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4 December 2018

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

Dear Andrew,

RAIB Report: Class investigation into accidents and near misses involving trains and track workers outside possessions

I write to provide an update[1] on the action taken in respect of recommendations 1-5 addressed to ORR in the above report, published on 13 April 2017.

The annex to this letter provides details of the action taken regarding the recommendations. The status of recommendations 1 and 3 is '**implementation on-going'**; the status of recommendations 2, 4 and 5 is '**Implemented**'. We do not propose to take any further action in respect of recommendations 2, 4 and 5, unless we become aware that any of the information provided becomes inaccurate, in which case I will write to you again.

We will publish this response on the ORR website on 5 December 2018.

Yours sincerely,

6842358

Oliver Stewart

6842358

Recommendation 1

The intent of this recommendation is to improve the ability of people in charge of safety on the track to establish a safe system of work that is appropriate to the local circumstances.

Network Rail should review the ways that it equips those with safety leadership responsibilities to recognise and deal effectively with circumstances not encompassed by the planned 'safe system of work' or permit. These might include the need for additional local planning (for example when placing lookouts) or moving to a new location while carrying out mobile activities such as patrolling, asset inspections and surveying. Circumstances not covered by the plan might also arise due to rest breaks and changes to the composition of the group, or the nature of the work activity.

Appropriate action should be taken to implement any required improvements in procedures and/or the training provided to those in leadership roles. Any changes that are proposed to existing arrangements should be based on the following principles:

a) compliance with the documented safe system of work or permit, unless this can no longer be applied, is impractical to implement or is considered to be less safe than an alternative;

b) continued compliance with the railway Rule Book;

c) dynamic risk assessment of the changed circumstances, and of any alternative safe system of work; and

d) empowering competent leaders to make safe decisions within clearly defined guidelines.

ORR decision

1.   We support the approach Network Rail has outlined for delivering recommendations 1, 2 and 3. We have asked for a copy of the project plan referred to in the response to understand when particular milestones are expected to be reached, ahead of completion in August 2019.

2.   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 by 30 August 2019.

***Status: Implementation ongoing.* ORR will advise RAIB when actions to address this recommendation have been completed.**

Previously reported to RAIB

3.   ORR reported on 12 April 2018 that Network Rail had not provided a formal response to this recommendation.

Update

4.   On 18 September 2018 Network Rail provided the initial response:

Network Rail has completed a review of its competence and training requirements for staff undertaking Controller of Site Safety duties. This has included a review of:

- *the ways that Network Rail equips those with safety leadership responsibilities to recognise and deal effectively with circumstances not encompassed by the planned 'safe system of work or permit so as to improve the ability of people in charge of safety on the track to establish a safe system of work that is appropriate to the local circumstances (recommendation 1);*

- *the effectiveness of Network rail's existing arrangements for developing the leadership, people management and risk perception abilities of staff who lead work on the track, as well as the ability of other staff to effectively challenge unsafe decisions so as to improve the non-technical skills of track workers (recommendation 2); and*

- *the competence requirements for people who control work on the track while trains are running, under safe systems of work which rely on knowledge of the location. to improve the local geographic knowledge of people who lead track work in higher-risk situations (recommendation 3).*

This review was conducted by:

- *The formation of a 'RAIB Trackworker Report - Working Group' which has met to discuss the recommendations in the report – A meeting was held on 16th June 2017 and was attended by:*
  - *Rupert Lown, Head of Corporate Workforce Safety (Chair)*
  - *Lynn Chamberlain-Clark, Principal Health and Safety Change Specialist (Facilitator)*
  - *Paul Brady, Trackworker Safety Specialist (Secretariat)*
  - *David Judson, Join & View Workstream Delivery Lead, ORBIS*
  - *Simon Goodland, Programme Manager, Network Rail Training*
  - *Mark Prescott, Senior Programme Manager, STW Programme*
  - *Katie Frost, Programme Director, PDSW*
  - *Dave Beer, Engineering Verification & Recommendations Manager, STE*
  - *Andrew Clinton, Head of Route Safety Health & Environment, RSSB*
  - *Steve Coe, Organising Director, TSSA*

- o *Paul Clyndes, Senior Health and Safety Officer, RMT*
- o *Lourens De Jager, Head of Route Safety Health & Environment, South East*
- o *Don Wilson, HM Principle Inspector of Railways, ORR*
- o *Karen Barnes, HM Inspector of Railways (South East) ORR*
- o *Mark Turner, Inspector of Railway Accidents, RAIB*
- o *Simon French, Chief Inspector of Rail Accidents, RAIB*
- o *Andrew Fielding, National Rep, Unite*

