

Oliver Stewart
RAIB Recommendation Handling Manager



11 October 2022

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

Dear Andy,

RAIB Report: Near miss with track worker at Gatwick Airport on 2 December 2018

I write to provide an update¹ on the action taken in respect of recommendation 1 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 recommendation and the status decided by ORR. The status of recommendation 1 is **'Implemented'**.

We do not propose to take any further action in respect of the recommendation, unless we become aware that any of the information provided has become inaccurate, in which case I will write to you again.

We will publish this response on the ORR website on 12 October 2022.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Oliver Stewart', written in a cursive style.

Oliver Stewart

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

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

1. Network Rail contractors now have access to a share point site with all Comprehensive Track Diagrams (CTD) and other documentation needed to take electrical isolations as part of planning a safe system of work.
2. Closure of the recommendation is supported by a Network Rail Technical Authority audit to confirm that CTD are being used by all parties involved in the planning and delivery of a safe system of work.
3. 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

4. On 25 September 2020 ORR reported the following:

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.

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.

Update

5. On 17 May 2022 Network Rail provided the following closure statement and supporting document:



[N200-05] Gatwick
Airport Station Rec 1.1



Level 2 Functional
Audit Report TA Speci

Previously reported to RAIB

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

1. 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.

2. 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.

3. 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

4. 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.

5. 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	PAGE No:	1 of 1				
Possession of the		WON No:	KS36	ITEM No:	78				
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	TO:	0400				
Protection limits:		Saturday		Monday					
		AUTHORITY TO TEST ISOLATION GIVEN							
Current Affected - Line(s)	Substation / TP Hut	Circuit Breaker(s) Numbers	To open	To close	To remain open	Time:-			
Up/Down Quarry	COULSDON NORTH	B093.094.099.100	T4885			ECO:-			
Up/Down Fast	STAR LANE	B099.100.103.104	4887						
Down Platform Loop	MERSTHAM	B103.104.111.112	9793			PICOP:-			
Reversible Loop	REDHILL (A)	B111.112.167.168	9794			ISOLATION CLEARED/SUPERCEDED*			
	WHITEBUSHES	B167.168.171.172				Time:-			
	SALFORDS	B171.172.175.176							
	GREAT LAKE FARM	B175.176.179.180				ECO:-			
	GATWICK	B179.180.183.184	Floater			PICOP:-			
			2347						
			9732						
Location of Short Circuiting Straps						Transfer of PICOP			
WORK SITE	ACTIVITY	LINE	Worksite limits		Additional Short Circuiting Strap Locations	DATE	TIME	FROM	TO
			M/C	M/C					
A	Maintenance	Up/Dn Quarry	14m41c	17m23c	15m71c				
B	Track Work	Up/Dn Quarry	18m40c		20m03c				
		Up/Dn Fast		22m49c					
C	Track Work	Up/Dn Fast	22m74c						
		Floater			26m22c-1703pts				
		Floater			26m30c-1704pts				
		Up/Dn Fast		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 potential 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*