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Level 2

Signalling Works Testing Handbook

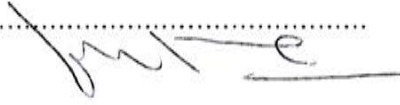
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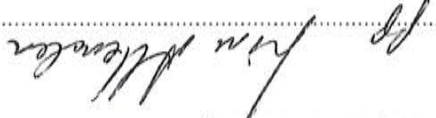
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Issue record

Issue	Date	Comments
1	Jun 08	Initial Issue (B110, B210, B310, B410, B510 issued)
2	Dec 09	A110, A210, C110, C120, C210, C310, C410, D110 E110 issued
3	Mar 10	F110 issued
04	Sept 10	A110, D110 re-issued. D120 additional SWTS added
05	Mar 11	C310, C410, D110 re-issued, D120 additional SWTS added and existing specs updated, and D115 issued. C310 and C410– Check marking and recording requirements, and Test Log requirements, respectively, updated to modern testing processes. D110 - Defined tests transferred to D115 and test specification and certification requirements updated.
06	Sep 11	A100 issued to describe selection of A110, A210 or G110 testing standards. G110, G120, G130 issued to facilitate testing of specific non-conceptual works and emergencies using Signal Maintenance Testing techniques.
07	Dec 11	B110, B210 and B510 updated in line with changes to the Signalling Works Testing suite of documents, the withdrawal of GK/RT0209, new Entry Into Service requirements, plus other minor alterations. D120 SWTS added / reissued
08	Mar 12	D120 SWTS added
09	Jun 12	A110, B310, B410, C110, C120, C210, C310 and C410 altered to incorporate the high level requirements from GK/RT0209, include updates and clarifications following industry feedback, and correct the mismatches between chapters / sections of this handbook. C510 issued. D115 defined checks and tests and D120 SWTS added / reissued
10	Dec 12	A210 and D110 altered to incorporate the high level requirements from GK/RT0209, include updates and clarifications following industry feedback, and correct the mismatches between chapters / sections of this handbook. D120 SWTS added / reissued

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- 11 Sep 14 A110, A210, B510, C120, C310, D110, F110 altered to include updates and clarifications following industry feedback.
- A310 issued to describe processes for Modular S&C Schemes.
- F120 and F210 published to extract E10k and CBI testing from F110.
- D115 defined tests and D120 SWTS added / reissued.

Compliance

This Network Rail standard is mandatory and shall be complied with by Network Rail and its contractors if applicable from 7 March 2015.

When this standard is implemented, it is permissible for all projects that have formally completed GRIP Stage 3 (Option Selection) to continue to comply with the issue of any relevant Network Rail standards current when GRIP Stage 3 was completed and not to comply with requirements contained herein, unless stipulated otherwise in the scope of this standard.

Reference documentation

Group Standards

[GK/GN0802](#) Glossary of Signalling Terms

Company Standards

[NR/L2/SIG/30014/E110](#) Signalling Works Testing Glossary

[NR/SIG/11231](#) Signal Maintenance Testing

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1 Purpose

This Level 2 standard mandates the application of the sections of the Signalling Works Testing Handbook which provides instruction and guidance to testers on the mandatory procedures and process controls so that new signalling installations, and alterations to existing installations, are independently tested in a manner that confirms:

- Compliance with the project Concept Design and Engineering Details, and fitness for purpose before the signalling system is offered for entry into service.

This handbook also, as far as practicable, specifies consistent procedures, and process controls are consistent across Network Rail Infrastructure.

The Signalling Works Testing Handbook has been created to collate together all the documents describing the procedures and process controls for signal works testing, and to remove the need for signal works testing related Technical Instructions.

2 Scope

This Level 2 standard applies to all maintenance or project works to alter Network Rail's signalling infrastructure, or with the potential to affect the fitness for purpose of the Network Rail Infrastructure.

The Signalling Works Testing Handbook consists of this specification and a number of individually published chapters.

3 Structure

The Signalling Works Testing Handbook is published as a number of separate documents to facilitate the amendment and addition of information without the requirement to republish unchanged information.