- *A cross industry working group met on 7th & 8th August 2017 in York to discuss, review and propose amendments to the current COSS training. It was attended by:*
  - o *Paul Brady – Trackworker Safety Specialist (Chair)*
  - o *Liam Furniss – Trainer & RICA Rep*
  - o *Julian Weatherall - Union Rep, TSSA*
  - o *Richard Long – Contractor & ISLG Rep*
  - o *Cliff Moody – Route Workforce Safety Advisor (Cliff presented on Risk Perception)*
  - o *Wayne Lawton – NR Trainer*
  - o *Martin Biggin – Signalling Safety Specialist and Safety Critical Communications rep*
  - o *Paul Bellew - Maintenance Safety Specialist*
  - o *Lawrence Morris – NR Trainer*
  - o *Trevor Platts - Trainer & Association of Railway Training Providers (ARTP)*
  - o *Carlo Pezzulo – Union Rep, RMT*

The outputs and action plans from these reviews is captured in the document 'Updating the COSS selection and training to a more professionalised role' paper.

Timescale: 30/08/19

Recommendation 2

The intent of this recommendation is to improve the non-technical skills of track workers.

Network Rail should review the effectiveness of its existing arrangements for developing the leadership, people management and risk perception abilities of staff who lead work on the track, as well as the ability of other staff to effectively challenge unsafe decisions. This review should take account of any proposed revisions to the arrangements for the safety of people working on or near the line. A time-bound plan should be prepared for any improvements to the training in non-technical skills identified by the review

ORR decision

5.   Network Rail have reviewed existing arrangements for non-technical skills provision for track workers and put in place a time bound plan for delivering improvement. A non-technical skills training course has been developed by Network Rail for all track workers including COSS.

6.   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

- has taken action to implement it

Status: Implemented

Previously reported to RAIB

7.   ORR reported on 12 April 2018 that Network Rail had not provided a formal response to this recommendation.

Update

8.   On 18 September 2018 Network Rail provided the initial response:

See action plan presented in response to rec 1.

The following courses have been developed

- *Safety Critical Communication*
- *Safety Leadership*
- *Risk Perception*

These courses are being offered to all track workers as stand-alone courses, as well as for COSS.

Timescale: 30/08/19

9.   On 30 November 2018 Network Rail provided an update on the COSS training programme:

2017	**Update of the current COSS Training**

Make changes ahead of the Rule Book update in December and the introduction of the new Line Blockage form NR3180

I.	Update the current flow of the training course to bring in line with the update of the 019 standard. Trainers should be capable to delivering training without over reliance on the slides as these should be an aide-memoire.
II.	Work with the Electrical Safety Delivery project to update the training around isolations
III.	Update the knowledge assessments as the questions do not follow the sequence of the hierarchy in 019
IV.	Risk Based Assessment (RBA) carried out on the current COSS training to establish which Regime it will come under.

2017-18	**Working groups to be established**

Set up the working groups to introduce the pre-requisite training that needs to be undertaken before going onto the COSS course

I.	*Selection Criteria* – How are candidates selected for COSS training? Have the right people capable of doing the role.
II.	*Safety Critical Communications* – This is now part of the Home Safe Plan and is to be introduced into all training. The group will be set up to discuss what level of communications as COSS should have.
III.	*Risk Perception/Risk Management* – To establish what level of risk awareness is required and how will a COSS recognise this and its impact on them and others. This may include training and assessment in local conditions and/or experience of work in specified areas or locations.
IV.	*Leadership Training* – What leadership skills should a COSS have and its practical use when on track and working with others under their duty of care. Look at training on how to present so that it will aid them in providing the site briefing.

2017-19	**Update of the course content and assessments**

To review the entire course content and assessments as well as once trained how are COSS's kept up to date of changes

I. *Knowledge Assessment and Practical scenarios review* – possibility of introducing 4x practical scenarios to allow the trainer to pick one that is more relevant to the type of work the delegates would do or areas they work. This is because all Routes and Regions that everyone works on have different procedures but have to follow what is written in the Rule Book.

II. *COSS and IWA review* – currently a Network Rail employee once they have completed a COSS course can do IWA duties but everyone else has to have a separate IWA notification on their Sentinel profile even though this is included already in the COSS competence.

III. *Mentoring* – review of the current mentoring arrangements for all. Who are suitable to be mentors and how will this be recorded on their profiles.

IV. *Competence options* – discuss the possibility of introducing COSS – Line Blockage only and COSS Full. This could allow a COSS to only deal with Line Blockages for the first year before moving up to other protection and warning situations.

V. Training on how to understand a line diagram and other supporting documentation.

VI. How to keep a COSS informed of any updates to the rule book, safety communications etc. This could link to My Sentinel and also the Rule Book app.

Recommendation 3

The intent of this recommendation is to improve the competence (in the area of local geographic knowledge) of people who lead track work in higher-risk situations.

