Catalogue of Network Rail Standards

NR/CAT/STP/001

ISSUE 123
05 March - 03 June 2022

i. Contacts

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Railway Group Standards
Rail Safety & Standards Board Enquiry Desk
Phone: 020 3142 5400 Website www.rssb.co.uk

Network Rail Technical Drawings
National Records Group
Email: nrgcivils@networkrail.co.uk

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Network Rail

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12th March 2018

Dear Subscriber

Challenging Network Rail Standards

The aim of Network Rail's standards is to achieve a safe, high performing and cost efficient railway system. We know, however, that they are often seen as overly complex and adding unnecessary cost. Our Transformation Plan and response to the Hansford Review identified opportunities to improve by encouraging our suppliers and other stakeholders to proactively challenge our standards to increase innovation and creativity and to reduce costs.

At the end of March 2018 we will be introducing a new process that will enable suppliers and other stakeholders to raise a challenge to a standard where they consider it to be incorrect, not enable the application of best practice, or drive increased cost without comparable benefit. Suppliers and other stakeholders will be able to challenge a standard by completing an application form that will be made available on the websites that host our standards. When reviewing any challenge received we will conduct a rigorous impact assessment across a broad range of output capabilities such as safety, performance, environment and compatibility to make sure the capabilities are not compromised.

Following launch of the process we will be progressively introducing appropriate incentives to encourage challenge to our standards, for example, through providing our corporate recognition of successful applications and within future procurement contracts focusing on the early design stages. As the scope covers our whole portfolio of policies, standards, processes and specifications, including initiating dialogue with RSSB in relation to Railway Group and Industry Standards, we are looking forward to seeing the constraints that can be unlocked and the opportunities that will be enabled through successful challenges to our standards.

For more information please contact: standardsmanagement@networkrail.co.uk

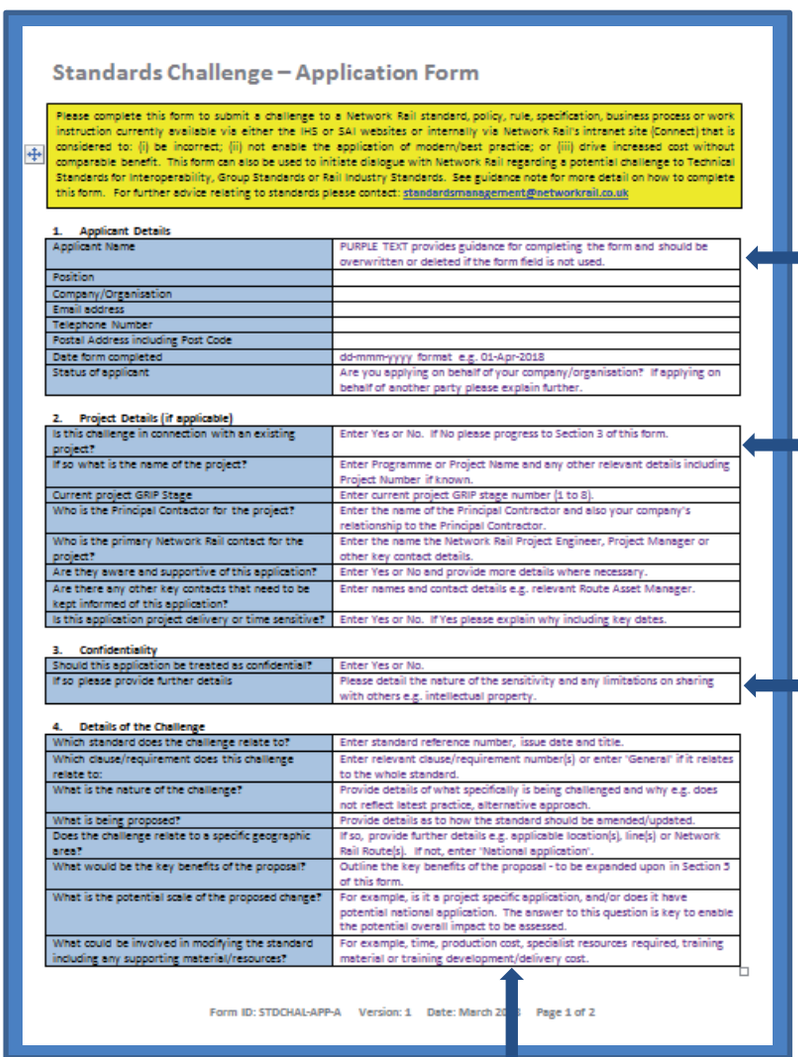
Yours sincerely

Brian Tomlinson
Chief Systems Assurance Engineer
Safety, Technical & Engineering

Guidance for Completing the Standards Challenge Application Form

The standards challenge application form can be used to submit a challenge to a Network Rail standard, policy, rule, specification, business process or work instruction that is considered to: (i) be incorrect; (ii) not enable the application of modern/best practice; or (iii) drive increased cost without comparable benefit. The form can also be used to initiate dialogue with Network Rail regarding a potential challenge to Technical Standards for Interoperability, Group Standards or Rail Industry Standards.

