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Special Inspection Notice

Recording of Warning Time for Automatic Level Crossings

Endorsement and Authorisation

Endorsed by:

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Jeremy Morling, Acting Professional Head, Signalling

Authorised by:

A handwritten signature in black ink, appearing to be "Neal Lawson", written over a dotted line.

Neal Lawson, Director, Maintenance and Operations Services

User information

This Network Rail special inspection notice contains colour-coding according to the following Red–Amber–Green classification.

Red – Critical limits – *No variations, could stop the railway*

- Red indicates critical limits to be complied with and achieved at all times.
- Critical limits are presented in a red box and expressed as a direct instruction.
- Accountability for the efficacy of critical limits lies with the Professional Head/special inspection notice owner.
- Critical limits are monitored for compliance.
- If non-compliance is identified, this will be investigated under the Network Rail fair culture process.
- Corrective actions are to be enforced if variations are discovered through functional checks (such as engineering verification visits, audit or operations self-assurance).

Amber – Baseline limits – *Controlled variations, approved risk analysis and mitigation*

- Amber indicates baseline limits to be complied with unless variation has been approved in advance.
- Baseline limits are presented with an amber sidebar and expressed as a direct instruction.
- Accountability for the efficacy of baseline limits lies with the Professional Head/special inspection notice owner, or their nominated delegated authority.
- Baseline limits are monitored for compliance.
- Variations may be permitted. Variations are approved by the process owner or through existing delegated authority arrangements.
- Corrective actions are to be enforced if non-approved variations are discovered through functional checks (such as engineering verification visits, audit or operations self-assurance).

Green – Guidance

- Green indicates guidance. This is presented with a dotted green sidebar and with the word 'should' (usually in notes) or expressed as a recommendation.
- Guidance is based on good practice and represents supporting information to help achieve critical and baseline limits.
- Guidance is not mandatory and is not monitored for compliance.
- Alternative solutions may be used. Alternative solutions do not need to be formally approved.
- Decisions made by a competent person to use alternative solutions should be backed up by appropriate evidence or documentation.

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1 Introduction

1.1 Purpose

- 1.1.1 The purpose of this Special Inspection Notice (SIN) is to mandate the collection of train arrival time data from automatic level crossings and return it to a central point in a specified format.

1.2 Scope

- 1.2.1 The SIN applies to the list of automatic level crossings now contained in the spreadsheet that was collected under the scope of NR/SIN/133.
- 1.2.2 Station crossings (Barrow Crossings) which are only used by members of railway staff or by members of the public who are always supervised by members of staff, shall be removed from the scope.

1.3 Background

- 1.3.1 Following on from SIN133, this document defines the action plan for the second stage in collecting and evaluating arrival time data at automatic level crossings.
- 1.3.2 While it was the Motts Lane incident and a RAIB recommendation that led directly to this work, behind the recommendation was a perception that there may be significant numbers of trains arriving well beyond the designed minimum warning times at NR's other crossings. This may in turn be a factor in encouraging zig-zagging or crossing against the red lights. At present Network Rail does not know the spread of arrival times at its automatic level crossings (including MSL's), so the risk of long arrival times cannot be properly assessed. This action plan will meet that need.
- 1.3.3 The data generated will be used to assess the risks associated with long warning times at automatic crossings. It may lead to work being undertaken at some sites to reduce arrival times, and work to produce more technical solutions that will contribute to a much reduced range of warning times.

2 Terms and abbreviations

- 2.1.1 Terms and abbreviations used in this document are described in the tables below.

Term	Definition
Minimum Warning Time	The time taken from a train striking in at a level crossing and operating the warning (visual and audible) to the level crossing user, to the point when the train arrives at the crossing.
Strike-in	Point at which a train approaching a level crossing initiates the warning (visual and audible). This is usually a physical point on the railway infrastructure, such as a track circuit joint, treadle or axle counter head.
Automatic Crossing	Under normal operating, a level crossing that is automatically initiated and reset by passage of trains, not signallers, using signalling equipment and train detection.

Table 1 – Terms

Abbreviation	Description
ABCL	Automatic Half Barrier, Locally Monitored (by the train driver)
AHB	Automatic Half Barrier (not monitored in normal traffic)
AOCL	Automatic Open Level Crossing, Locally Monitored (by the train driver). For the purpose of this document, it includes the AOCL type crossing (Automatic Open Crossing, Remotely Monitored).
AOCL+B	Originally designed as an AOCL, altered to include half-barriers. There are very minor differences between an AOCL+B and an ABCL.
MSL	Miniature Stop Light crossing. For the purpose of this document, it includes the historic MWL type crossing (Miniature Warning Lights).
RACI	responsible, accountable, consulted and informed

Table 2 – Abbreviations

3 Risk Ranking

- 3.1.1 In accordance with [NR/L2/RSK/00001](#), a risk ranking exercise has been completed. The review panel using the corporate risk scoring matrix has assessed the risk as follows:
- Stakeholder impact score of 3 and a Likelihood score of 4, thereby giving an overall risk score of 7.

4 Responsibilities

- 4.1.1 The RAM (Signalling) is responsible for arranging all actions in this SIN and for co-ordinating with Route based resources (such as Level Crossing Managers) required in collecting and interpreting the data.

5 Work planning

- 5.1.1 The resources required for this task shall be appointed by or on behalf of the RAM (Signalling). The task is broken down into two phases.
- 5.1.2 The **first phase** is collection of data, in accordance with the requirements in Section 6. The time taken by this work will be minimised if the level crossings being assessed are fitted with event loggers and remote or central monitoring. Where no fixed event logger exists, it is advisable to fit a temporary event logger, otherwise planning of this work will require an extra resource to manually record train movements.
- 5.1.3 The **second phase** is desk-top Interpretation and formatting of the data into the histogram (in accordance with the requirements in Section 6.1.4), and returning the data (in accordance with requirements in Section 6.1.5.)
- 5.1.4 The **priority** for the action plan should be in the following order of level crossing type: