renewal of above rail assets and investment in improved intermodal connections that forms the Rail Revitalisation Program have been funded by the Tasmanian Government).

The current works program funded by the Tasmanian Government is due to be completed by 30 June 2014. The program covered in the submission to Infrastructure Australia is planned to commence on 1 July 2014 and operate for 5 years. The goal is to rejuvenate rail in Tasmania to have 'fit for purpose' rail infrastructure. The submission also notes the improvement to safety of the rail network, stating:

> Safety is a priority for TasRail and its customers. Reducing the number and severity of mainline derailments is a key performance indicator as they have the potential to undermine customer and industry confidence. The condition of the rail track, combined with the age and design of the current fleet of locomotives and wagons, are consistently identified as contributing factors to mainline derailments. Investment in the rail network to date, combined with improved business practices, has already demonstrated a significant improvement in the safety of the rail network; however, much work still remains to be undertaken.

The section of track between Colebrook and Campania is due to be renewed with concrete sleepers, embankment widening, drainage tamping and formation works, and new rail by June 2014 as part of the Tasmanian Government funded works program.

Additionally, new locomotives and rolling stock are currently being sourced to improve interoperability.

ATSB comment

Since TasRail had already identified and documented many issues relating to track infrastructure between Colebrook and Campania before this derailment and has already implemented a plan to renew it by June 2014, this investigation report does not address why, in this instance, the twist defect developed.

Actions of the driver and other staff

When the driver inspected the train post derailment, he was aware of the dangerous goods (both irritants), through available paperwork. He approached the derailment site with caution ensuring that there were no signs of danger, such as smoke, odd smells or irritation. He ascertained that wagons carrying dangerous goods had derailed and notified train control accordingly. TasRail staff were quickly at the scene with the appropriate expertise and equipment to deal with a potential chemical spill.

The Tasmanian Fire Service was not immediately advised because there was no observed leakage/spillage of dangerous goods. However, when leakage was identified, they were informed immediately and also responded quickly.

It was noted that if the derailment had occurred further away from the Brighton Transport Hub[9], assisting staff from the hub and the Tasmanian Fire Service may not have been so readily

[9] The main TasRail depot near Hobart.

available. This would have left the driver alone and exposed to a dangerous goods risk for a much longer period of time.

Safety analysis

Derailment mechanism

Based on available evidence, a large twist defect in the track near Lowdina (50.5 kps) caused the leading wheelset of the trailing bogie on wagon IB197R to unload and climb the high rail at 50.48 kps, run along the rail head, and derail on the field side of the high rail. The trailing wheelset derailed shortly thereafter.

Track geometry

On 14 December 2012, about four months before the derailment, an inspection carried out by the track geometry car identified a 'small' twist defect at about the 50.48 kps. On 4 March 2013, five weeks before the derailment, the twist trolley was used to measure the site again and a 'medium' twist defect was recorded at 50.44 kps. Corrective action was taken to lift and pack the track then a temporary speed restriction (TSR) of 20 km/h was applied for a minimum of two weeks prior to being lifted before the derailment.

Maintenance records also indicate that nine track patrol inspections were conducted using a road/rail vehicle between the twist trolley inspection (4 March) and the day of the derailment. None of these inspections, including one that was completed the day before the derailment, identified a twist defect of any classification at, or near, the point of derailment.

Furthermore, there had been no reports from third parties, such as train drivers, relating to track defects at the location of the derailment. When interviewed, the driver of train 331 could not recall passing over any notable rough riding sections in that area on this or a previous journey in the opposite direction earlier in the day.

However, experience has shown that the development of a large twist defect is unlikely to occur within a day of a track inspection unless there is a catastrophic failure of the track structure.[10] Since there was no such evidence found at the derailment site, it is likely that an undetected twist defect existed before the passage of train 331 and that it developed under the train, becoming large enough to initiate the derailment of the trailing bogie on wagon IB197R.

It is possible that drivers operating train services over this section of track in the days before the derailment did not feel the twist defect due to its size and the dynamics of the locomotives (wheelbase, vehicle stiffness, etc) and thus did not report it.

It is also possible that the track inspectors did not identify the twist defect due to its size and the characteristics (wheelbase) of the on-track inspection vehicle. Furthermore, since the routine track inspections did not employ specialist tools to locate this type of defect they were reliant on visual inspections which can, at times, be unreliable.

Hazardous location

Both the 14 December 2012 and 4 March 2013 track geometry car inspections identified a twist defect at, or near, the site of the derailment. An examination of maintenance documentation also established that there had been at least seven instances of maintenance intervention (tamping, formation repair, correction of track alignment and others) near the point of derailment over the previous 12 months.

Accordingly, it was likely that the track through this area had an elevated risk for geometry defects and qualified for consideration as a 'Hazardous Location' as defined in TasRail's Track

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[10] Explained in more detail in ATSB report RI-2011-015 *Investigation of rail operations on the interstate rail line between Melbourne and Sydney*.