The form is relatively straightforward to complete. The PURPLE TEXT in the form is intended to provide further guidance or examples relating to the information requested and should be overwritten or deleted if the form field is not used.



Standards Challenge – Application Form

Please complete this form to submit a challenge to a Network Rail standard, policy, rule, specification, business process or work instruction currently available via either the IHS or SAI websites or internally via Network Rail's intranet site (Connect) that is considered to: (i) be incorrect; (ii) not enable the application of modern/best practice; or (iii) drive increased cost without comparable benefit. This form can also be used to initiate dialogue with Network Rail regarding a potential challenge to Technical Standards for Interoperability, Group Standards or Rail Industry Standards. See guidance note for more detail on how to complete this form. For further advice relating to standards please contact: standardsmanagement@networkrail.co.uk

1. Applicant Details

Applicant Name	PURPLE TEXT provides guidance for completing the form and should be overwritten or deleted if the form field is not used.
Position	
Company/Organisation	
Email address	
Telephone Number	
Postal Address including Post Code	
Date form completed	dd-mmm-yyyy format e.g. 01-Apr-2018
Status of applicant	Are you applying on behalf of your company/organisation? If applying on behalf of another party please explain further.

2. Project Details (if applicable)

Is this challenge in connection with an existing project?	Enter Yes or No. If No please progress to Section 3 of this form.
If so what is the name of the project?	Enter Programme or Project Name and any other relevant details including Project Number if known.
Current project GRIP Stage	Enter current project GRIP stage number (1 to 8).
Who is the Principal Contactor for the project?	Enter the name of the Principal Contractor and also your company's relationship to the Principal Contractor.
Who is the primary Network Rail contact for the project?	Enter the name the Network Rail Project Engineer, Project Manager or other key contact details.
Are they aware and supportive of this application?	Enter Yes or No and provide more details where necessary.
Are there any other key contacts that need to be kept informed of this application?	Enter names and contact details e.g. relevant Route Asset Manager.
Is this application project delivery or time sensitive?	Enter Yes or No. If Yes please explain why including key dates.

3. Confidentiality

Should this application be treated as confidential?	Enter Yes or No.
If so please provide further details	Please detail the nature of the sensitivity and any limitations on sharing with others e.g. intellectual property.

4. Details of the Challenge

Which standard does the challenge relate to?	Enter standard reference number, issue date and title.
Which clause/requirement does this challenge relate to:	Enter relevant clause/requirement number(s) or enter 'General' if it relates to the whole standard.
What is the nature of the challenge?	Provide details of what specifically is being challenged and why e.g. does not reflect latest practice, alternative approach.
What is being proposed?	Provide details as to how the standard should be amended/updated.
Does the challenge relate to a specific geographic area?	If so, provide further details e.g. applicable location(s), line(s) or Network Rail Route(s). If not, enter 'National application'.
What would be the key benefits of the proposal?	Outline the key benefits of the proposal - to be expanded upon in Section 5 of this form.
What is the potential scale of the proposed change?	For example, is it a project specific application, and/or does it have potential national application. The answer to this question is key to enable the potential overall impact to be assessed.
What could be involved in modifying the standard including any supporting material/resources?	For example, time, production cost, specialist resources required, training material or training development/delivery cost.