Network Rail should review the competence requirements for people who control work on the track while trains are running, under safe systems of work which rely on knowledge of the location, such as the use of lookout warning and line blockages without additional protection. Consideration should be given to requiring enhanced local knowledge for people qualified to implement such systems of work. This may include training and assessment in local conditions and/or experience of work in specified areas or locations. A time-bound plan should be prepared for any changes in competence requirements identified by the review

ORR decision

10. Network Rail has reviewed the competence requirements for people who control work on the track while trains are running, where the safe systems of work is reliant on their knowledge of the location. The outputs and action plans from these reviews is captured in the document 'Updating the COSS selection and training to a

more professionalised role' paper and a time-bound plan has been put in place to take foreword the findings identified by the review.

11.   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 by 30 August 2019.

***Status: Implementation ongoing.* ORR will advise RAIB when actions to address this recommendation have been completed.**

Previously reported to RAIB

12.   ORR reported on 12 April 2018 that Network Rail had not provided a formal response to this recommendation.

Update

13.   On 18 September 2018 Network Rail provided the initial response:

See action plan presented in response to rec 1.

Timescale: 30/08/19

Recommendation 4

The intent of this recommendation is to make the fullest possible information on local conditions available to people who plan and lead work on the track.

Network Rail should implement arrangements to make its databases of photographic and video information (such as its RouteView system) more easily available to planning staff and leaders of work groups

ORR decision

14.   We are content with the measures Network Rail have taken for improving the availability of information to track workers and planners, principally with the introduction Geo RINM viewer. We welcome the next phase of work being undertaken by Network Rail to improve the technology available to planners when creating safe work packs.

15.   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
- has taken action to implement it

Status: Implemented

Previously reported to RAIB

16.   ORR reported on 12 April 2018 that Network Rail had not provided a formal response to this recommendation.

Update

17.   On 12 September 2018 Network Rail provided the initial response:

Since the incidents reviewed in the class investigation improvements have been made to the Route Visualisation tools available which existed at the time in GI portal.

The introduction of Geo RINM viewer (GRV) now includes the ability to view various forms of photographs for planning purposes including satellite imagery, views from helicopter surveys of routes, track videos information from Omnicom, as well as OS master maps and layers of track information which can be switched on or off depending on planning requirements.

During the introduction of Geo RINM viewer the improvements to the system were showcased in a briefing tour of the country in which staff were able to attend to get familiarisation and be able to ask questions and be shown how to undertake different searches and the display of photo information.

Following on from the introduction of the changes made to NR/L2/OHS/019 in 2017, PDSW Tranche 2 seeks to address the technology solution for planners to create improved SWPs. The system planned to be adopted, a variant of the tried and tested Rail hub system, used extensively in the Rail Industry by c300 Contractor organisations and 10,000 staff, will be adapted to suit the planners of Network Rail and include improvements to replace the existing planning system in 2019.

There is the ability to include photographs as either photos of maps for access/egress points and includes all of the Network Rail access points.

The maps and photos can be annotated and the SWPs will either be in electronic or paper form. Where used on a tablet, the user will be able to locate themselves on the map/photo where a GPS signal permits. Additionally, the new system will be able to include in the SWP photos and attach files generated by other systems such as Geo RINM Viewer to aid in site familiarisation.

Timescale: 30/09/19

Recommendation 5

The intent of this recommendation is to provide suitable and sufficient information to support decisions on safe methods of working on the track, as well as visibility of the risk to senior management.

Network Rail should improve the way it collects, analyses and reports information on incidents and accidents to track workers associated with moving trains, to provide more reliable data on the relative risk of the various available methods of protection. Such data should be used to inform improvements to the arrangements for ensuring the safety of people working on or near the line, including the hierarchy of safe systems of work

ORR decision

18.   Network Rail has analysed the relative risk of available protection measures and used that information to inform a revised protection hierarchy, which is defined in the 019 standard. We are content with the approach Network Rail have taken and the revised protection hierarchy.

19.   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

- has taken action to implement it.

Status: Implemented.

Previously reported to RAIB

20.   ORR reported on 12 April 2018 that Network Rail had not provided a formal response to this recommendation.

Update

21.   On 12 September 2018 Network Rail provided the initial response:

A detailed analysis of the relative risk of the various available methods of protection and warning has been undertaken and underpins the revised protection hierarchy defined in the 019 standard.

The following reports from David Harris at Sotera underpinned the changes:
1. *Hierarchy of Control Safe Systems of Work Workshop Report – 11th March 2016*
2. *Further Development of a SSOW Hierarchy – 22nd February 2017*
3. *Independent Peer Review of the TRAM Risk Tool – 22nd February 2017*

This led to the publication of the revised 019 hierarchy.