Maintenance Manual[11] and, therefore, should have attracted greater rigour in any inspection process. However, no action over and above the routine inspections was taken to address what should have been considered to be a hazardous location therefore attracting greater rigour during those inspections.

Track Patrols

On 5 July 2010, TasRail issued General Order 10-005 that updated the Track Maintenance Manual's requirements for track patrols. The document stated that track patrols should be completed at periods not exceeding 96 hours (4 days).

However, the maintenance records indicate that, at times, the period between track patrols was as high as 6 days. These records also indicated that foot inspections, which were being conducted regularly, were not regularly being completed as required at 3 monthly intervals.

Conclusion

The TasRail maintenance programme consisted of a regime of specified track inspections and the intervals at which they should be completed. It also outlined how areas considered to pose a high risk to rail operations should be treated.

However, the available evidence indicates that the track patrols were not always completed in accordance with the schedule and were not an effective method of identifying and classifying track defects. Furthermore, track inspection and maintenance records were not being effectively evaluated to determine areas of track that posed a high risk to safe rail operations.

[11] Document TR-INF-GP-001 R01, Section 3.8.1, general item 8.

Findings

From the evidence available, the following findings are made with respect to the derailment of train 331 near Lowdina, Tasmania on 9 April 2013. These findings should not be read as apportioning blame or liability to any particular organisation or individual.

Safety issues, or system problems, are highlighted below in bold to emphasise their importance. A safety issue is an event or condition that increases safety risk and (a) can reasonably be regarded as having the potential to adversely affect the safety of future operations, and (b) is a characteristic of an organisation or a system, rather than a characteristic of a specific individual, or characteristic of an operating environment at a specific point in time.

Contributing factors

- It is likely that an undetected small to medium twist defect existed before the passage of train 331.
- **The twist defect was not detected by TasRail's inspection/monitoring systems, increasing the risk of derailment. [Safety issue]**
- It is likely that the twist defect developed under the passage of train 331, becoming large enough to initiate the derailment.
- The twist defect caused the leading wheelset of the trailing bogie on wagon IB197R to unload and climb the high rail at 50.48 kps, run along the rail head, and derail on the field side of the high rail. The trailing wheelset derailed shortly after.
- **TasRail had not instigated proactive action to manage the elevated risks associated with ongoing track stability issues at, or near, the derailment site in accordance with their maintenance procedures. [Safety issue]**

Other factors that increased risk

- **Track inspections were not consistently conducted at intervals in accordance with TasRail's standard. [Safety issue]**

Safety issues and actions

The safety issues identified during this investigation are listed in the Findings and Safety issues and actions sections of this report. The Australian Transport Safety Bureau (ATSB) expects that all safety issues identified by the investigation should be addressed by the relevant organisation(s). In addressing those issues, the ATSB prefers to encourage relevant organisation(s) to proactively initiate safety action, rather than to issue formal safety recommendations or safety advisory notices.

Depending on the level of risk of the safety issue, the extent of corrective action taken by the relevant organisation, or the desirability of directing a broad safety message to the rail industry, the ATSB may issue safety recommendations or safety advisory notices as part of the final report.

All of the directly involved parties were provided with a draft report and invited to provide submissions. As part of that process, each organisation was asked to communicate what safety actions, if any, they had carried out or were planning to carry out in relation to each safety issue relevant to their organisation.

Twist defect detection

Number:	RO-2013-012-SI-01
Issue owner:	TasRail
Type of operation:	Track maintenance
Who it affects:	TasRail

Safety issue description:

The twist defect was not detected by TasRail's inspection/monitoring systems, increasing the risk of derailment.

Response to safety issue and/or Proactive safety action taken by TasRail:

To improve the detection of track twist defects, TasRail have taken the following action:

- Increased twist trolley inspection regime from 10 weekly to monthly for areas identified as high risk for this section of track. This coincides with the Track Geometry Car which runs 3 monthly, thus when this occurs, the higher level Track Geometry Car inspection replaces the twist trolley inspection.
- Provide refresher training for Track Inspectors utilising external subject matter experts in fault identification and management.
- Purchased and issued new track measurement equipment to ensure accuracy and consistency of measurements.
- Conduct a review of the process for maintenance inspection management to ensure inspections performed to schedule.

Action number: RO-2013-012-NSA-03

ATSB comment in response:

The ATSB is satisfied that the action taken by TasRail should address this safety issue.

Elevated risk controls

Number:	RO-2013-012-SI-02
Issue owner:	TasRail
Type of operation:	Track maintenance
Who it affects:	TasRail

Safety issue description:

TasRail had not instigated proactive action to manage the elevated risks associated with ongoing track stability issues at, or near, the derailment site in accordance with their maintenance procedures.

Response to safety issue and/or Proactive safety action taken by TasRail:

To address proactive action to manage elevated risks with track stability issues, TasRail proposes to take the following actions:

- Complete the capital programme to improve track stability for previously identified high risk areas. This programme includes an extensive concrete re-sleepering programme for tight curves in the area of the derailment.
- Conduct a workshop for the review of hazardous locations and the management process for monitoring hazardous locations.