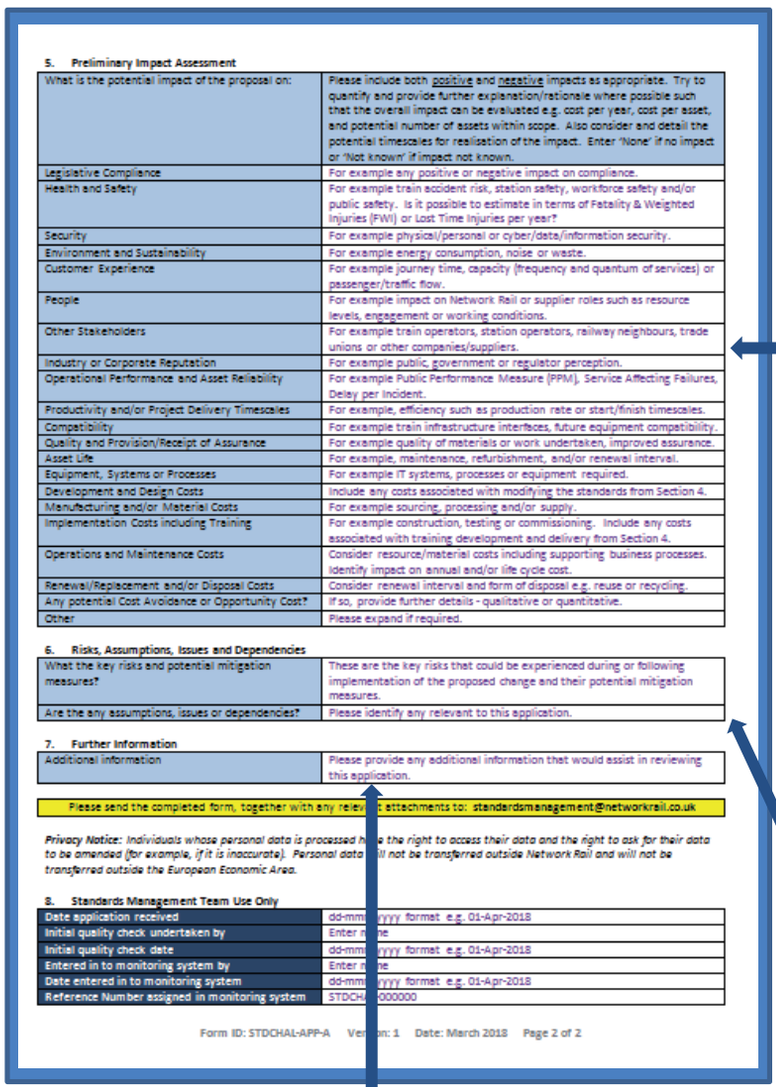
Form ID: STDCHAL-APP-A Version: 1 Date: March 20[illegible] Page 1 of 2

Section 1 is used to capture the applicant details.

Section 2 is to ascertain whether or not the application is being made in connection with an existing or forthcoming project and if so capture the relevant details.

Section 3 asks whether the application needs to be treated as confidential. If not, details of the application may be made available to other parties so they have visibility of the challenges that are being raised, or to provide examples of good practice.

Section 4 is focussed on the heart of the challenge seeking details of what is being proposed, why and the benefits it may bring? There are some key questions in this section that will help with further evaluation. It particular the question relating to the potential scale of application is seeking to identify if it is a project specific application and/or whether it could have potential national application. For example could it impact large quantity and/or high cost items such as electrification, track, structure, plant or signalling assets? This section also seeks information on what could potentially be involved in modifying the standard and any subsequent impact on training.



5. Preliminary Impact Assessment

What is the potential impact of the proposal on:	Please include both positive and negative impacts as appropriate. Try to quantify and provide further explanation/rationale where possible such that the overall impact can be evaluated e.g. cost per year, cost per asset, and potential number of assets within scope. Also consider and detail the potential timescales for realisation of the impact. Enter 'None' if no impact or 'Not known' if impact not known.
Legislative Compliance	For example any positive or negative impact on compliance.
Health and Safety	For example train accident risk, station safety, workforce safety and/or public safety. Is it possible to estimate in terms of Fatality & Weighted Injuries (FWI) or Lost Time Injuries per year?
Security	For example physical/personal or cyber/data/information security.
Environment and Sustainability	For example energy consumption, noise or waste.
Customer Experience	For example journey time, capacity (frequency and quantum of services) or passenger/traffic flow.
People	For example impact on Network Rail or supplier roles such as resource levels, engagement or working conditions.
Other Stakeholders	For example train operators, station operators, railway neighbours, trade unions or other companies/suppliers.
Industry or Corporate Reputation	For example public, government or regulator perception.
Operational Performance and Asset Reliability	For example Public Performance Measure (PPM), Service Affecting Failures, Delay per Incident.
Productivity and/or Project Delivery Timescales	For example, efficiency such as production rate or start/finish timescales.
Compatibility	For example train infrastructure interfaces, future equipment compatibility.
Quality and Provision/Receipt of Assurance	For example quality of materials or work undertaken, improved assurance.
Asset Life	For example, maintenance, refurbishment, and/or renewal interval.
Equipment, Systems or Processes	For example IT systems, processes or equipment required.
Development and Design Costs	Include any costs associated with modifying the standards from Section 4.
Manufacturing and/or Material Costs	For example sourcing, processing and/or supply.
Implementation Costs including Training	For example construction, testing or commissioning. Include any costs associated with training development and delivery from Section 4.
Operations and Maintenance Costs	Consider resource/material costs including supporting business processes. Identify impact on annual and/or life cycle cost.
Renewal/Replacement and/or Disposal Costs	Consider renewal interval and form of disposal e.g. reuse or recycling.
Any potential Cost Avoidance or Opportunity Cost?	If so, provide further details - qualitative or quantitative.
Other	Please expand if required.

