



INSTITUTION OF RAILWAY SIGNAL ENGINEERS
MINOR RAILWAYS SECTION
GUIDELINE ON

INSPECTION AND AUDIT

Record of Amendments		
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1.0	March 2013	Initial Issue

Anyone who wishes to contribute additional items or correct / amend any of the entries or wants further information may contact the IRSE Minor Railways Section Guideline co-ordinator at mrsdc@irse.org or via the IRSE Headquarters.

Any railway seeking to follow the guidelines in this document should ensure that it is suitable for their particular railway concern. Duty holders are reminded that they must be satisfied that they are doing all that is needed under health and safety duties to control risks. Compliance with this guideline issued by the IRSE is not mandatory as it provides advice on how an issue may be addressed.

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1 INTRODUCTION

This document describes some simple methods for self-analysis that will enable minor railways to identify potential areas of weakness and develop targeted improvement strategies. It is based on the twin evaluation strategies of inspection (an evaluation of performance based on expectations of industry best practice and minimum standards of compliance based on adequacy of basic legislation and experience of the person conducting the inspection) and audit (where the documented requirements expressed in Company documentation, if any, and the level of compliance and familiarity with them). This approach is used in the UK nuclear industry to provide reassurance to the Company Board that power station operation does not expose the Company to unevaluated risk.

The IRSE Minor Railways Section has used its best endeavours to ensure that the contents of this document are factually and technically correct and is suitable for its stated purpose but the IRSE Minor Railways Section cannot be liable for any subsequent use to which the document may be put.

2 DEFINITIONS

The following is a list of the more common definitions, a fuller description may be found in subsequent sections. In this document terms relating to gender equally apply to the opposite.

Inspection This is the sort of simple questioning that can be deployed by the Regulator when attending a site following an event or carrying out a routine visit. The questions will often be asked at different levels within the organisation, as differences in response are as informative as the responses themselves. It is also important to recognise that the questions will also be asked of those at working level; actually conducting such work, where there will be little incentive to present a generous image. Simple, open questions provide the most information.

Audit This approach is often based on questions prepared following a 'document discovery' process following the Company's documented safety management system and will seek to evaluate the standards expressed in the documentation and to evaluate the level of compliance with them. These two aspects are equally important – thorough documents but where there is no working level knowledge or compliance is actually worse than having barely adequate documents with moderate knowledge and patchy compliance and an action plan to address shortcomings.

Open Question A question that requires the responder to provide information.

Closed Question A question that normally has a yes /no one word type answer.

3 SAFETY CONSIDERATIONS

Not applicable to this document

4 PROCESS

The inspection phase can be outlined in this document in the form of a 'scope' document applicable to a S&T Department on a Minor Railway. This phase is not dependent on the particular Company documentation as it is based on minimum standards that would deliver adequate performance and on suggestions of best practice that could be adopted as part of an improvement strategy.

The audit phase will depend on the specific provisions of Company documents.

A Minor Railway S&T department will comprise the personnel who carry out and supervise maintenance, inspection and testing work on signalling equipment. It should be clear how the experience and knowledge of the staff are evaluated, their training needs identified, their boundaries of access to equipment are defined and identified. The level of authority required to request and to undertake an over-ride, defeat or removal from service of signal interlocking equipment and the identification of staff empowered to undertake such work should be explicitly defined.

4.1 Identification / competence

How are members of the S&T Department identified? Are they required to carry an identity card? Does this identify their level of competence in a way that can be understood by the Signaller when accepting assurances on equipment's fitness for return to service?

Is the identity card linked to a photograph and bear an expiry date? What process is used to record the steps taken to authorise renewal of an individual's competence? Examine the information held to justify the renewal or issue of the current identity card of two random members of the Department.

4.2 Personnel

Taking some examples from the list below ask which tasks are permitted to all S&T staff, which are limited to selected staff and how this is controlled and explained to staff:

- oiling point rodding cranks,
- repairing broken signal wires,
- testing facing point locks,
- responding to track circuit failures or broken sealed releases,
- first line fault investigation, responding to a report of a wrong-side failure,
- installation of new equipment,
- testing of locking frames following locking alterations,
- training of new staff.

What regular training or improvement activities take place?

4.3 Work undertaken

Examine records of routine testing on selected pieces of equipment including:

- a facing point lock,
- detection for a facing move where no FPL is provided,
- a track circuit,
- a backup battery (or standby generator),
- supporting a safety critical function
- a signalling relay.

Issues to include are frequency of maintenance or servicing, frequency of testing, results of testing (including recording of evidence from successive tests), follow up if testing fails.

4.4 Standards

Are there any derogation from the 'Board of Trade' requirements such as:

- provision of distant signals at braking distance from stop signals
- Signals spaced at regular intervals within station limits (TCB)
- locking bars or track circuits holding FPLs
- lighting and proving of signal lamps
- interlocking of starting signals with token/block
- Connections beyond the area controlled by the signal box (i.e. within the block section) interlocked with the token?
- Approach locking is appropriate for the application

If so is a risk assessment recorded?

4.5 Faulting.

Examine records of fault reporting and effectiveness of follow up action. Seek views of signalmen and S&T staff as to the effectiveness of fault reporting and of the general reliability of equipment.

4.6 Maintenance schedule

Is there a schedule of maintenance which defines the intentions for the regular maintenance of equipment in terms of identification and enumeration of the equipment, periodicity and standards to be met during testing. It should define the actions to be taken if maintenance cannot be carried out at the intended frequency and the actions to be taken and the timescales for such actions if test standards cannot be met.

Examine follow up action from a recent test failure, including reference to other departments for remedial work (for example track gauge checks after FPL failure) and timescale and recording of remedial action.

4.7 Post Audit / inspection

Write up the findings from the inspection detailing the questions asked and the responses provided indicating the 'grade' rather than the name of the individuals interviewed (avoid a blame culture as the shortcomings could be process rather than individual). Do not over state any shortfalls as one contested finding can significantly reduce the effectiveness of the findings as a whole.

Identify areas where staff has generally accepted that improvements could and should be made to ensure minimum standards are met.

Identify areas where performance is less than the industry best practice and improvement should be considered.

Identify any specific examples where the inspection discovered shortfalls where immediate action was required to restore safety and record the action taken.

4.8 Recommendations

The inspection report should include some conclusions based on the evidence identified during the inspection and some suggestions for actions that would promote improvement.

If the suggested actions have been agreed by management, then they can be presented as 'agreed actions' rather than recommendations. Including timescales that are reasonable for the severity of the shortfall and the resources available to address it is helpful.

5 REFERENCES

RSSB Railway Group Standards see www.rgsonline.co.uk

RSPGs and RSPs Issued by the Office of Rail Regulation see www.rail-reg.gov.uk

- [Railway safety principles and guidance Part 1 \(1996\)](#) (HSE 1996)
- [RSPG Part 2B - Guidance on stations \(1996\)](#)
- [RSPG Part 2D - Guidance on signalling \(1996\)](#)
- Railway Safety Publication No 3; [Safe movement of trains](#)
- Railway Safety Publication 4; [Safety critical tasks - Clarification of ROGS regulations requirements](#)
- Railway Safety Publication 5; [Guidance on minor railways](#)

Department for Transport

Railways and Other Guided Transport Systems (Safety) Regulations 2006; Statutory Instrument No 2006/599.

6 APPENDICES

None.