National Signal Maintenance Standards
Briefing June 2026
Issue No 140

Providing technical leadership

Standards Covered by this Briefing

This briefing pack is intended to act as the detailed briefing for the following standards:

- NR/L3/SIG/10661 Signalling Maintenance Task Intervals
- NR/L3/SIG/10663 Signal Maintenance Specifications (SMS)
- NR/L3/SIG/10064 General Instructions for Staff working on S&T Equipment (GI's)
- NR/L3/SIG/11231 Signal Maintenance Testing Handbook (SMTH)

Managing the Transition between App Versions

The current version of the S&T Maintenance App is:

SigMaint 2025/3 will be withdrawn 07/09/2026

The new S&T Maintenance App:

SigMaint 2026/1 is scheduled for release 18/05/26

It is Region/Route decision when to make the transition from 2025/3
All colleagues must have transitioned to SigMaint 2026/1 by 05/09/26

Summary of Changes

NR/L3/SIG/10663 Signal Maintenance Specifications SMS – Summary of Changes

Section of Standard	Title	New Documents	Amended Documents	Withdrawn Documents	Total
Part A	General	-	**1**	**1**	**2**
Part B	Specified Tests	-	**1**	**1**	**2**
Part C	SMS Tasks	-	**6**	-	**6**
Part L	The Signal Maintenance "As Directed Policies"	-	**1**	-	**1**
Part Z	Reference Values	-	**1**	-	**1**
Appendix	SMS Appendixes	-	**1**	-	**1**
Total		**0**	**11**	**2**	**13**

NR/L3/SIG/10064 General Instructions for Staff working on S&T Equipment (GI's) – Summary of Changes

Document	Title	New Documents	Amended Documents	Withdrawn Documents	Total
NR/GI/M005	Reinstating Flooded or Water Affected Equipment	**1**	-	-	**1**
NR/GI/A015	Cyber Security	-	**1**	-	**1**
Total		**1**	**1**	-	**2**

NR/L3/SIG/11231 Signal Maintenance Testing Handbook (SMTH) – Summary of Changes

Section of Standard	Title	New Documents	Amended Documents	Withdrawn Documents	Total
Part 01	Principles and Processes	-	1	-	**1**
Part 02	Forms and Templates	-	1	-	**1**
Part 04	Test Plans	7	17	1	**25**
Part 05	Wrong Side Failure and Incident Investigation	1	-	-	**1**
Part 08	Wrong Side Failure Test Guides	-	1	-	**1**
Total		**8**	**20**	**1**	**29**

Projects involving updates to SMS, GI's and SMTH

This section contains work bank items that resulted in multiple documents being updated that have been grouped to facilitate briefing.

Projects that are briefed in this section

- Temporary Strapping of a Defective Level Crossing Boom or Pedestal Door Proving Switch
- Testing Requirements Following Flooding
- Automatic Gate Closer
- Point Operating Equipment: Hydrive
- Point Operating Equipment: Unistar

Temporary Strapping of a Defective Level Crossing Boom or Pedestal Door Proving Switch

Why has it been introduced

CA26 has been introduced to support a step in NR/SMTH/Part09/U012 which allows the tester to temporarily strap out faulty section of the boom CR circuit. It has been based on a tried and tested method shared by Wessex Route and has been tested on East Coast Route. It has also been a subject for a HAZID workshop.

The tester will need SFI level 2 authorisation and to log a fault with fault control.

Part 01/Module 12 has been amended to include a new section for Management of Temporary Strapping of a Defective Level Crossing Boom or Pedestal Door Proving Switch to support CA26.

Module(s) / Test	Name	Type of Change
SMTH Part04 CA26	Temporary Strapping of a Defective Level Crossing Boom or Pedestal Door Proving Switch	New
SMTH Part01 Module 12	The Diversion of a Circuit/Relay Contact or Emergency Equipment Relocation	Amended

Testing Requirements Following Flooding

Why has it changed

Following several recent flooding events, an opportunity has been taken to update testing contained within SMS/Test/300 to reflect best practice and learning and include assets that were missing.

What has changed

Updates throughout the document as summarised below

Module(s) / Test	Name	Summary of Changes	Type of Change
SMS PartB Test 300	Testing Requirements Following Flooding	Withdrawn and replaced with new Module within the SMTH	Withdraw
SMS Part A A13	Reinstating Flooded or Water Affected Equipment	Withdrawn and replaced with new Module within the General Instructions (M005).	Withdraw

Testing Requirements Following Flooding Continued..