6. Risks, Assumptions, Issues and Dependencies

What the key risks and potential mitigation measures?	These are the key risks that could be experienced during or following implementation of the proposed change and their potential mitigation measures.
Are the any assumptions, issues or dependencies?	Please identify any relevant to this application.

7. Further Information

Additional information	Please provide any additional information that would assist in reviewing this application.

Please send the completed form, together with any relev[illegible] attachments to: standardsmanagement@networkrail.co.uk

Privacy Notice: Individuals whose personal data is processed h[illegible]e the right to access their data and the right to ask for their data to be amended (for example, if it is inaccurate). Personal data [illegible]ill not be transferred outside Network Rail and will not be transferred outside the European Economic Area.

8. Standards Management Team Use Only

Date application received	dd-mm[illegible]yyyy format e.g. 01-Apr-2018
Initial quality check undertaken by	Enter n[illegible]e
Initial quality check date	dd-mm[illegible]yyyy format e.g. 01-Apr-2018
Entered in to monitoring system by	Enter n[illegible]e
Date entered in to monitoring system	dd-mm[illegible]yyyy format e.g. 01-Apr-2018
Reference Number assigned in monitoring system	STDCH[illegible]000000

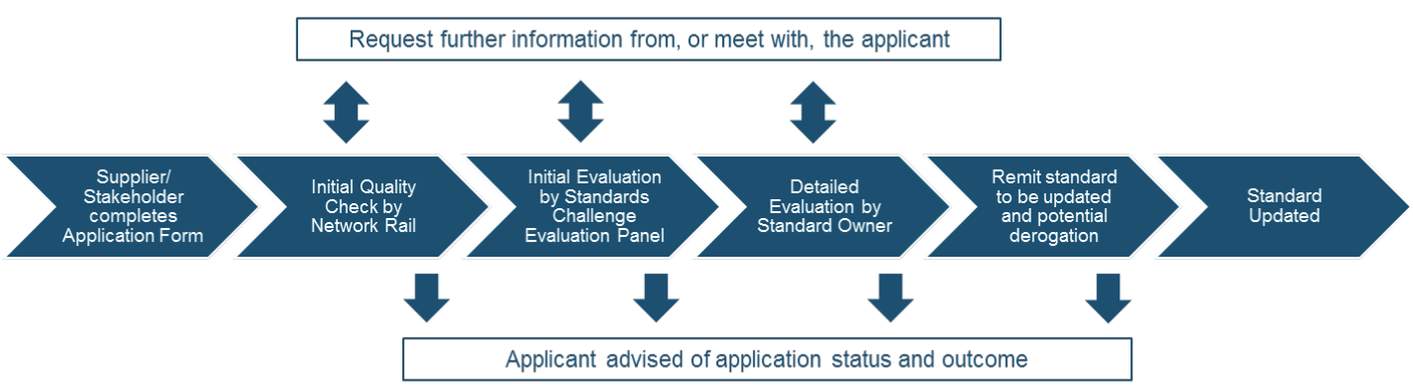
Form ID: STDCHAL-APP-A Ver[illegible]n: 1 Date: March 2018 Page 2 of 2

Section 5 is equally important. It lists a range of output capabilities and is asking the applicant to provide their view on whether these would be positively or negatively impacted if the challenge were to be accepted and to provide details of the expected scale of the change – seeking quantification, particularly costs, where possible. Where items have been quantified this will assist in evaluation of the business case for change (benefits vs. cost). For benefits please indicate the timescales within which they could expect to be realised. Where there is considered to be no positive or negative impact please enter 'None'. If the impact is not known, for example if the applicant does not have sufficient knowledge of maintenance costs, please write 'Not known' or provide a qualitative response.

Section 6 requires the key risks to be identified that could be experienced during, or following, implementation of the proposed change and their potential mitigation measures.

Section 7 is available to reference any supporting information that is to be submitted with the application.

The completed form and supporting information should be sent to **standardsmanagement@networkrail.co.uk** and the application will follow the process below.



Form ID: STDCHAL-GUIDE-A Version: 1 Date: March 2018 Page 2 of 2

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Initial quality check date	dd-mmm-yyyy format e.g. 01-Apr-2018
Entered in to monitoring system by	Enter name
Date entered in to monitoring system	dd-mmm-yyyy format e.g. 01-Apr-2018
Reference Number assigned in monitoring system	STDCHAL-000000

Guide to Network Rail Standards and Catalogue

1. Guide to Network Rail Standards and Catalogue

Welcome to the Catalogue of Network Rail Standards.

This document is intended as a guide to Network Rail Standards, current, as of the date of publication.

It does not include historic records, although a simple 15 month archive listing of withdrawals and supersessions is maintained for your convenience.

