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25 September 2020

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

Dear Andrew,

RAIB Report: Near miss with a track worker near Gatwick Airport station on 2 December 2018

I write to report¹ on the consideration given and action taken in respect of the recommendations addressed to ORR in the above report, published on 26 September 2019.

The annex to this letter provides details of actions taken in response to the recommendations and the status decided by ORR. The status of recommendation 1 is '**Progressing**' and the status of recommendation 2 is '**Implemented**'.

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

We will publish this response on the ORR website on 28 September 2020.

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. Both recommendations were addressed to ORR when the report was published on 26 September 2019.
2. Recommendation 1 was addressed to Network Rail. Recommendation 2 was addressed to BAM Nuttall, asking them to consider and where appropriate act upon it and advise ORR of its conclusions. The consideration given to each recommendation is included below.
3. Network Rail circulated the learning points from the report to all Principal Contractors.

Recommendation 1

The intent of this recommendation is to ensure the effective transfer of information needed to prepare safe systems of work for isolation activities. It is anticipated that both switching and earth strapping will be covered, possibly by simple diagrams showing the exact locations at which staff must work. The detail of implementation is expected to take account of the programme for installing and bringing into use remote switching and isolation facilities in some areas, the need for adequate precautions until these are operational and the possibility that these facilities may not become operational at the times currently programmed.

Network Rail should improve its processes for planning conductor rail isolations so that safe systems of work planners are provided with simple, clear and precise information about the locations at which isolation work will take place.

ORR decision

4. We welcome the action being taken by Network Rail to improve the availability of information on isolations to their staff and contractors through the negative short circuit devices (NSCD) programme and single approach to isolation. We will monitor progress of delivery of these projects through regular electrical safety update meetings between Network Rail and ORR.
5. We have challenged Network Rail to identify measures that can be taken before the roll out of single approach to isolation to improve the information available about isolations.
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
 - is taking action to implement

Status: Progressing

Information in support of ORR decision

7. On 29 January 2020 Network Rail provided the following initial response:

Network Rail has reviewed the RAIB report from Gatwick airport near miss and recommendation 1. As discussed, it is believed the recommendation is a duplication of existing requirements contained in current Network Rail standards as such no further action is being taken.

8. On 26 July 2020, Network Rail provided the following additional information:

Responses to the questions raised following discussion at RRC on 3 June and a further review of the Network Rail closure statement today, we have decided we need more information from you before we can report back to RAIB on rec 1 in the Gatwick near miss report.

In addition to the information in the closure statement, please explain how do your systems ensure your planners don't confuse the physical limits of an isolation with the physical limits of a line blockage?

The physical limits of the isolation are shown the isolation form (as below)

d.c. ISOLATION PROCEDURE A - NR/L3/OC/S/3091 - B2

Network Rail

ELECTRICAL CONTROL ROOM: BRIGHTON		CURRENT ISOLATION No. BTN662	
Possession of the	STOATS NEST JN & TINSLEY GREEN JN	ISSUE No:	2
Possession of the		WON No:	KS36
Possession of the		SUPP No:	EO No:
Protection limits:	Down Fast/Quarry: 1661pts to 1733pts	DATE:	Sat 01 to Mon 03 December 18
Protection limits:	Up Quarry/Fast: 1732pts to 1662pts	PICOP CONTACT NUMBER	
Protection limits:	Down Platform Loop:	BOOKED TIME OF POSSESSION	
Protection limits:	Reversible Loop:	FROM:	0100
Protection limits:		TO:	0400
Protection limits:		Saturday	
Protection limits:		Monday	
Current Affected - Line(s)		Hook SW / CTS / CTI NUMBERS	
Substation / TP Hut		To open	
Circuit Breaker(s) Numbers		To close	
		To remain open	
Up/Down Quarry	COULSDON NORTH	B093.094.099.100	T4885
Up/Down Fast	STAR LANE	B099.100.103.104	4887
Down Platform Loop	MERSTHAM	B103.104.111.112	9793
Reversible Loop	REDHILL (A)	B111.112.167.168	9794
	WHITEBUSHES	B167.168.171.172	
	SALFORDS	B171.172.175.176	
	GREAT LAKE FARM	B175.176.179.180	
	GATWICK	B179.180.183.184	Floaters
			2347
			9732
		AUTHORITY TO TEST ISOLATION GIVEN	
Time:-			
ECO:-			
PICOP:-			
		ISOLATION CLEARED/SUPERCEDED*	
Time:-			
ECO:-			
PICOP:-			
		Location of Short Circuiting Straps	
WORK SITE	ACTIVITY	LINE	Transfer of PICOP
		Worksite limits	DATE
		M/C	TIME
		M/C	FROM
		Additional Short Circuiting Strap Locations	TO
A	Maintenance	Up/Dn Quarry	
		14m41c	
		17m23c	
		15m71c	
B	Track Work	Up/Dn Quarry	
		18m40c	
		22m49c	
		20m03c	
C	Track Work	Up/Dn Fast	
		22m74c	
		26m22c-1703pts	
		26m30c-1704pts	
		26m78c	