Module(s) / Test	Name	Summary of Changes	Type of Change
SMTH Part 05 Module S23	Testing Requirements Following Flooding	A new document that gives the requirement for the Signal Maintenance Engineer or equivalent to define the scope of testing following flooding. The document is split into equipment types to give guidance to technicians on what minimum maintenance tasks and tests are required following flooding.	New
GI M005	Reinstating Flooded or Water Affected Equipment	▪Updated to reflect the changes made with Module S23 ▪Included guidance on how to manage known flooding sites and pre-management plans	New

Automatic Gate Closer

Why has it changed

The Locinox Samson-2 hydraulic gate closer has been produce approved (PA05/08059) and the SMS and SMTH required updating to include this new equipment

What has changed

The service and maintenance testing documentation has been updated to include the Samson gate closer

Module(s) / Test	Name	Summary of Changes	Type of Change
SMS PartC LC84	Automatic Gate Closer	An Includes/Excludes Box has been included Equipment identification images for both Adapt-A-Gate and Samson Steps clarified and made more explicit, especially for lubrication and operational checks Specific tests for the Samson gate closer	Amend
SMTH Part04 EL25	Automatic Gate Closer	An update to the Includes and Excludes box Equipment identification images for both Adapt-A-Gate and Samson More detailed steps, including specific steps for the Samson gate closer Updated operational testing with specific timings	Amend

Point Operating Equipment: Hydrive

Why has it changed

Following a failure with a Hydrive SO Unit actuator, that had pulled out of the gauge adjustment lug.

TIC Report 24049 Recommended that Network Rail should consider adding the torque value for the gauge adjustment lug fasteners to NR/SMS/PartZ/Z02, Point - Reference Values.

What has changed

Checks and torque values are now included or the checking of the drive adjusting lug.

Module(s) / Test	Name	Summary of Changes	Type of Change
SMS PartZ Z02	Point - Reference Values Hy-Drive	Addition of torque value for gauge adjusting lug fastening.	Amend

Point Operating Equipment: Unistar

Why has it changed

Following TIC investigation into internal wiring irregularity additional visual checks sought to ensure wiring is as per design.

What has changed- Visual check of the local LED indications throughout the manual operation. Ensuring only illuminated when in the closed/ locked position and corresponds to the lie of the points.

Additionally, step added to ensure all locking features are secure.

Module(s) / Test	Name	Summary of Changes	Type of Change
NR/SMTH/Part4/ PC81	Unistar HR Machine	Requirement to observe the local indication LED throughout manual operation ensuring only illuminated when in the closed/ locked position and corresponds to the lie of the points.	Amend
NR/SMTH/Part4/ PC82	Unistar HR Pump Unit	Requirement to observe the local indication LED throughout manual operation ensuring only illuminated when in the closed/ locked position and corresponds to the lie of the points.	Amend

NR/L3/SIG/10664 – Issue 15

Other New and Amended Documents.

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Cyber Security

Why has it changed

The document has been re written to incorporate information from the expired NB100

It does not contain black bars.

What has changed

- USB Scrubbers are now included when purchased via NR-approved IT hardware supplier.
- Excludes Siemens equipment. Only PCs connected to the Siemens blue network (including by remote connection over Zscaler or similar) should be used for virus scanning and formatting of memory sticks.
- Operational Technology Telecoms and S&T equipment shall not be used to charge personal or non issued devices.
- Updated “Do” and “Do Not” lists
- Additional information can be found at Security Hub Share Point - Cyber and Information Security Standards, Policy and Guidance.)

Module(s) / Test	Name	Type of Change
GI A015	Cyber Security	Amended

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Signal Maintenance Specifications

Other New and Amended Documents.

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SMS Minor Updates

Module(s) / Test	Name	Summary of Changes	Type of Change
Part A A03	Definitions	Check for tightness definition added and header corrected.	Amend
Part C LC87	EDS Power Operated Sliding Barrier (POSB) Gates	LC87 - Geographical reference to 'Redcar only' has been removed. LP351 - Updates to local policy to include the new asset at Nunthorpe.	Amend
Part L 500	The Signal Maintenance “As Directed Policies” – Reading STME (Reading/Slough)	Local Policy Updated	Amend

SMS Part B Test 045

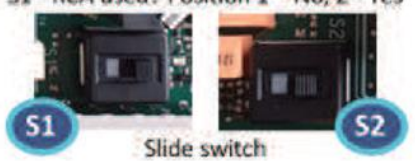
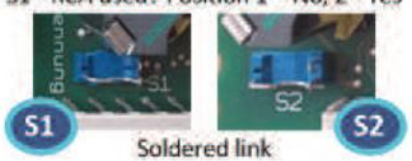
Thales Axle Counter Dummy Wheel Test (AzLM)

Why has it changed

The H-Type analogue board has been re-designed to enable it to be used with a K-Type rail contact and allow it to be switched from normal to high power.

