

Incorrect Installation of ESR Equipment

Issued to: **Network Rail line managers, safety professionals and accredited contractors**

Ref: NRL24-02

Date of issue: 02/04/2024

Location: Multiple sites

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Overview

There were several serious and concerning incidents during 2023, involving Emergency Speed Restrictions (ESRs) and Temporary Speed Restrictions (TSRs). Although the causal factors for each incident were slightly different, the common element was a failure to fully install and implement the speed restriction. These have led to unsafe situations with trains overspeed across the defect and the subsequent response caused unnecessary disruption to railway operations and our passengers. These incidents have also resulted in the maintenance teams accessing the infrastructure to inspect the positioning of the signage.

Incident One Overview: North, West & Central – 19th June 2023

This incident was where an implemented ESR did not have a magnet installed. This led to the train being withdrawn from service for an inspection, disrupting service and causing a safety hazard to the railway operation.

Key points

This was an installation issue.

The Team leader did not submit a photograph to their Section Manager or equivalent, quoting the location details of the ESR applied

Due to human error when reinstating back to the original TSR, the Permanent Way team forgot to reinstall the AWS magnet.

Incident Two Overview: East Coast South – 11th June 2023

This incident happened where a 20 mph ESR was erected due to hot weather precautions. There was an existing 20mph ESR in place on the Down Slow 2 line, with associated warning equipment already installed on the Down Fast from where it could be accessed.

With a lack of competent staff locally to undertake ESR designs, a Section Manager from a different area designed the Down Fast 20mph ESR, which did not consider other speed restrictions in the area owing to a lack of local knowledge. Staff were unable to install equipment on site as per the design.

It was realised post implementation of the speed on the 11th of June, that the order of the warning equipment was incorrect as staff had added the warning equipment for the Down Fast 20mph ESR beyond the pre-existing warning equipment for the Down Slow 2 (with directional arrow) 20mph ESR.

Key points

The ESR was designed by someone from a different area and did not consider other speed restrictions in the area owing to a lack of local knowledge.

The local Permanent Way team had insufficient competent staff to create or amend an ESR design.

The issue of the warning equipment for both ESRs being the incorrect sequence, was not reported nor escalated to Incident Control.

This incident has highlighted the challenge of compliantly providing warning equipment for speed restrictions in complex areas and alternative solutions are being explored.

Discussion points

- Are all staff involved within your DU trained and assessed as competent to carry out the certain parts of the speed application process? (see Fig.1)
- What issues do you face in obtaining the information you need to comply with design requirements?
- Are we 'taking 5' for safety in our work processes, which in turn could have stopped human errors from occurring in these incidents?
- Do we know the standards that relate to the implementation process?
- Is the current training and competency required adequate?
- Do we report every unsafe or irregular practises through the correct channels?
- Can technology help take away human error and what potential advances could there be?
- How do you assure that the speed restriction signage has been correctly installed?

Fig 1

Role	Description
ESR-U Designer	A competent person within Network Rail's Maintenance and Works Delivery function who is trained and assessed competent to produce an ESR-U design.
Proposer	Any person within Network Rail's Maintenance and Works Delivery function who, due to their capability to undertake role/work they have been assigned to, will identify the requirement for an unplanned ESR (ESR-U) to be imposed.
Team leader	Member of the track maintenance team who holds Tr11 competency (Confirm the track is fit for operational purposes following maintenance repair) who leads the installation team on site when providing speed restriction signs and equipment.
Track installation team	Made up of members of the track maintenance team who hold TrD1 competency (Maintain permanent way assets).
TSR signalling designer	A competent Signalling Designer (IRSE licensed) who can design, review and approve TSR/ESR designs.