

**Oliver Stewart**  
**Senior Executive, RAIB Relationship and**  
**Recommendation Handling**

Telephone 020 7282 3864  
E-mail [oliver.stewart@orr.gsi.gov.uk](mailto:oliver.stewart@orr.gsi.gov.uk)

14 June 2019



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

Dear Andrew,

**RAIB Report: Derailment at Washwood Heath West Junction, Birmingham on 23 March 2015**

I write to provide an update<sup>1</sup> on the action taken in respect of recommendation 3 addressed to ORR in the above report, published on 11 January 2016.

The annex to this letter provides details of the action taken regarding the recommendation. The status of recommendation 3 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 17 June 2019.

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'Oliver Stewart', is written over a horizontal line.

Oliver Stewart

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

### Recommendation 3

*The intent of this recommendation is to improve the standard of maintenance of two-levelled switches and crossings (S&C) by Network Rail maintenance staff by making them more aware of the presence and significance of two-levelling and by providing them with the drawing(s) showing correct design configurations.*

Network Rail should review, and update as necessary, its S&C training course(s) to confirm that there is adequate coverage of two-levelling of S&C. It should ensure that S&C maintenance staff who undertake maintenance of two-levelled S&C are competent to identify and maintain two-levelled S&C. In addition, Network Rail should introduce a system to make the necessary information available to enable correct maintenance of two-levelled S&C (paragraph 135b). The knowledge, skills and experience required to ensure that two-levelled S&C can be maintained competently should be made explicit within Network Rail's competency management system. The competency requirements should cover all staff likely to be involved in planning, executing and supervising the maintenance of two-levelled S&C.

### ORR decision

1. We are satisfied that Network Rail has improved arrangements in place for training and maintaining the competence of staff involved with the maintenance of two-levelled S&C.
2. Network Rail have provided evidence of improvements made to the SIN drafting process to make accountabilities and requirements clearer. They have also strengthened the requirements on updating corporate information systems so actions required by SINs can be more robustly monitored to ensure delivery and closure.
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 10 January 2017 ORR reported the following:

*Network Rail have submitted a time-bound plan to implement the recommendation, but have not yet substantially delivered the plan and have not provided any information on how they are managing the risk of incorrectly maintained two-level S&C contributing to derailment risk in the meantime.*

*To manage the risk until the plan is delivered, ORR has asked Network Rail to identifying those individuals who are required to do maintenance on S&C*

*(particularly two-levelled S&C) and make arrangements to ensure they have been trained and briefed with specific reference to the process for two-levelled S&C by a competent person. In order to demonstrate this and ensure consistency of future training, we would expect Network Rail to retain records of the training/briefing material. ORR wrote to Network Rail on 7 October 2016 requesting this information.*

## **Update**

5. On 3 December 2018 Network Rail provided a closure statement including the following summary:

*Recommendation 3 was subdivided into three workstreams:*

- *Training*
- *Competence*
- *Records & Identification of Assets*

### **Training**

*The Network Rail Track Geometry 1 (TG1) training course provides delegates with an understanding of two-levelled S&C. An emphasis is placed on correct actions to be taken when two-levelled baseplates are replaced to ensure instant track geometry faults are not introduced.*

*The delivery of this course (and all others) is well audited*

*Course and assessment materials are held and accessed on Network Rail's online content repository, known as the Training Toolkit. Access to the materials for each course is tightly managed, and each trainer is only granted access to the course/assessment content that they are deemed competent to deliver by their manager.*

*The system provides an audit trail of who has downloaded courses, the versions they have accessed, and the date on which they downloaded those materials.*

*In addition, each time a course is delivered, the class/event documentation records describe the trainer details as well as the version of the content that has been delivered.*

### **Competence**

*The Washwood Heath derailment has been briefed to the Track Leadership Group (TLG) at the Quarterly Track Governance meeting and has been included in some detail in the S&C Module for the TME course. The brief to the TLG was for onward cascade to each DU, TME and their staff.*

### **Records & Identification of Assets**

*NR/SIN/163 was issued on 26th June 2017. This mandatory document required the routes to undertake actions in two phases:*

*Phase 1 Desktop exercise to verify records of existing two-levelled layouts on the route.*

*Phase 2 Site inspections of all two-levelled S&C. These site inspections verified that records held in Ellipse are correct and that two-levelled baseplates are installed correctly as per design.*

*The SIN was ratified by the RAM [Track] and DRAM communities following development work by the Engineer [Switches & Crossings], Safety, Technical & Engineering (STE). NR/SIN/163 and the Special Inspection Notice Closure Form (SINCF), signed by the Professional Head of Track, are attached to this statement for reference.*

*The SIN significant findings and lessons learnt are as follows:*

*Ellipse (Network Rail's asset register) records were incorrect in many cases. After Phase 1, 308 assets were presumed two-levelled (against an Ellipse total of 225). However, after Phase 2, this number has reduced to 229 assets showing as two-levelled in Ellipse. It appears that although the total is broadly similar, a number of assets had been assigned an incorrect two-levelled value in Ellipse.*