Whilst we endeavour to keep this content up-to-date from the information provided to us by Network Rail, IHS Markit cannot be held responsible for any errors or omissions.

The content of this catalogue is divided into the following sections:

Section 1	Is this Guide to Contents. It gives the user general information on Network Rail Standards, TSIs and Railway Group Standards.
Section 2	Lists the changes to Standards in this issue of the catalogue
Section 3	Is the listing of Network Rail Catalogues
Section 4	Is the listing of Network Rail Standards by Steering Group
Archive	Lists changes to standards over the last 15 months
Index	Index to this Catalogue

1.1 Quick Find – Using the Index

If you have a document of which you want to find the status, the quickest way to find your document is to look in the Index. All current standards are listed along with the page number where you will find more information on that document.

1.2 Network Rail Standards

“Network Rail standards” is the generic term for the documents that specify requirements and provide guidance directed towards securing the safe and efficient operation of the rail infrastructure. They support the overall company assurance system by specifying how Network Rail controls its principal health and safety risks, and how the organisation complies with Technical Specifications for Interoperability (TSIs), domestic legislation, Railway Group Standards and Network Rail Business Critical Rules.”

1.3 Network Rail Standards Framework

The standards framework, detailed in NR/L2/EBM/STP001, is designed to enable Network Rail Standard Owners to:

- develop requirements that are designed to control and/or help mitigate against identified safety and business risks;
- align those requirements (risk controls) to the relevant asset management lifecycle stages; and
- describe those requirements within a hierarchy of Network Rail standards.

NOTE 1: A standard might not be needed if there are no identified risks to be controlled.

NOTE 2 The Bow-Tie risk methodology may be used to identify risks and their controls.

1.4 Types of Network Rail Standards

A Network Rail standard shall be classified as either:

a) mandatory:
   1) Level 1;
   2) Level 2;
   3) Level 3;

b) (non-mandatory)
   Guidance Note

NOTES

- Level 1, Level 2 and Level 3 standards are monitored for compliance on the Network Rail non-compliance database.
- Level 1 Network Rail standards shall specify the organisation’s objectives, goals, strategies and policy requirements.
- Level 1 standards provide the framework for business processes, assurance systems and controls specified at Level 2.
- Examples of Level 1 standards include Asset Management Policies and the Network Rail Drugs and Alcohol Policy.

- Level 2 Network Rail standards shall specify “what” is to be achieved.
- Level 2 standards outline business processes, assurance systems and controls. They provide the minimum requirements against which Level 3 processes can deliver.
- Examples of Level 2 standards are specifications, process requirements and product specifications.

- Level 3 Network Rail standards shall specify the “how to” tasks to be followed in order to deliver requirements specified in Level 2 standards.

- Examples of Level 3 standards are work instructions and process instructions.

- Guidance Notes shall provide guidance based on best practice.
- Guidance Notes are non-mandatory and are not monitored for compliance.

1.5 Other documents associated with Network Rail Standards

Other documents that are associated with Network Rail Standards are listed below, though not all types are included in this catalogue:

Emergency Change (also known as Letter of Instruction)	Document directly linked to an existing Network Rail standard, authorised by a Professional Head, that is used to issue mandatory instructions where there is an emergency need not otherwise covered. The Emergency Change process is specified in NR/L2/CSG/STP001.
Notice Board	Briefing documents, intended to improve the circulation of information on signalling and associated topics. Enabling the quick briefing of information on incidents, new products, and general information. The contents of Notice Boards are for guidance only and are contained within NR/L2/SIG/11120.
Technical Instruction	A document that details a mandatory specific additional requirement or amplification of one or more requirements in an existing signal engineering company standard.
Permanent Way Special Instruction (PWSI)	A particular form of specification issued by Track Engineering.
Signalling Technical Advice Notice (SIGTANS)	The method by which Network Rail advises its own engineers and contractors about changes to signalling equipment and signalling equipment in service. The requirements of SIGTANS are mandatory. Alternative practices may be accepted where they can be demonstrated to be as good or better than the contents of the SIGTAN.
Signalling Workshop Engineering Notices (SIGWENS)	The method by which Network Rail advises suppliers about additional or revised processes required in the manufacture, repair or servicing of signalling equipment before it is released for use on Network Rail signalling infrastructure. The requirements of these documents are mandatory.
Special Inspection Notices (SINS)	A Letter of Instruction, mandated by Network Rail standard, NR/L2/CSG/10072 Special Inspection Notices, used when defects in control systems or telecommunications are identified that might create a hazard.

1.6 The Current NR Numbering Systems

1.6.1 NR Numbering System in the New Framework (by Standard Level and Steering Group)

The numbering system in the new framework uses the standard level (L1, L2, L3, or GN) and Steering Group to create a unique and logical reference number.

