

Recommendation(s) Status: Runaway and collision of Road Rail Vehicle near Raigmore, Inverness

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 latest report from the relevant safety authority or public body)
<p>1 20/07/2010 10/2011</p> <p>Runaway and collision of RRV near Raigmore, Inverness</p> <p>Status: Implemented </p>	<p>The intention of this recommendation is that RRVs of the type involved in the accident should be modified to prevent the circumstances arising in the future.</p> <p>Liebherr-Great Britain Ltd should undertake modifications to the type 1033, and similar RRVs (those RRVs with this type of interlocking design), to avoid the scenario where a machine that is in a free-wheel state is prevented from raising or lowering either rail axle. This should be achieved without the need for the machine operator to override the interlock function (paragraphs 204a, 204c).</p>	<p>Lieber confirms that a secondary independent proximity switch has been designed tested and approved that is designed to eliminate the risk of a free wheel situation occurring. The RAIB acknowledge the improvement but is concerned that the interlock would still prevent either road wheel from being lowered should both wheels become disengaged from the road wheels.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate. \$</p>
<p>2 20/07/2010 10/2011</p> <p>Runaway and collision of RRV near Raigmore, Inverness</p> <p>Status: Implemented</p>	<p>The intention of this recommendation is to improve the ergonomics and labelling of the RRV controls.</p> <p>Liebherr-Great Britain Ltd should undertake a review of the design of the human-machine interface on the type 1033, with particular reference to:</p> <p>ergonomics/labelling of buttons; and</p> <p>counter-intuitive operating procedures and specific operation of the HA and VA controls in the RRV machine cab;</p> <p>and implement the findings of this review on existing machines, and amend its procedures to require an ergonomic assessment to be included in the design process (paragraph 205a).</p>	<p>Liebherr-Great Britain Ltd has reported that it has taken actions in response to this recommendation.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>
<p>3 20/07/2010 10/2011</p> <p>Runaway and collision of RRV near Raigmore, Inverness</p> <p>Status: Implemented</p>	<p>The intention of this recommendation is that an appropriate safety integrity level (SIL) for the control systems of RRV machines should be established and implemented on future builds.</p> <p>Network Rail should undertake a review of the safety requirements that it specifies for RRVs, with the objective of determining an appropriate safety integrity level (SIL) for any safety functions that are required within the control systems of the machine, and implementing verification and approval arrangements that are appropriate for this SIL. This should, among other things, provide assurance that potential failure modes of interlocks, and similar safety systems, have been identified and suitably mitigated (with reference to actions taken following the RAIB's RRV Class Investigation recommendations 1 & 2) (paragraph 206).</p>	<p>Network Rail has reported that it has taken actions in response to this recommendation.</p> <p>ORR proposes to take no further action unless they become aware that the information provided becomes inaccurate.</p>

**Number/ Date/ Report No/
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4 20/07/2010 10/2011

Runaway and collision of RRV near
Raigmore, Inverness

Status: Implemented

Safety Recommendation

The intention of this recommendation is that the role of the machine controller, in respect of the deployment of the rail wheels of an RRV, should be clarified.

Network Rail should undertake a review of the role of the machine controller for all types of RRV during on and off-tracking, with particular emphasis on whether it is necessary for the controller to advise the machine operator on whether the rail wheels of the RRV are fully deployed (with reference to the RAIB's RRV Class Investigation recommendation 2). This review should take into account the potential for operator error and/or the malfunction of the machine (paragraph 205).

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

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.