The new analogue board can be used with either rail contact (H&K), therefore will become a universal solution for all H-Type EAKs and supersede older versions.

Summary of Changes	Type of Change
Section 8 had been added: "Set up Procedure for EAK 30H with SK30H with 'Hybrid' (3CR 01836 Afxx and newer) Analogue Card	Amend

	New analogue Card	Existing Analogue card
Part Number	3CR 01836 AFFA	3FW 18601 AEAB, 3FW 18602 AEAB plus other older variations
Compatible with which rail contact	H-Type Rail contact and K-Type Rail contact	H-Type Rail contact only
Visual Differences	 Far more components with adjustable S1, S2 and S3 switches	 Less components with non-adjustable soldered S1, S2 and S3 switches
S1 and S2 purpose and switch type Please note if S1 and/or S2 is not set correctly it will not be possible to set up the detection point	S1 - RCA used? Position 1 – No, 2 - Yes  Slide switch	S1 - RCA used? Position 1 – No, 2 - Yes  Soldered link
S3 purpose and switch type	S3 - Power? Position N – Normal, H - High  Rotary switch	S3 - Power? Position 1 – Normal , 2 - High  Soldered link

SMS PART C LV99 - Lever Frame Overhaul

Why has it changed

NR/SMS/Part C/LV99 detailing lever frame overhaul works carried out by the Mechanical & Electrical Locking Fitters (MELF) was previously written as a single task and did not accurately reflect how the activates are undertaken in practice.

What has changed

LV99 has been re-written and split into 5 Periodic Tasks (PT) which are reflective of how the work is undertaken in practice. These are:

- PT1 – Mechanical Interlocking and Lever Frame Function Test
- PT2 – Lever Frame Overhaul
- PT3 – Mechanical Locking Overhaul
- PT4 – Electrical Locking Overhaul (On-site overhaul)
- PT5 – Electrical Locking Overhaul (Overhaul with refurbished units)

Note: Due to the number of changes to this document there are no black bars for this issue of NR/SMS/Part C/LV99

SMS PART C LV99 - Lever Frame Overhaul

Standard Jobs

Job and task descriptions for Standard Jobs have been rationalised and aligned to the new Periodic Tasks.

PREVIOUS:

STD_JOB_NO	STD JOB DESC	SJ TASK DESC	COMMENT
006589	LEVER FRAME OVERHAUL	NR/SMS/LV99	Revised
003095	LEVER FRAME - TEST MECH INTERLOK UNIT	LV99-FRAME-TEST MECH INT UNIT	Revised
003164	LEVER FRAME - TEST LEVER COMPONENT	LV99-FRAME-TEST LEVER COMPONENT	Revised
006339	MECHANICAL INTERLOCKING TEST	NR/SMS/LV99	Revised
006340	MECHANICAL INTERLOCKING TEST	NR/SMS/LV99	Revised
006341	MECHANICAL INTERLOCKING TEST	NR/SMS/LV99	Made inactive
006946	MECHANICAL INTERLOCKING TEST	NR/SMS/LV99	Made inactive

New:

STD_JOB_NO	STD JOB DESC	SJ TASK DESC
006589	MECH INTERLOCKING/FRAME FUNCTION TEST	NR/SMS/LV99 – PT 1
003095	LEVER FRAME OVERHAUL	NR/SMS/LV99 – PT 2
003164	MECH LOCKING OVERHAUL	NR/SMS/LV99 – PT 3
006339	ELECTRICAL LOCKING OVERHAUL (ONSITE)	NR/SMS/LV99 – PT 4
006340	ELECTRICAL LOCKING OVERHAUL (REFURB UNIT)	NR/SMS/LV99 – PT 5

NR/L3/SIG/10661

Where only one standard job was previously included in NR/L3/SIG/10661, all remaining and revised standard jobs will be included.

Note: further work is required to determine appropriate stat and max intervals for all of the SJNs

SMS PART C RC16
Remote Control System - Westronic 1024 TDM

Why has it changed

Battery tasks removed from Service B and placed in new PT service.

What has changed

Allowance for 4 yearly scheduling for assurance and reliability. Aligns with manufacturing guidance and business planning.