NR / a / b / c The general format of a typical standard reference number is as follows

- 3 to 5 digit identifying number is assigned to each standard. In some instances, a two- or three-letter **Document Code** prefixes this number (see table 1 below).
- 3 or more Character Steering Group reference (see table 2 overleaf).
- 2 character reference for the document type:
  L1 - Level 1 L2 - Level 2
  L3 - Level 3 GN - Guidance Note
- NR - Denotes a Network Rail Standard

Table 1 - Document Codes

These 2- or 3-letter codes may prefix certain document numbers

Code	Meaning	Code	Meaning
CI	Civils	PG	Program Group
CP	Core Procedure	SE	Safety
EN	Environment	SG	Signalling
EP	Electrical Power	SPC	Signalling, Power & Communications
ME	Mechanical & Electrical Engineering	TE	Telecomms
MG	Management / General	TK	Track
PL	Planning		

1. Guide to Network Rail Standards and Catalogue

Table 2a - Current Steering Group Codes (From Issue 76)

This table shows the main steering groups with standards listed in this catalogue (from Issue 76) and the sub groups they cover

Standards Steering Group	Reference	Standards Steering Group	Reference
Asset Information	ADG/AIF	Integrated Risk	RSK
Civils Engineering	CIV/RES	Investment Projects	INI (MPI), P3M
Commercial Property	PRO	Level Crossings#	XNG
Company Standards Group*	CSG	National Delivery Service	NDS/NSC
Competence & Training	CTM	National Supply Chain	NSC/SCO@
Contracts & Procurement	CPR	Operations & Customer Services	OCS/OPS
Electrical Power	ELP	Rail Mounted Vehicle & Plant	RMVP (RVE)
Environment	ENV	Safety & Compliance	INV/OHS/HSS
Ergonomics	ERG	Signals	SIG
Fire Safety Policy	FIR	System Engineering	AMG/EBM/RSE
Information Management	INF	Telecoms	TEL
Infrastructure Maintenance	MTC	Track	OTK/TRK

** New at Issue 99, # New at Issue 100, @ New at Issue 106*

Table 2b - Previous Steering Group Codes (Up to Issue 75)

This table shows the main steering groups with standards listed in this catalogue (up to Issue 75) and the sub groups they cover

Steering Group	Ref. Code	Steering Group	Ref. Code
ENGINEERING PROGRAMME MANAGEMENT		NATIONAL DELIVERY SERVICE	NDS
Acceptance	ACC	OPERATIONS & CUSTOMER SERVICES	
Engineering Programme Management	EBM/AMG/BUS	Operations & Customer Services	OCS
Standards Management	STP	Security Specialist	SEC
CIVIL ENGINEERING		OPERATIONS, PRINCIPLES & STANDARDS	OPS
Civil Engineering	CIV	RAIL MOUNTED VEHICLES & PLANT	RVE/RMVP
Fire Safety Policy	FIR	RAILWAY SYSTEMS ENGINEERING	
Railway Estates Policy & Planning	RSE	Railway Systems Engineering	RSE
COMMERCIAL PROPERTY	PRO	RISK & PROGRAMME CONTROL	RSK
COMPETENCE & TRAINING	CTM	SAFETY & COMPLIANCE	
CONTRACTS & PROCUREMENT		Accident Investigation	INV
Contracts & Procurement	CON/CPR	Assurance	ASR
Supplier Accreditation		Health & Safety Systems	RSC/HSS
ELECTRICAL POWER	ELP	Occupational Health & Safety	OHS
ENVIRONMENT	ENV	Safety and Compliance	SAF
ERGONOMICS	ERG	SIGNAL ENGINEERING	SIG
INFORMATION MANAGEMENT	INF	TELECOMS ENGINEERING	TEL
INFRASTRUCTURE INVESTMENT	INI	TRACK ENGINEERING	TRK
INFRASTRUCTURE MAINTENANCE	MTC		

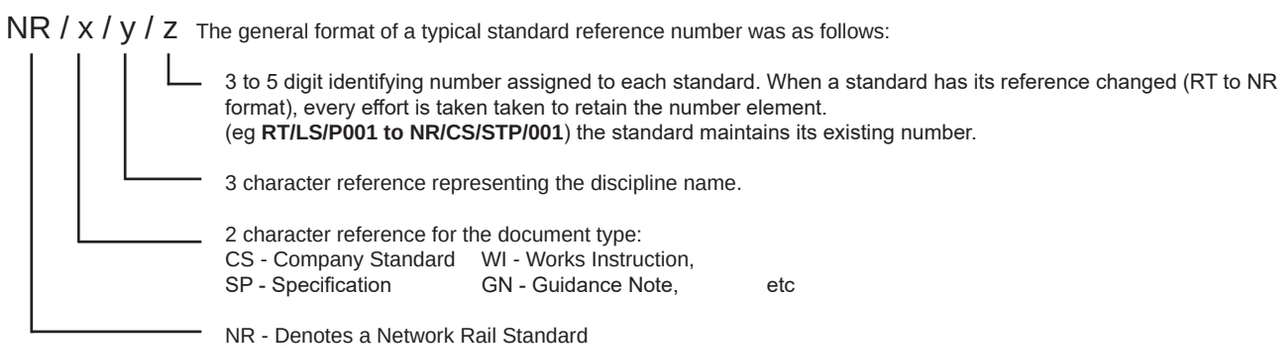
1.6.2 Previous NR Numbering System (by Document Type and Discipline Name)

