

## Recommendation(s) Status: Runaway of RRV and resulting collision in Queen Street tunnel, Glasgow




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

<b>Implemented:</b>	All actions to deliver the recommendation have been completed.
<b>Implemented by alternative means:</b>	The intent of the recommendation has been satisfied in a way that was not identified by the RAIB during the investigation.
<b>Implementation ongoing:</b>	Work to deliver the intent of the recommendation has been agreed and is in the process of being delivered.
<b>In-progress:</b>	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.
<b>Non-implementation:</b>	Regulation 12(2)(b)(iii) = recommendation considered and no implementation action to be taken.
<b>Awaiting response:</b>	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 latest report from the relevant safety authority or public body)
1 21/04/2013 15/2014 Runaway of RRV and resulting collision in Queen Street tunnel, Glasgow	<p>The intention of this recommendation is to ensure that Rexquote adopts a formalised approach to managing the quality of equipment that it manufactures or converts.</p> <p>Rexquote should implement a quality assurance process commensurate with good practice in engineering safety management.</p> <p>Development of the process should include, but not be limited to, consideration of the following measures:</p> <ul style="list-style-type: none"> <li>I undertaking peer review or checking of design assumptions and design calculations;</li> <li>I ensuring that the intended design performance of equipment is used as the basis for assessing the results of design validation testing;</li> <li>I ensuring that maintenance procedures and the associated tests are consistent with the intended design performance of equipment;</li> <li>I ensuring that the design of safety related systems, such as brakes, and of any associated maintenance processes, takes account of foreseeable degradation mechanisms, such as brake pad wear, the need for adjustments and environmental conditions; and</li> <li>I formal certification by an external body.</li> </ul> <p>(paragraphs 154e, 154f, 155 and 156a)</p>	Awaiting response.
2 21/04/2013 15/2014 Runaway of RRV and resulting collision in Queen Street tunnel, Glasgow	<p>The intention of this recommendation is to extend an existing RAIB recommendation relating to adequate quality assurance processes so that it covers all suppliers of rail plant used on Network Rail infrastructure, not only those who supply directly to Network Rail.</p> <p>Network Rail should extend its process for auditing the engineering management system of rail plant suppliers (linked to Bradford Interchange Recommendation 4; paragraph 160) so that it includes auditing the engineering safety management processes of all organisations manufacturing and/or converting rail plant likely to be used on Network Rail infrastructure (paragraphs 155 and 156a).</p>	Awaiting response.

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

**Safety Recommendation**

**Summary of current status (based on latest report  
from the relevant safety authority or public body)**

3 21/04/2013 15/2014

Runaway of RRV and resulting collision in  
Queen Street tunnel, Glasgow

The intention of this recommendation is to prevent RRVs  
running away with no lighting illuminated.

Network Rail, in conjunction with RSSB, should review the  
requirements for RRV lighting in standard RIS-1530-PLT, with  
the objective of reducing the risk of RRVs running away without  
active lights. This should include consideration of:

I requiring rail mode lighting to be activated when rail wheels  
start to be deployed (when on-tracking is taking place); and

I requiring all illuminated lights to remain lit on activation of  
engine stop or emergency stop controls.  
(paragraph 157a)

Awaiting response.

4 21/04/2013 15/2014

Runaway of RRV and resulting collision in  
Queen Street tunnel, Glasgow

Status: Implemented

The intention of this recommendation is to reduce the likelihood  
of RRV parking brakes being inadequate by improving the  
quality of RRV parking brake tests.

Network Rail, in conjunction with the M&EE Networking Group,  
should review and improve the requirements and guidance for  
testing of RRV parking brakes so that such tests reliably  
demonstrate that the brake will be effective in all foreseeable  
operating conditions. The review should include, but not be  
limited to, consideration of:

I demonstrating sufficient safety margins (including any related  
to uncertainties in the testing method);

I allowing for foreseeable degradation, such as brake pad wear;

I allowing for varying environmental conditions, including  
variations in contamination at the brake/wheel interface;

I ensuring that test methods used are repeatable and consistent;  
and

I testing to be carried out by RRV suppliers, users and  
maintainers.

(paragraph 154g)

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