

Derailment of freight train at Audenshaw

Issued to: Network Rail managers, safety professional and accredited contractors

Ref: NRL25-02

Location: Audenshaw, Manchester

Date of issue: 09/06/2025

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Overview

At around 11:25 on 6 September 2024, a freight train travelling between Peak Forest and Salford derailed as it passed over Sidmouth Street bridge in Audenshaw, Manchester. The train was made up of 2 class 66 locomotives and 24 wagons fully loaded with aggregate. The 2 locomotives and the leading 10 wagons passed safely over the bridge, but the following 9 wagons derailed, with the remaining wagons coming to a stand on the bridge itself. No injuries were caused as a result of the derailment but substantial damage was caused to railway infrastructure and some of the wagons.

The track over Sidmouth Street underbridge No. 3 is supported by a Longitudinal Timber Bearer System (LBS) and has a sub 800m radius curve.

Investigations to date suggest that the derailment was caused by gauge spread of the track which occurred when the baseplate chair screws sheared and broke.

Underlying Causes

- The chair screws in the baseplates were the wrong type. For hardwood timbers they should have been high tensile screws (marked as HT) as per NR/L2/TRK/3038.
- The chair screws used were too short for the depth of packing between the baseplate and the timbers. Screws marked AS had been fitted which are 160mm long (6 5/16 inch). They should have been LSA screws as these are 206mm long (8 3/8 inch),
- There was no signed Longitudinal Bearer Management Plan in place – this should have been produced, approved and signed by both Track and Structures engineers as per TEF3279.
- Ellipse was not being used as required by NR/L3/MTC/MG0176. Specifically, Ellipse had not been populated to record previous incidents when screws had sheared and been replaced. Recording in Ellipse is vital so that similar or repeat incidents can be identified to allow any ‘trends’ to be identified and mitigated.
- Track geometry trace reviews had not been undertaken in accordance with NR/L2/TRK/001 mod 11.
- There had been several staffing changes in the maintenance team in the months prior to the derailment and the handover of high-risk assets between TMEs had not been sufficiently recorded.
- Assurance processes had not picked up the issues above.

Key Message

SIN220 “Managing Lateral Forces on Sub 800m Longitudinal Bearer Systems” was issued on 06 December 2024 which requires the inspection of the type of chair screws and depth of packing to ensure any failed, ineffective or non-compliant screws are replaced.

In addition to actioning SIN220, review the implementation and associated assurance of the following controls:

- How effective is your management of longitudinal bearer systems between track and structures engineers including:
 - Do you have Longitudinal Bearer Management Plans (LBMP, TEF3279) for each longitudinal bearer structure that have been approved and signed by both the track and structures Engineers?
 - Where track geometry issues exist on longitudinal bearer systems, have they been discussed with the structures team in a timely manner?
 - When structural issues are identified on longitudinal bearer bridge systems how are they raised and discussed with track engineers in a timely manner?
- Are your inspection regimes at the correct frequency for the longitudinal bearer systems in accordance with NR/L2/TRK/001/mod02 Track inspection and NR/L2/TRK/3038 Longitudinal Bearer Systems – Inspection, Maintenance and Design?
- Are trace reviews being carried out effectively and to the required standard?
- Where inspection staff are regularly replacing components how are these being recorded and reported?
- Is all information recorded on the TEF forms being captured in Ellipse?
- Does your Level 1 Assurance include cradle to grave checks on work orders to ensure that all aspects from work order creation to delivery and close out are being captured fully and accurately.
- Are maintenance managers and engineers effectively reviewing the output of L1 assurance, not just completion rates and how are “not checked on this occasion” answers monitored in MSA?
- How robust are handovers between track maintenance engineers when people change roles?
- How are newly promoted staff supported by competent and experienced mentors through the transition period?