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Mr Andrew Hall
Deputy Chief Inspector of Rail Accidents
Cullen House
Berkshire Copse Rd
Aldershot
Hampshire GU11 2HP

Dear Andrew,

RAIB Report: Landslip and subsequent derailment at Loch Eilt near Glenfinnan on 22 January 2018

I write to report¹ on the consideration given and action taken in respect of the recommendation addressed to ORR in the above report, published on 7 August 2018.

The annex to this letter provides details in respect of the recommendation. The status of recommendation 1 is '**Progressing**'.

ORR will advise RAIB when further information is available regarding actions being taken to address the recommendation.

We will publish this response on the ORR website on 11 June 2019.

Yours sincerely,

¹ In accordance with Regulation 12(2)(b) of the Railways (Accident Investigation and Reporting) Regulations 2005

A handwritten signature in black ink, appearing to read 'Oliver Stewart', with a stylized, cursive script.

Oliver Stewart

Initial consideration by ORR

1. The recommendation was addressed to ORR when the report was published on 7 August 2018.
2. After considering the recommendations ORR passed the recommendation to Network Rail asking them to consider and where appropriate act upon them and advise ORR of its conclusions. The consideration given to each recommendation is included below.
3. ORR also brought the recommendation to the attention of other infrastructure managers (HS1 and HS2) as it was concluded that that there are equally important lessons for them. ORR did not ask these organisations to provide a reply.
4. This annex identifies the correspondence with end implementers on which ORR's decision has been based.

Recommendation 1

The intent of this recommendation is to promote development of methods to evaluate the risk presented by snowmelt and ground thaw.

Network Rail should complete its evaluation of the means by which snowmelt can be incorporated in adverse weather processes applicable to earthworks. It should also carry out a similar evaluation for risk due to ground thaw. If justified by these evaluations, Network Rail should include improvements in monitoring these effects for the next generation of its weather information tools, such that the true level of risk associated with such a combination of weather conditions is accounted for in its management of landslip risk.

ORR decision

5. The recommendation states that Network Rail should complete its evaluation of the means by which snowmelt can be incorporated in adverse weather processes applicable to earthworks. It is not clear from the response that the evaluation has been completed, what the outputs were from it and if the Future Weather Service Development Programme (FWSDP) process was part of the outcome. We have asked Network Rail to explain the output/conclusion of the evaluation and details of how this will be incorporated in a revised process.
6. In addition, we are aware Network Rail are developing a new internal standard: NR/L2/CIV/086 Module 03 – Geohazard Assessment, in direct response to the Loch Eilt landslip.
7. After reviewing the information provided ORR has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, Network Rail has:
 - taken the recommendation into consideration; and

- is taking action to implement it, but have not yet fully explained to us the works they are undertaking or the timescale for completion.

Status: Progressing. ORR will advise RAIB when further information is available regarding actions being taken to address this recommendation.

Information in support of ORR decision

8. On 29 April 2019, Network Rail provided the following initial response:

Network Rail are currently looking to develop a solar radiation/temperature/cloud cover map or list of high risk locations to identify the likelihood of snow melt as part of the specification of the Future Weather Service Development Programme (FWSDP) owned by the Operation Weather Resilience Manager or nominated deputy.

Once the solar radiation/temperature/cloud cover map or list of high risk locations has been developed this will provide the capability for the routes through their geotechnical teams to carry out a detailed assessment and to examine the risks at these sites. The tool will be detailed in NR/L3/OPS/021 Module 4; the implementation of this process shall be audited.

Also included within the specification we will request a method by which ground thaw can be forecast.

The FWSDP will commence in late April 2019 and will work on developing a specification by end December 2019. The Future Weather Service is due for implementation in August 2020 and this element of the project is due for completion in December 2020.