*Site inspections have found a number of non-compliant or incorrectly installed assets. These sites are undergoing (or have already completed) remedial works in order to install correct two-levelled baseplates. The SIN has been closed on the basis that these sites are either already rectified or necessary componentry has been ordered and works have been planned.*

*The quality of data returned has been variable, with some routes undertaking thorough checks on data before submission to STE. A key lesson learned is to be more explicit in column headings and explanation of how forms shall be filled in. Furthermore, ease of access to relevant 1:50 S&C manufacturing drawings could be improved. These drawings contain information for the two-levelling design and are critical for identifying the correct type of two-levelled baseplate to be installed at each rail seat. STE is undertaking further work in this area to ensure increased availability of 1:50 drawings to relevant stakeholders across the business (such as maintainers).*

*In order to directly address some of the causal factors of the Washwood Heath derailment, the SIN also required Routes to affix ID plates to two-levelled S&C. These plates will provide a prompt to staff working on a two-levelled site that the correct position of two-levelled baseplates is important:*

*It is expected that the long-term risk of incorrectly installed two-levelled baseplates is low, as track geometry adjustment would alleviate some of the twist fault risks this would impose. The greatest risk lies with incidents similar to Washwood Heath where an instant twist fault is introduced through incorrect replacement of two-levelled baseplates. The briefing of the SIN, along with installation of the ID plates is designed to mitigate this risk. It was not felt that any changes to Network Rail Standards or Controls was required.*

### Recommendation 3

*The intent of this recommendation is to improve the standard of maintenance of two-levelled switches and crossings (S&C) by Network Rail maintenance staff by making them more aware of the presence and significance of two-levelling and by providing them with the drawing(s) showing correct design configurations.*

Network Rail should review, and update as necessary, its S&C training course(s) to confirm that there is adequate coverage of two-levelling of S&C. It should ensure that S&C maintenance staff who undertake maintenance of two-levelled S&C are competent to identify and maintain two-levelled S&C. In addition, Network Rail should introduce a system to make the necessary information available to enable correct maintenance of two-levelled S&C (paragraph 135b). The knowledge, skills and experience required to ensure that two-levelled S&C can be maintained competently should be made explicit within Network Rail's competency management system. The competency requirements should cover all staff likely to be involved in planning, executing and supervising the maintenance of two-levelled S&C.

### ORR decision

1. Network Rail have submitted a time-bound plan to implement the recommendation, but have not yet substantially delivered the plan and have not provided any information on how they are managing the risk of incorrectly maintained two-level S&C contributing to derailment risk in the meantime.
2. To manage the risk until the plan is delivered, ORR has asked Network Rail to identify those individuals who are required to do maintenance on S&C (particularly two-levelled S&C) and make arrangements to ensure they have been trained and briefed with specific reference to the process for two-levelled S&C by a competent person. In order to demonstrate this and ensure consistency of future training, we would expect Network Rail to retain records of the training/briefing material. ORR wrote to Network Rail on 7 October 2016 requesting this information.
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 provided a time-bound plan setting out how it will be delivered.

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

### Information in support of ORR decision

4. On 18 July 2016 Network Rail provided the following initial response:  
*There are 3 workstreams to meet the requirements of the recommendation:*

#### **1. Training & Competence**

*A review of two levelling is being undertaken with Network Rail's Professional Development & Training to check current courses for content on two levelling. Initial assessment indicates that information is included in module TR4 of track training and needs to be updated to include more detail. The Track Competence Delivery Group, who are responsible for oversight of track related training, have agreed that a new training module is required. An exercise to identify staff that are likely to require the competence will also be completed. This is planned to be completed within the wider role based competency programme.*

**– Target date June 2017**

## **2. Awareness**

*The details and the underlying cause of the Washwood Heath derailment have been briefed to the Track Asset Technical Review (ATR) at the Quarterly Track Governance meeting and have been included in some detail in the S&C Module for the TME course (the delivery of which is ongoing). The brief to the TLG was for onward cascade to each DU, TME and their staff.*

**- Action Completed**

## **3. Records & Identification of assets**

*All 1:50 drawings of two level layouts are required to contain a drawing of the layout which states the baseplate designation at each position for all bearers. Two level baseplates are identified by the designation eg 'T20' for 20mm two level baseplate, at each position on the 1:50 drawing. A table is also provided solely for identifying the two level baseplates fitted on each rail of each track where two levelling is used. This applies to newer layouts where 1:50 drawings are available, but for older legacy layouts there may not be a 1:50 drawing available.*

*A SIN is to be issued in July 2016, with completion by March 2017. The purpose is to create a register of all two levelled sites, inspection of each site to check all the baseplates are correctly installed, check that drawings are available and obtain them from suppliers if missing. The SIN will also require that DUs clearly mark (physically on the asset) all two levelled sites in track.*

**Target date: April 2017**