Figure 8: B2 form relating to the incident (extract)

Protection limits are shown in the top section and the isolation is described in the middle section. The points of isolation are defined by the designated breaker or disconnecter unique identifier. Worksite and strap locations are shown in the bottom section.

Using these forms and the associated Comprehensive Track Diagram (CTD) the limits of the possession and isolation are clear.

As stated in the RAIB recommendation, can you describe how you will improve processes for planning conductor rail isolations, or why you believe your existing processes are adequate?

Network Rail standard NR/L3/ELP/3091 states the requirements for the advance planning of isolation for the purpose of carrying out any work on DC. conductor rail electrified lines in the Southern Region

The planning process of isolations contains two elements: -

- 1. Network Rail shall confirm whether an isolation submitted is acceptable in relation to the operational and electrical requirements of the route.*
- 2. The isolation provider involved in the physical implementation of the isolation shall be engaged by the “party requiring the isolation” to undertake the activities required to facilitate the isolation.*

The isolation planning process shall identify the requirements for switching and application of short circuiting straps that are required as part of the implement and restoration of the isolation. The agreement of the isolation in accordance with (1), does not mean that the requirements described in (2) will be automatically be arranged. For (2) NR/L2/OHS/019 states that the planner should have site risk knowledge and that at site visits can be undertaken if there is not enough information given.

The planners have access to the following information –

- Comprehensive Track Diagrams - although these are diagrammatic they do contain information that will indicate the location of hook switches or where straps are to be fitted, with the information on the isolation forms the planner will be able to identify the location of the straps and as in this case that it is adjacent to an open road as happened with the hook switch.*
- 5mile diagrams – which is limited to 5 chain intervals.*
- Track plans*
- Sectional Appendix*

There is currently a reliance on experience and the required site/virtual walkout to fully understand the correct position of the short circuiting straps. To improve the process and to ensure that the planners are aware of the strapping location without the need for site visit, there are work streams in place in Network Rail’s Single Approach to Isolations (SAI) dc. project, which are -

- having standard isolations by installing Circuit Main Short Devices (CMSD), to remove the need for strapping.*
- where a CMSD is not justified/feasible then a Designated Strapping Points (DSP) will be installed, this is to be completed end of CP7, these locations will be recorded for all planners to access and to understand the strapping location.*
- Improving site walkouts / virtual site walkouts in the process, will identify any protentional hazards and how to mitigate them.*

These actions will reduce the requirement for anyone performing strapping duties staff to work outside a standard isolation.

Can you explain any changes that have been made as a result of this incident and the findings in RAIB's report?

For the action of ensuring isolation planners have enough information to understand the exact strapping locations, Network Rail's Single Approach to Isolations (SAI) dc. project actions were reviewed. To ensure that the issues raised were covered and that there are actions in place to support this piece of work and that they are on target.