SMS PART C SB12

Signal Box Operating Floor and Block Shelf

Why has it changed

As a result of an investigation into a signalling irregularity and near-miss on 22nd July 2024 at Craven Arms level crossing (MCB). The investigation found that the security of a key intended for emergency use was not secured correctly and evidence from various sources indicated this had been the situation for some time.

What has changed

Step 7.3 has been updated to clarify that a check on any other seals, glass or locks that restrict access to keys(or other equipment) intended for use only in emergency situations are intact, of the correct type and that the are unable to be inadvertently removed.

General paragraph 2, Steps 2.3 and 15.3 have had minor editing that has not impacted technical content of the requirements.

Module(s) / Test	Name	Summary of Changes	Type of Change
PartC SB12	Signal Box Operating Floor and Block Shelf	Step 7.3 updated as part of continuous improvement. Minor updates made to other steps that do not change the technical content.	Amend

SMS PART C TQ14
Alstom Electronic Treadle System (ETS)

Why has it changed

This is the output of collaborative work with Alstom to incorporate reliability practices and new learning into the SMS instruction.

What has changed

Updated to reflect the product title changing to Alstom ETS – formerly GETS Treadle Unit.

Several widespread setup and testing changes throughout the document.

New - APPENDIX B – ELECTRONIC TREADLE UNIT (ETU) LINK SETTINGS

New - APPENDIX C – KNOWN ISSUES

New – Reference Values

SMS APPENDIX – 28
General Information on Programming Balises

Why has it been changed

- Added a contents list at the beginning of the document for clarity and ease of use.
- Added flow charts to each section of the Appendix that match the steps required.
- Added a paragraph to 'section A' for the Siemens Mobile Device (Web Version) alternative to the handheld unit. (Paragraph 4)
- Added a new section for Ansaldo 2nd Generation Programming, now 'Section C'.

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Signalling Maintenance Task Intervals

Other New and Amended Documents.

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Signalling Maintenance Task Intervals Minor Updates

Module(s) / Test	Name	Summary of Changes	Type of Change
EL33 - RC1	Ansaldo Interlocking - Equipment Rooms & Peripheral Locations	Updated Standard Job number.	Amend
ER22 - PT	Atlas Data Logging System	Updated tolerance.	Amend
ER23 - PT	Relay ALERT Data Logging System	Updated tolerance.	Amend
IS11 - PT	Solid State Interlocking (SSI)	Updated tolerance.	Amend
LC73 - B	Flex Crossing System	Updated Standard Job number.	Amend
RC16 - PT	Remote Control System - Westronic 1024 TDM	New service added.	New

Signalling Maintenance Task Intervals Minor Updates

Module(s) / Test	Name	Summary of Changes	Type of Change
LV99	Lever Frame Overhaul	Removed.	Removal
LV99 - PT1	Mechanical Interlocking and Lever Frame Function Test	New service added.	New
LV99 - PT2	Lever Frame Overhaul	New service added.	New
LV99 - PT3	Mechanical Locking Overhaul	New service added.	New
LV99 - PT4	Electrical Locking Overhaul (On-site overhaul)	New service added.	New
LV99 - PT5	Electrical Locking Overhaul (Overhaul with refurbished units)	New service added.	New

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Signal Maintenance Testing Handbook

SMTH

Other New and Amended Documents.

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SMTH Minor Updates

Module(s) / Test	Name	Summary of Changes	Type of Change
SMTH Part 02 Form 19	Cable Function Test Planning Sheet	Columns have been reordered to aid the Tester	Amend
SMTH Part04 AP02	Replace or Repair a TPWS Transmitter Loop	To reduce the WSF risk of loops being fitted incorrectly a new step has been added to After Installation, to Check replacement loop is replaced as labelled.	Amend
SMTH Part04 IH01	Replace an ElectroLogIXS Central Power Supply (CPS) Module	Excludes box changed for UCI variants to CPI Variants	Amend

SMTH Minor Updates

Module(s) / Test	Name	Summary of Changes	Type of Change
SMTH Part04 IH04	Replace an ElectroLogIXS Input / Output (IO) Module	Step 10. "Clear SSR count on I/O module. The SSR count shall always be cleared when a new module is installed." - removed as advise it is not applicable for LX Controller. Corrected Figure Numbering Figure 4 moved (was covering text) Fig 5 was missing	Amend
SMTH Part04 NW11	Replace a Network / Ethernet Switch	Engineers identified two CISCO devices on the Infrastructure that need including in the test plan.	Amend
SMTH Part04 TC02	Replace Track Circuit Equipment	Step 20 amended to include NR/SMS/Test 251 to 263.	Amend