3.1 Level 2 Standard

This standard mandates the application of the Signalling Works Testing Handbook. It also mandates the update and separate issue of Sections on the authority of the Professional Head [S&T] following review by an appropriate steering group.

3.2 Handbook Structure

The Signalling Works Testing Handbook is divided into a number of chapters each of which consists of an index (contained in appendices to this specification) and a number of sections. The chapters address different areas of signalling works testing, although some topics may be addressed by sections in more than one chapter.

The chapters are as follows:-

NOTE: It is intended that new chapters will be created from items in this section when the need is identified.

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3.2.1 A000 – Signalling Works Testing (see Appendix A)

Selection of the appropriate signal works testing standard, and details of the fundamental principles of signalling works testing.

3.2.2 B000 – Signalling Works Testing Staff Competence Assessment (see Appendix B)

The requirements for the appointment of Signalling Testers in Charge, competence assessment of Signalling Works Testing Staff, and authorities to work, training and mentorship requirements for Signalling Works Testing Staff.

3.2.3 C000 – Signalling Works Testing Documentation (see Appendix C)

Generic requirements for documenting the planning of signalling works testing and the recording of signalling works testing activities.

3.2.4 D000 – Signalling Works Test Specifications and Certificates (see Appendix D)

Signalling Works Test Specifications and Certificates.

3.2.5 E000 – Signalling Works Test Glossary (see Appendix E)

Signalling Works Test Glossary.

3.2.6 F000 – Signalling Works Principles Testing (see Appendix F)

The requirements for testing the principles of an Interlocking

3.2.7 G000 – Signalling Non-Conceptual Works and Emergency Testing (see Appendix G)

Signalling testing requirements for non-conceptual works and small scale emergencies, based on Signalling Maintenance Testing techniques.

3.3 Sections

Each section is a stand-alone document.

The document identity for a section is in the form NR/L2/SIG/30014/A999 where the letter A is replaced by the chapter identity letter and the three digit number is the section identity within the chapter (000 is reserved for the index).

Forms associated with sections have an additional suffix in the form /LL99, where LL is based on the type of form.

Defined Tests (D115) have an additional suffix in the form /DT99-99 and Test Specifications and Test Certificates (D120) in the form /TS99-99 and /TC99/99 respectively.

Non-Conceptual Test Schedule templates (G120) have an additional suffix in the form /NTS999, and Non-Conceptual Test Plans (G130) in the form /LL99, where LL is an equipment type abbreviation as used in [NR/SIG/11231](#).

It is intended that, when in printed form, the sections will be stored with this document to form a handbook.

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4 Abbreviations and Definitions

4.1 Abbreviations

ABCL	Automatic Barrier Crossing Locally Monitored
AHBC	Automatic Half Barrier Crossing
AOCL	Automatic Open Crossing Locally Monitored
ATP	Automatic Train Protection
AWS	Automatic Warning System
CCTV	Closed Circuit Television
DCI	Drivers Crossing Indicator
FDM	Frequency Division Multiplex
GRIP	Guide to Railway Investment Projects
GWML	Great Western Main Line
HABD	Hot Axle Box Detector
HVI	High Voltage Impulse (track)
IRSE	Institution of Railway Signal Engineers
LED	Light Emitting Diode
LDT	Long Distance Terminal
MCB	Manually Controlled Barriers
MSL	Miniature Stop Light
PAM	Point Adaption Module
PMUX	Panel Multiplexer
SCS	Signallers' Control System
SPOSS	Self-Powered Overspeed Sensor
SSF	Signal Sighting Form
SSI	Solid State Interlocking
TASS	Train Activated Speed Supervision
TD	Train Describer
TDM	Time Division Multiplex
TFM	Trackside Functional Module
TOWS	Train Operated Warning System
TPWS	Train Protection and Warning System
VDU	Visual Display Unit

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4.2 Definitions

For general signalling terms refer to [GK/GN0802](#).

For other definitions used in this Signalling Works Testing Handbook see Signalling Works Testing Glossary [NR/L2/SIG/30014/E110](#), or for terms specific to a single section refer to specific definitions stated in that section.