The numbering system introduced in June 2005 used a document type and discipline name to create a reference number. This numbering system has been superceded by the numbering system in the new framework (1.5.1). Standards will be renumbered as they are migrated into the new framework. From December 2005, additional temporary front sheets were appended to the majority of then-existing standards; this carried the old RT and the replacement Network Rail-branded (NR) reference numbers. The content of the standards was not affected and existing signatures, references, issue numbers and dates were retained.

To minimise confusion, where standards have not yet been up-issued, they are listed under their RT reference numbers.
Only new and up-issued standards are listed under the NR numbers.

From June 2005 until June 2007, Network Rail Standards were referenced as follows:

- Company Standards: NR/CS/[discipline name]/[number] e.g. NR/CS/STP/001
- Business Process Documents: NR/[document type]/[discipline name]/[number] e.g. NR/SP/STP/045
- Standard Functional Procedures may have additional descriptive references to align with specific activities, for example: NR/PRC/MTC/[activity code] [number] e.g. NR/PRC/MTC/MG0011



1.7 Compliance Date

Compliance is the fulfilment of the requirements of a Standard. The Compliance Date is the date at which the Network Rail standard comes into force. **NOTE:** This might not necessarily be the publication date.

1.8 National Technical Specification Notices (NSTNs)

NTSNs define the technical and operational standards which must be met to satisfy the 'essential requirements', and to ensure the interoperability of the railway system. This allows all parts of the network to run as a whole system.

Following the UK's exit from the EU and the ending of the transition period on 31 December 2020, EU Technical Specifications for Interoperability (TSIs) have ceased to apply in the UK. The technical content of TSIs at the end of the transition period have been replicated as National Technical Specification Notices (NTSNs), which came into effect on 1 January 2021.

These are published by the Secretary of State on the Department for Transport (DfT) website:
https://www.gov.uk/government/publications/railway-interoperability-national-technical-specification-notices-ntsns
NSTNs are monitored for compliance on the Network Rail compliance database.

1.9 Railway Group Standards

Railway Group Standards are defined by the Railway Group Standards Code as "a standard authorised by the Railway Group Standards Code, being:

- technical standards with which railway assets or equipment used on or as part of railway assets by or on behalf of Railway Group Members must conform; or

- operating procedures with which the operators of railway assets must comply.

Compliance with which will contribute significantly to the safe operation of the rail network and the safe operation and safe interworking of railway assets used or to be used on or in connection with the rail network."

Railway Group Standards are produced and implemented as specified in the Railway Group Standards Code published by the RSSB and specify what must be done rather than how it should be done. Network Rail, as a member of the Railway Group, has an input to the process of developing these and must consider how it will meet the requirements. This is normally achieved by preparing Network Rail Standards.

Railway Group Standards are subordinate to NSTNs

Railway Group Standards may be accessed online at www.rssb.co.uk or directly from the Network Rail Standards on-line service.

1.10 Referenced Documents

Some Network Rail Standards grant mandatory or advisory status to other documents produced by Network Rail or other organisations. Referenced documents derive their authority from Network Rail Standards and therefore should only be applied in the circumstances and to the extent shown in any relevant Network Rail standard.

1. Guide to Network Rail Standards and Catalogue

1.11 Ordering Standards, Delivery & Prices

Complete suite of Standards in electronic format.
Subscription only, from:

IHS Markit Ltd
Capitol Building
Oldbury
Bracknell RG12 8FZ
Tel: 01344 404409
Fax: 01344 404421

1.12 The Network Rail Standards Portal

Network Rail Standards are now made available free of charge to all Network Rail suppliers and partner organisations via this online portal:

https://global.ihs.com/csf_home.cfm?&csf=NR

For organisations that are not eligible to free of charge standards, there is pricing available on the Portal.

