

## **Recommendation(s) Status: Accident at Falls of Cruachan, Argyll**

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:

<b>Key to Recommendation Status</b>	
<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	06/06/2010	11/2011 Accident at Falls of Cruachan, Argyll  Status: Implemented	<p>The intention of this recommendation is to ensure that for earthworks in Scotland sufficient vegetation clearance is undertaken to allow adequate examination and evaluation of slopes to determine their condition.</p> <p>In respect of earthworks in Scotland, Network Rail should review its existing arrangements for the clearance of vegetation to enable examinations and evaluations of earthworks to be carried out. If this review indicates that the current arrangements do not enable a sufficient understanding of their condition of earthworks to be obtained, and if there is no alternative means of assessing the risks associated with such slopes, Network Rail should define the extent of vegetation clearance that is required to enable examinations and evaluations to be carried out, and then implement a strategy for achieving it (paragraph 137a).</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>
2	06/06/2010	11/2011 Accident at Falls of Cruachan, Argyll  Status: Implemented	<p>The intention of this recommendation is that where a cutting comprises mixed ground of soil and rock, all parts of the slope should be examined and reported.</p> <p>In respect of all cuttings equal to, or greater than, three metres high through mixed ground of soil and rock, Network Rail should implement arrangements so that (paragraphs 137b and 139b):</p> <p>in accordance with NR/L3/CIV/065, examination results are reported for both the soil and rock materials; and</p> <p>both the soil slope hazard index and the rock slope hazard index are reported.</p>	<p>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.</p>
3	06/06/2010	11/2011 Accident at Falls of Cruachan, Argyll  Status: Implemented	<p>The intention of this recommendation is to improve Network Rail's management of its earthworks by requiring examiners and examining engineers to give their professional judgement on the condition of earthworks; to take that judgement into account when managing earthworks; and to resolve any inconsistencies between successive condition ratings determined from the SSHI or the RSHI.</p> <p>Network Rail should amend its earthworks management system so that (paragraphs 137g and 139c):</p> <p>earthwork examiners and earthwork examining engineers record on all examination reports whether, in their professional judgement, the condition ratings determined by the SSHI and RSHI are a reasonable reflection of slope condition;</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>

**Safety Recommendation**

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

where examiners and examining engineers disagree with the SSHI and/or RSHI condition ratings, their judgement of the slope condition rating should be recorded on the examination report and taken into account when deciding how to manage the earthwork; and

any inconsistencies between condition ratings from successive examinations should be identified and resolved.

4	06/06/2010	11/2011	<p>The intention of this recommendation is to identify whether the process for planning remediation works which includes the use of the Earthworks Prioritisation Model could be changed to improve the likelihood of remedial works being carried out before failure occurs.</p> <p>In the light of experience, and the associated application of professional judgement, Network Rail should review the process for planning remediation works which includes using the Earthworks Prioritisation Model and, if necessary, make any changes to it so that the likelihood of remedial works being carried out before the occurrence of the failure of earthworks is improved (paragraphs 138 and 139a).</p>	<p>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.</p>
5	06/06/2010	11/2011	<p>The intention of this recommendation is to improve the calculation of the rock slope hazard index so that it gives a more realistic indication of a railway rock cutting's condition.</p> <p>Network Rail should review the algorithm which calculates the rock slope hazard index so that its output gives a more realistic indication of a railway rock cutting's condition (paragraph 139c).</p>	<p>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.</p>
6	06/06/2010	11/2011	<p>The intention of this recommendation is to reduce the risk of lighting diffusers and other saloon interior panels becoming displaced and causing injuries to persons on board trains in the event of an accident.</p> <p>First ScotRail should assess the risk of lighting diffusers and other saloon panels in the interiors of trains that it operates becoming displaced in the event of an accident such that they may cause injuries to those on board. Any necessary remedial measures to reduce the risk should be implemented (paragraph 139d).</p> <p>This recommendation may also apply to other train operating companies.</p>	<p>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.</p>