

Safety Bulletin

Managing the risks associated with road/rail vehicles

No. 1 – August 2013

Safety Bulletins identify areas of concern, share information and identify positive steps to enhance safety

The Office of the National Rail Safety Regulator (ONRSR) has been working closely with the rail industry to assist in the identification and management of risks associated with the operation of Road/Rail Vehicles (RRVs).

With a history of poor safety performance, coupled with intelligence gathered from industry, the ONRSR is concerned that these risks remain an ongoing threat and action is needed to improve safety.

In this, the first *Safety Bulletin* published by the ONRSR, the background to the risks associated with RRV operation and the work undertaken to date by the ONRSR in conjunction with industry is explored.

The ONRSR remains committed to working with industry to help manage these risks and this bulletin outlines the regulator's future intentions in assisting industry to improve the safety of RRV operations.

Safety performance

There has been a significant number of RRV occurrences in recent years, some with fatal consequences.

Recent incidents include:

- 4 June 2013 – Rinadeena Tasmania, RRV collision, serious injury and multiple minor injuries
- 24 May 2012 – Haig Western Australia, track worker struck and killed by RRV
- 30 December 2011 – Perth Western Australia, track worker struck and killed by RRV.

Based on the known historic data, supported by intelligence gathered from industry, the ONRSR is concerned that the risk associated with the operation of these vehicles remains unacceptably high and that action is needed to improve safety performance.

The issues surrounding RRV safety are complicated by the large range of RRV types, the range of incidents experienced and the many sources of risk that require effective management.

ONRSR / RISSB / industry workshops

In 2012, the NSW Independent Transport Safety Regulator and the Rail Industry Safety and Standards Board (RISSB) began working with industry on the identification and management of risk associated with RRV operations. ONRSR has continued this work in 2013.

A series of workshops resulted in a number of comprehensive 'bow tie' risk analyses. These analyses identified and examined four types of loss of control events associated with RRV operations:

- Runaway
- Collision
- Derailment
- RRV fire leading to runaway.

For each bow tie the potential causes (grouped by technical, environmental, people and system) and the potential consequences were identified. For each cause and consequence, preventative and mitigative controls were identified, respectively. The ONRSR recognises the excellent work of all those who participated in the development of the bow tie diagrams.

RRV standard

The workshops identified that a single national standard for RRVs was required. RISSB has since commenced development of AS7502 *Australian Standard – Railway rolling stock – Road rail vehicles*. This standard will build upon the bow ties developed during the workshops and will cover the whole lifecycle of RRVs from design, construction, testing and certification through to operations and maintenance.

The standard will be supported by a code of practice to identify RRV safety equipment. Both are due to be completed in mid-2015 and the ONRSR is actively supporting and participating in the development group.

Next steps for industry

In accordance with their obligations under the *Rail Safety National Law*, the ONRSR requires all Rail Transport Operators (RTOs) to ensure they have comprehensive and documented risk assessments for the operation of RRVs. The risk assessments should give consideration to:

- the RTO operating environment, including the scale and complexity of such operations
- the specific physical and operational characteristics of the RRVs that are operated
- the specific nature of operations of the RRVs, including where vehicles are placed on track, operated and taken off track
- the competencies of the personnel operating the equipment.

Any controls identified through the RTO risk assessments should be integrated within operating procedures, training programs, competency assessments and assessed for effectiveness.

Importantly, contractors that operate under an RTO's safety management system should be assessed by the RTO to ensure they also have effective controls in place.

The ONRSR encourages industry to consider the following:

- ensure RRV operators understand the impact of grades and the effect on braking capacity of the vehicle, particularly when transitioning between road and rail modes
- the fitment and use of ancillary fail-safe braking systems where such systems do not already exist
- the importance of operators/drivers being fully conversant with the braking systems fitted to the road/rail vehicle (when in rail and transition modes) and their effective operation
- the importance of risk assessments and operating procedures being kept current in light of emerging knowledge within the industry and changes in operating environment
- operator competency assessments which must be made against sound operating procedures developed for specific operating environments, the characteristics of particular vehicles and emerging knowledge within the industry
- vehicle operators must clearly understand the operation required and the sources of energy and harm associated with a piece of equipment, task or environment, including how to correct or recover from unsafe situations
- use of unplanned or unprepared on/off and cross tracking points. Specific risk assessments should be conducted and consider both vehicle capabilities and

operator competency and training for such situations. Emergency off-tracking procedures should be prepared and practised

- the use of temporary buffer stops as protection particularly around high risk RRV operations such as on/off tracking sites.

RTOs are expected to assure themselves of the safety of their RRV operations. This could take the form of a gap analysis between their current practice and the issues identified in this bulletin and the bow ties, or a specific safety action plan to review RRV safety, reflective of the scale and complexity of such operations.

Next steps for the ONRSR

In addition to the development of a national standard, the ONRSR is supportive of work to develop RRV competency standards and is also investigating how to better capture rail safety data for the management of risks associated with RRV operations.

In coming months, the ONRSR will continue to work with RTOs on RRV safety and is planning a series of workshops with rail infrastructure managers and rolling stock operators which will take place in the final quarter of 2013. These workshops will further highlight the valuable information generated from past events and will involve participation by RISSB.

Each workshop will be run as part of the Inform Check Enforce (ICE) approach that ONRSR has developed to support its updated *Compliance and Enforcement Policy* (version 2, planned for

publication in September 2013) which is consistent with the recently published *ONRSR Regulatory Approach*.

Following these ICE workshops, and allowing time for RTOs to use the tools provided and reassess their risks and mitigations, the ONRSR will be visiting RTOs to inspect the work undertaken and the changes either implemented or scheduled.

These visits will include targeted in-field inspections of RRV operations. The inspections will focus on risks that have been identified in the RRV workshops with an expectation that RTOs will be able to demonstrate how these issues have been considered in relation to their RRV operations. These inspections will be unannounced.

Where evidence of significant improvement in RRV safety is identified through these inspections, these improvements will be highlighted for wider industry awareness and recognition.

Where inspections or incidents identify safety breaches that could have been averted if lessons learned from the ICE workshops had been taken on board then enforcement options will be considered.

Conclusion

The ONRSR is optimistic that collaboration with industry on RRV safety will lead to enhanced safety performance. The enthusiasm and commitment displayed by many areas of industry in relation to RRV safety has been encouraging but more work is needed to achieve positive safety improvements.

Resources

[ONRSR RRV resources](#) (workshop materials and bow ties)

[ONRSR Regulatory Approach](#)

[ONRSR Compliance and Enforcement Policy](#)

(version 2 is planned to be available September 2013)

[RISSB Activities Summary](#)