Action number: RO-2013-012-NSA-04

ATSB comment in response:

The ATSB is satisfied that the action proposed by TasRail, when completed, should address this safety issue. The ATSB will monitor the proposed actions until completion.

Track inspection intervals

Number:	RO-2013-012-SI-03
Issue owner:	TasRail
Type of operation:	Track maintenance
Who it affects:	TasRail

Safety issue description:

Track inspections were not consistently conducted at intervals of not more than 96 hours, in accordance with TasRail's standard.

Response to safety issue and/or Proactive safety action taken by TasRail:

To address track inspection consistency, TasRail proposes to take the following action:

- Conduct a review of the process for maintenance inspection management to ensure inspections performed to schedule.

Action number: RO-2013-012-NSA-05

ATSB comment in response:

The ATSB is satisfied that the action proposed by TasRail, when completed, should address this safety issue. The ATSB will monitor the proposed actions until completion.

General details

Occurrence details

Date and time:	9 April 2013, 2125 EST	
Occurrence category:	Incident	
Primary occurrence type:	Derailment	
Location:	Lowdina, Tasmania	
	Latitude: 42° 37.789’ S	Longitude: 147° 25.444’ E

Train details

Train operator:	TasRail	
Registration:	331	
Type of operation:	Freight, 28 wagons, 5 locomotives, total weight 1122 t, total length 586 m.	
Persons on board:	Crew – 1, driver only operation	Passengers – nil
Injuries:	Crew – nil	Passengers – nil
Damage:	Substantial	

Sources and submissions

Sources of information

The sources of information during the investigation included:

- TasRail
- The Office of National Rail Safety Regulator
- Other individuals

Submissions

Under Part 4, Division 2 (Investigation Reports), Section 26 of the *Transport Safety Investigation Act 2003*, the ATSB may provide a draft report, on a confidential basis, to any person whom the ATSB considers appropriate. Section 26 (1) (a) of the Act allows a person receiving a draft report to make submissions to the ATSB about the draft report.

A draft of this report was provided to TasRail, the Office of National Rail Safety Regulator, and the driver of train 331.

Submissions were received from TasRail and the Office of the National Rail Safety Regulator. The submissions were reviewed and where considered appropriate, the text of the report was amended accordingly.

Australian Transport Safety Bureau

The Australian Transport Safety Bureau (ATSB) is an independent Commonwealth Government statutory agency. The ATSB is governed by a Commission and is entirely separate from transport regulators, policy makers and service providers. The ATSB's function is to improve safety and public confidence in the aviation, marine and rail modes of transport through excellence in: independent investigation of transport accidents and other safety occurrences; safety data recording, analysis and research; fostering safety awareness, knowledge and action.

The ATSB is responsible for investigating accidents and other transport safety matters involving civil aviation, marine and rail operations in Australia that fall within Commonwealth jurisdiction, as well as participating in overseas investigations involving Australian registered aircraft and ships. A primary concern is the safety of commercial transport, with particular regard to fare-paying passenger operations.

The ATSB performs its functions in accordance with the provisions of the *Transport Safety Investigation Act 2003* and Regulations and, where applicable, relevant international agreements.

Purpose of safety investigations

The object of a safety investigation is to identify and reduce safety-related risk. ATSB investigations determine and communicate the factors related to the transport safety matter being investigated.

It is not a function of the ATSB to apportion blame or determine liability. At the same time, an investigation report must include factual material of sufficient weight to support the analysis and findings. At all times the ATSB endeavours to balance the use of material that could imply adverse comment with the need to properly explain what happened, and why, in a fair and unbiased manner.

Developing safety action

Central to the ATSB's investigation of transport safety matters is the early identification of safety issues in the transport environment. The ATSB prefers to encourage the relevant organisation(s) to initiate proactive safety action that addresses safety issues. Nevertheless, the ATSB may use its power to make a formal safety recommendation either during or at the end of an investigation, depending on the level of risk associated with a safety issue and the extent of corrective action undertaken by the relevant organisation.

When safety recommendations are issued, they focus on clearly describing the safety issue of concern, rather than providing instructions or opinions on a preferred method of corrective action. As with equivalent overseas organisations, the ATSB has no power to enforce the implementation of its recommendations. It is a matter for the body to which an ATSB recommendation is directed to assess the costs and benefits of any particular means of addressing a safety issue.

When the ATSB issues a safety recommendation to a person, organisation or agency, they must provide a written response within 90 days. That response must indicate whether they accept the recommendation, any reasons for not accepting part or all of the recommendation, and details of any proposed safety action to give effect to the recommendation.

The ATSB can also issue safety advisory notices suggesting that an organisation or an industry sector consider a safety issue and take action where it believes it appropriate. There is no requirement for a formal response to an advisory notice, although the ATSB will publish any response it receives.

Australian Transport Safety Bureau

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Investigation

ATSB Transport Safety Report
Rail Occurrence Investigation
Derailment of freight train 331, Lowdina, Tasmania on 9 April 2013

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