SMTH Minor Updates

Module(s) / Test	Name	Summary of Changes	Type of Change
SMTH Part08 T041	Wrong Side Failure Test Guide: Automatic Warning System (AWS) Reduced Testing of Extra-Strength (Green) AWS Magnet Following Code 5 Failure	Confirmation from Freight operators that the locomotive classes have standard-strength receivers. New classes of Locos added to Table 1.	Amend

SMTH PART 4 - EL16 - Replace a Panel Tile

Why has it changed

Changes made to a panel resulted in previously used yellow reminder stickers not being replaced. The missing reminder related to a rarely used siding that required rusty rail instructions. Following the panel changes and absence of the yellow sticker, the signallers subsequently forgot to apply the rusty rail process

What has changed

Note has been added to EL16 Test Plan - Remind Signaller to re-apply any labels that were removed when replacing a panel tile.

SMTH Part 4 PA04 - Replace or Adjust a Tubular Stretcher Bar

Why has it changed

This has changed because of feedback received and to support reliability performance.

Module(s) / Test	Name	Summary of Changes	Type of Change
PA04	Replace or Adjust a Tubular Stretcher Bar	Step 6 was amended to make clear that during the work, the rails are to be cleaned before mounting the tubular stretcher bar brackets. Step 12 has been added to check that the replaced stretcher bar is clear of the ballast bed when fitted.	Amend

SMTH Part 4 - ElectroLogiXS Updates (Amended)

Why has it changed

Improve clarity and consistency across the suite of Test Plans that relate to work on ElectroLogiXS and the nuances depending on *who* commissioned the system (Atkins-Realis or Alstom)

Module(s) / Test	Name	Summary of Changes	Type of Change
• AX42 • AX43	• Replace a Frauscher COM - 'xxx' Board (e.g. COM-AdC / COM-WNC / COM-RP) • Replace a (Compact Flash) CF Card	Amended Document to support standardisation, clarity, and ASM-aligned structure and made agnostic to cover all variants of FAdC "COM" cards.	Amend
• NW04 • IH05	• Replace a GE RSTi ST or RGTi GT Modules • Replace a ElectroLogIXS Vital Peripheral Master (VPM) Module	Amended Document to support standardisation, clarity, and ASM-aligned structure and to align with the New Test Plans (see next slide)	Amend
• EL30 • EL32 • EL36	• Replace a GE UPS Inverter Module • Replace a GE / OmniOn UPS Rectifier Controller Module • Replace a PULS CP20.241, CP10.241 or CP5.141 Power Supply	Amended Document to support standardisation, clarity, and ASM-aligned structure and to align with the New Test Plans (see next slide)	Amend

SMTH Part 4 - ElectroLogiXS Updates (New & Withdrawn)

Why has it changed

New Test Plans to support various components that support the ElectroLogiXS system.

Module(s) / Test	Name	Summary of Changes	Type of Change
• EL41 • EL47 • EL56	• Replace a PULS 20.121 Power Supply • Replace a Phoenix QUINT Power Supply • Replace a PULS ML Type Variable Output PSU	All new	New
• EL57 • EL70 • EL71	• Replace a VRLA Thermal Probe and Wire Set • Replace a WAGO Multifunctional-Time-Relay • Replace a WAGO Solid State Relay	All new	New
• NW05	• Replace an GE RSTi ST Module Configurable	No longer required	Withdrawn

Any Questions?

For any future changes or queries please contact:

Route Employees: Your Regional Representative, as detailed below

Non-Route Employees: Email Signal.engineers@networkrail.co.uk

Region	Routes	Lead	Deputy
North West and Central (NW&C)	Central North West West Coast South	Owen Flanders	Andrew Witton
Wales & Western	Wales	Joshua Robinson	Jamie Pace
	Western	Matthew Redstone	Neil Pratten
Scotland's Railway	Scotland	Scott Paterson	Bhajaman Singh
Southern	Kent NR High Speed Sussex Wessex	Jude Parsons	Stephen Dapre
Eastern	Anglia East Coast East Midlands North and East	Richard Atkinson	Matthew Cook
Technical Authority	Signalling	Jeremy Morling	Samantha Jackson / Christine Shaul
Technical Authority	S&C	Stephen Franklin	Colin Durrans
Technical Authority	Level Crossing	Jonathan Evans	Darren Witts
Route Services		Scott Cadzow	