	Safe System of Work	Type
1	Safeguarded site of work	Protection
2	Fenced site of work	Protection
3	Separated site of work	Protection
4	Warning systems – Permanent	Warning
5	Warning systems – Train Operated Warning System (TOWS)	Warning
6	Warning systems – Human activated equipment	Warning
7	Warning systems – Portable	Warning
8	Lookout warning	Warning

There are 25 methods of working within the SSOW hierarchy. Each of these has a score which is multiplied by the result from the workforce risk calculator to give an overall risk score. The scores range from 1.284 (highest form of protection) to 1.867 (lowest form of protection).

The level 1 investigation form is being updated to capture the level of protection or warning that was in use so that this data is more readily available for analysis.

Previously reported to RAIB

Recommendation 1

The intent of this recommendation is to improve the ability of people in charge of safety on the track to establish a safe system of work that is appropriate to the local circumstances.

Network Rail should review the ways that it equips those with safety leadership responsibilities to recognise and deal effectively with circumstances not encompassed by the planned 'safe system of work' or permit. These might include the need for additional local planning (for example when placing lookouts) or moving to a new location while carrying out mobile activities such as patrolling, asset inspections and surveying. Circumstances not covered by the plan might also arise due to rest breaks and changes to the composition of the group, or the nature of the work activity.

Appropriate action should be taken to implement any required improvements in procedures and/or the training provided to those in leadership roles. Any changes that are proposed to existing arrangements should be based on the following principles:

a) compliance with the documented safe system of work or permit, unless this can no longer be applied, is impractical to implement or is considered to be less safe than an alternative;

b) continued compliance with the railway Rule Book;

c) dynamic risk assessment of the changed circumstances, and of any alternative safe system of work; and

d) empowering competent leaders to make safe decisions within clearly defined guidelines.

ORR decision

1.   Network Rail has not provided a formal response to this recommendation.

2.   After reviewing the information provided ORR has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, Network Rail has:

- has not provided a response setting out how the recommendation will be delivered.

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

Information in support of ORR decision

3.   No formal response to the recommendations has been provided.

Recommendation 2

The intent of this recommendation is to improve the non-technical skills of track workers.

Network Rail should review the effectiveness of its existing arrangements for developing the leadership, people management and risk perception abilities of staff who lead work on the track, as well as the ability of other staff to effectively challenge unsafe decisions. This review should take account of any proposed revisions to the arrangements for the safety of people working on or near the line. A time-bound plan should be prepared for any improvements to the training in non-technical skills identified by the review.

ORR decision

4.   Network Rail has not provided a formal response to this recommendation.

5.   After reviewing the information provided ORR has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, Network Rail has:

- has not provided a response setting out how the recommendation will be delivered.

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

Information in support of ORR decision

6.   No formal response to the recommendations has been provided.

Recommendation 3

The intent of this recommendation is to improve the competence (in the area of local geographic knowledge) of people who lead track work in higher-risk situations.

Network Rail should review the competence requirements for people who control work on the track while trains are running, under safe systems of work which rely on knowledge of the location, such as the use of lookout warning and line blockages without additional protection. Consideration should be given to requiring enhanced local knowledge for people qualified to implement such systems of work. This may include training and assessment in local conditions and/or experience of work in

specified areas or locations. A time-bound plan should be prepared for any changes in competence requirements identified by the review

ORR decision

7.   Network Rail has not provided a formal response to this recommendation.

8.   After reviewing the information provided ORR has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, Network Rail has:

- has not provided a response setting out how the recommendation will be delivered.

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

Information in support of ORR decision

9.   No formal response to the recommendations has been provided.

Recommendation 4

The intent of this recommendation is to make the fullest possible information on local conditions available to people who plan and lead work on the track.

Network Rail should implement arrangements to make its databases of photographic and video information (such as its RouteView system) more easily available to planning staff and leaders of work groups

ORR decision

10.   Network Rail has not provided a formal response to this recommendation.

11.   After reviewing the information provided ORR has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, Network Rail has:

- has not provided a response setting out how the recommendation will be delivered

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

Information in support of ORR decision

12.   No formal response to the recommendations has been provided.

Recommendation 5

The intent of this recommendation is to provide suitable and sufficient information to support decisions on safe methods of working on the track, as well as visibility of the risk to senior management.

Network Rail should improve the way it collects, analyses and reports information on incidents and accidents to track workers associated with moving trains, to provide more reliable data on the relative risk of the various available methods of protection. Such data should be used to inform improvements to the arrangements for ensuring the safety of people working on or near the line, including the hierarchy of safe systems of work

ORR decision

13.   Network Rail has not provided a formal response to this recommendation.

14.   After reviewing the information provided ORR has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, Network Rail has:

- has not provided a response setting out how the recommendation will be delivered.

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

Information in support of ORR decision

15.   No formal response to the recommendations has been provided.