

Recommendation(s) Status: Collision of a Road Rail Vehicle with a buffer stop at Bradford Interchange station




This report is based on information provided to the RAIB by the relevant safety authority or public body.

The status of implementation of the recommendations, as reported to us, has been divided into six categories:

Key to Recommendation Status

Implemented:	All actions to deliver the recommendation have been completed.
Implemented by alternative means:	The intent of the recommendation has been satisfied in a way that was not identified by the RAIB during the investigation.
Implementation ongoing:	Work to deliver the intent of the recommendation has been agreed and is in the process of being delivered.
In-progress:	The relevant safety authority has yet to be satisfied that an appropriate plan, with timescales, is in place to implement the recommendation; and work is in progress to provide this.
Non-implementation:	Regulation 12(2)(b)(iii) = recommendation considered and no implementation action to be taken.
Awaiting response:	Awaiting initial report from the relevant safety authority or public body on the status of the recommendation.

RAIB concerns on actions taken by organisations in response to recommendations are reflected in this report and are indicated by one of the following.

-  The red triangle shows recommendations where the RAIB has concerns that no actions have been taken in response to a recommendation.
-  The blue triangle shows recommendations where the RAIB has concerns that the actions taken, or proposed, are inappropriate or insufficient to address the risk identified during the investigation.
-  The white triangle shows recommendations where the RAIB notes substantive actions have been reported, but the RAIB still has concerns.

Note: The tables which follow, report the status of recommendations on 31 December 2015. In some other cases the end implementer has already sent information to the relevant safety authority about the actions it has taken, or proposes to take and the safety authority is considering whether it is satisfied that those actions and the associated timescales are accepted.

Number/ Date/ Report No/ Inv Title / Current Status	Safety Recommendation	Summary of current status (based on ORR's report to RAIB)
<p>1 25/03/2012 09/2013</p> <p>Collision of a RRV with a buffer stop at Bradford Interchange station</p> <p>Status: Implemented</p>	<p>The intention of this recommendation is for Quattro Plant Limited to better control the design and modification of safety critical equipment by using appropriate measures of engineering safety management.</p> <p>Quattro should review, and amend, its procedure for the management of modifications to on-track plant, such that any future modifications which could affect the safety of RRVs follow the principles of engineering change management (paragraph 124), whether the work is done by third parties or in-house (paragraph 162a). As a minimum the review should identify, and action, the changes required to existing procedures to ensure that:</p> <p>a. modifications that have the potential to affect the safety of operation are risk assessed, and any residual risk or newly introduced risk is suitably mitigated by design measures or inclusion within inspection, testing and maintenance procedures;</p> <p>b. safety critical design work on RRVs is checked and subject to independent verification;</p> <p>c. safety critical design work on RRVs is fully and accurately documented;</p> <p>d. systems that are critical to safe operation are formally tested to a documented specification during the initial commissioning, or subsequent modification, to verify that they are operating correctly in all modes of operation, including checking the protection against all credible faults; and</p> <p>e. the access to safety critical systems, such as the rail axle interlocking circuit and its override, are reviewed and suitable restrictions are applied.</p>	<p>Quattro have reported to ORR that it has reviewed its procedures covering the management of modifications to on-track plant. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>
<p>2 25/03/2012 09/2013</p> <p>Collision of a RRV with a buffer stop at Bradford Interchange station</p> <p>Status: Implemented</p>	<p>The intention of this recommendation is for Quattro Plant Limited to better manage the competence of its personnel and the provision of information to them.</p> <p>Quattro should review and improve its existing systems for the management of staff that are engaged in the maintenance, inspection and operation of road-rail vehicles (paragraphs 160a, 160b, 160c and 162b). As a minimum the review should identify the most effective means of:</p> <p>a. creating sufficient working documents for installation, test, inspection, maintenance and operation of safety critical systems on Quattro's RRVs;</p>	<p>Quattro has reported that it has taken actions in response to this recommendation. Office of Rail Regulation (ORR) proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>

- b. providing appropriate warning labels informing staff of the precautions to take when overriding safety critical systems on RRVs;
- c. improving management systems to ensure that:
 - all technical staff and machine operators are fully trained in the specific operations of safety critical systems on each type of RRV that they inspect, maintain and/or operate, and the safety measures to take when it is necessary to override them;
 - controls are in place to ensure that only competent persons are able to override safety critical systems;
 - depot staff and operators have access to information for the installation, test, inspection and maintenance tasks they are undertaking on safety critical systems; and
 - any unexpected behaviour of an RRV is reported and results in an investigation by a person competent to do so to fully discover the cause of the fault and that it is rectified appropriately before use.
- d. establishing monitoring systems to check that staff are correctly applying the inspection and maintenance procedures, and are competent to do so, including:
 - enhanced surveillance and regular audits; and
 - checks that staff are familiar with, and have access to, documentation that is relevant to the safety critical tasks they are undertaking.
- e. checking that the RRVs supplied for use on rail are fully operational and compliant with Quattro's own maintenance documents (these should include physical equipment checks at their depots and on worksites).

3 25/03/2012 09/2013
Collision of a RRV with a buffer stop at
Bradford Interchange station
Status: Implemented

The intention of this recommendation is that Network Rail and its rail plant suppliers should minimise the risk of runaways of RRVs that rely upon procedures for their safe operation.

Network Rail should review the adequacy of existing measures to prevent RRV runaways of RRVs that are not yet fitted with direct rail wheel braking and implement necessary improvements. This review should consider reinforcing procedures, briefing and training associated with the safe operation of RRVs. Priority should be the prevention of RRV runaways, but consideration should also be given to the means of regaining control should a runaway occur (paragraph 160d).

ORR reports that NR has now prohibited the use of all type 9b (hi ride) RRVs on its infrastructure, consequently all machines of this type must be fitted with direct rail wheel braking. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

**Number/ Date/ Report No/
Inv Title / Current Status**

Safety Recommendation

**Summary of current status (based on ORR's report to
RAIB)**

4 25/03/2012 09/2013

Collision of a RRV with a buffer stop at
Bradford Interchange station

Status: Implemented

The intention of this recommendation is that Network Rail should review the scope of the compliance monitoring and assurance activities conducted upon, and by, its rail plant suppliers, and ensure that audits are more comprehensive.

Network Rail should review the processes for audits of engineering safety management systems and the competence of technical staff that it conducts, or requires others to conduct, on rail plant suppliers. The objective of the review is to identify ways of improving the focus on engineering safety management and the quality of the end products. The findings of this review should be implemented and documented in revised management processes. In addition, Network Rail should take steps to improve the extent to which plant suppliers' own audits are directed in a similar manner (paragraph 162c).

ORR reports that NR has reviewed its audit regime and introduced improved arrangements for checking compliances of engineering safety management processes. NR requires that its audits of manufacturers and converters of on track plant include the actual inspection of RRV assets. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.

5 25/03/2012 09/2013

Collision of a RRV with a buffer stop at
Bradford Interchange station

Status: Implemented

The intention of this recommendation is that the vehicle acceptance process applicable to modifications to RRVs should be more widely understood.

Network Rail should:

a. brief all suppliers of RRVs on the scope of the engineering acceptance process, and the importance of submitting accurate, vehicle-specific information to VABs when seeking acceptance of modifications to RRVs (paragraph 163); and

b. clarify with all suppliers of RRVs, and vehicle acceptance bodies, the extent to which reliance on 'first-of-class' approval is appropriate when modifications are made to a number of different vehicles that fulfil the same functional requirement but are significantly different in their design (paragraph 164).

ORR has reported that Network Rail has reported that it has completed actions taken in response to this recommendation. ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.