North West and Central;

- 100% coverage end to end Circuit Main Shorts (CMS) Merseyrail and Euston / Watford*
- Delay in target April 2020 date for Boots off ballast on end to end isolation (Euston / Watford) due to COVID 19 – re-planning underway*
- Boots off ballast for end to end isolation (Merseyrail) planned March 2021*
- Review underway to identify the benefit opportunity from use of CMS ahead of remote securing rollout*

Eastern - East Mids/Anglia;

- East Mids – Northern City & East London Lines 100% coverage Circuit Main Shorts (CMS). First section isolations planned year 2 – delays in commissioning (contractors, CSM and business change). Safety benefits will flow from this date*
- Anglia – CMS scheme underway, benefit opportunity under review utilising methodology from Southern*

Southern;

- Wessex – 100% coverage in CP6 on end to end Circuit Main Shorts (CMS). OPPORTUNITY to install mid section Control Track Switch (CTS)*
- South East– 60% coverage in CP6 on end to end Circuit Main Shorts (CMS). OPPORTUNITY to rollout 100% coverage in CP6*
- Focus on protecting peak performance train service (cost avoidance of possession overruns) in Wessex*
- Brighton DU have realised £201k benefits in P01 and P02 through reduction in overtime and hourly rate as a result of utilising CMS and B4 isolations – an avoidance of 2784 manual short circuiting straps*

Recommendation 2

The intent of this recommendation is to ensure that safe system of work planners issue plans to site workers with accurate and appropriate protection for the location and nature of the work being undertaken. This should apply to all site activities, not only work relating to isolation of conductor rails. It is anticipated that work already undertaken by BAM Nuttall since the incident will contribute to implementation of this recommendation.

BAM Nuttall should improve its safe system of work planning and checking processes so that:

- all safe systems of work plans include protection for the actual positions at which people are required to work;
- safe system of work planners seek additional information if they lack the information needed to identify and document safe methods of working; and
- persons in charge of work participate in the planning process as required by Network Rail standards.

ORR decision

9. BAM Nuttall have reflected on the findings of the RAIB report and taken a number of steps aimed at improving safe system of work planning, focused on the planning tools available, the competence of staff involved and monitoring the implementation of safe work packs.

10. We note Network Rail raised the learning points from this report with their other Principal Contractors.

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

- taken the recommendation into consideration; and
- has taken action to implement it

Status: Implemented.

Information in support of ORR decision

12. BAM Nuttall provided the following initial response dated 10 March 2020:

The planners involved are all experienced with work at this location. However, they had not encountered this situation previously. They have subsequently discovered it is uncommon on the infrastructure.

Our planners and responsible managers have reviewed and discussed the findings of the RAIB report and are now familiar with the issues and required control measures. As this situation may potentially affect us in on the DC lines in the Merseyside area, we have shared the information with all of our planners across the UK.

We note there is no formal industry training to identify and manage this situation, so feel it is vital for the Network Rail process change to consider this to avoid repetition of the incident.

Network Rail have now also provided us with access to their GeoRIMIN system, which has given us the ability to access to pictures of the track layout by inputting ELR and mileage. This has given our planners the ability to measure distances accurately e.g. position of safety and distances from an open line. We have also asked the other Network Rail regions for similar access for our planners across the UK, however at present only Southern provides access.

All safe system of work plans produced by BAM Nuttall will include protection for the actual positions at which people are required to work. We do not plan to be in a position where safety critical staff are planning and implementing at the same time.

All Persons in Charge (PIC) are involved in the planning process as required by the standard. Since the incident, we have subscribed to the On-Trac system, which has improved our ability to:

- Produce and shared between planners and PICs.*
- Include photographs of access points and site.*
- Monitor that authority and acceptance of packs is completed within the required timeframe.*
- Monitor and authorise any changes.*
- Review pack returns and carry out 10% checks by Responsible Managers.*

To ensure that our safety critical staff have suitable local knowledge, we, and our supply chain partners actively monitor each person that we deploy to ensure that they are competent, capable and have sufficient local knowledge. If a person does not have the required local knowledge, we require them to attend the site prior to the works in order to familiarise themselves.

We have employed a SWL2/Level A competent person who monitors that COSS's have implemented the planned SSOW.

We are also currently developing a 019 compliance-auditing programme for all of our works. This will commence in April 2020 and will run through to the end of the year. The audit will focus on three areas; planning, implementation and review/change control.

We have briefed the findings of the incident to our safety critical staff and associated supply chain. A significant part of that discussion has been to emphasise the importance to challenge unsafe acts or conditions. We are also in the process of launching our refreshed behavioural safety programme Your Safety is My Safety. This also focuses on the importance of challenging unsafe acts or conditions.