2

Changes in this Issue

2. Changes in this Issue

2.1 New and Up-Issued Standards

References	Title	Replaces	Page
NR/GN/CIV/200 Issue 4	Station Design Manual	NR/GN/CIV/200 Issue 3	36
NR/GN/RMVP/27702 Issue 3	Plant Product Acceptance Process	NR/GN/RMVP/27702 Issue 2	114
NR/GN/TRK/9023 Issue 1	Tri Metallic Zone Weld Repair	New at Issue 123	197
NR/L1/CIV/094 Issue 2	National Asset Protection and Optimisation Delivery Framework	NR/L1/CIV/094 Issue 1	25
NR/L1/CIV/192 Issue 2	Management of Lift Assets	NR/L1/CIV/192 Issue 1	25
NR/L1/CIV/195 Issue 2	Management of Escalator and Moving Walk Assets	NR/L1/CIV/195 Issue 1	25
NR/L1/INF/02220 Issue 2	Document and Records Management	NR/L2/INF/02220 Issue 1	75
NR/L2/CIV/096 Issue 2	Asset Protection and Optimisation Management of Outside Party Works	NR/L2/CIV/096 Issue 1	28
NR/L2/CSG/STP001 Issue 9	Standards and Controls Management	NR/L2/CSG/STP001 Issue 8 NR/L2/MTC/MG0012 Issue 6	39
NR/L2/ELP/CTM028 Issue 3	Competence and Training in OLE Construction Engineering	NR/L2/CTM/028 Issue 2	57
NR/L2/MTC/EP0233 Issue 1	Lineside Hot Axle Box Detectors	NR/L3/MTC/MG0020 Issue 2 NR/L3/MTC/SG0019 Issue 2 RT/E/PS/00016 Issue 1	77
NR/L2/MTC/EP0234 Issue 1	Lineside Wheel Impact Load Detector (WILD) and Radio Frequency Identification (RFID) Tag Reader Equipment	New at Issue 123	77
NR/L2/OHS/00130 Issue 1	Creating a Site of Work Segregated from the Railway	NR/L2/OHS/005 Issue 7	121
NR/L2/OHS/053 Issue 3	Assessing the Risk of Stress in the Workplace	NR/L2/OHS/053 Issue 2	119
NR/L2/OHS/501 Issue 4	Trackworker Protection and Warning Systems	NR/L2/OHS/501 Issue 3	121
NR/L2/RSE/070 Issue 3	Engineering Verification	NR/L2/RSE/070 Issue 2	158
NR/L2/SCO/306 Issue 5	Disposal of Redundant Assets	NR/L2/SCO/306 Issue 4	99
NR/L2/SIG/19820 Issue 9	Signalling and Level Crossing Product Specifications	NR/L2/SIG/19820 Issue 8	135
NR/L2/SIG/50035 Issue 2	Competence Standard – Competence and Training in Signal and Level Crossing Engineering	NR/L2/SIG/50035 Issue 1	141
NR/L2/TEL/30022 Issue 8	Engineering Assurance Arrangements for Communications Engineering Schemes and Services	NR/L2/TEL/30022 Issue 7	161
NR/L2/TRK/001 Issue 22	Inspection and Maintenance of Permanent Way	NR/L2/TRK/001 Issue 21	173
NR/L2/TRK/0132 Issue 7	Maintenance Arc Welding of Rails, Switches and Crossings	NR/L2/TRK/0132 Issue 6	175
NR/L2/TRK/029 Issue 6	Wood Sleepers, Bearers and Longitudinal Bearer Systems	NR/L2/TRK/029 Issue 5	174
NR/L2/TRK/7014 Issue 2	Standardised Risk Based Maintenance Regime (RBM) for the Inspection and Maintenance of the Permanent Way	NR/L3/TRK/7014 Issue 1	177
NR/L3/CIV/198 Issue 1	Lift Construct, Commission and Decommission	New at Issue 123	34
NR/L3/CIV/199 Issue 1	Escalator and Moving Walk Construct, Commission and Decommission	New at Issue 123	34
NR/L3/MTC/CP009 Issue 11	COVID-19 Contingency Plan: Safe Working Practices	NR/L3/MTC/CP009 Issue 10	
NR/L3/MTC/EP0235 Issue 1	Maintenance of Lineside Wheel Impact Load Detector (WILD) and Radio Frequency Identification (RFID) Tag Reader Equipment	New at Issue 123	80
NR/L3/MTC/ME0300 Issue 1	Mobile Maintenance Train operational procedures	New at Issue 123	80
NR/L3/OHS/005 Issue 2	Design and Construction Management in a High Street Environment	NR/L3/OHS/005 Issue 1	121
NR/L3/OPS/045 (Jan) Issue 21	National Operating Procedures Index	NR/L3/OPS/045 Issue 20	105
NR/L3/OPS/045 (Mar) Issue 22	National Operating Procedures Index	NR/L3/OPS/045 Issue 21	105
NR/L3/P3M/132 Issue 2	Consolidated Planning of Key Resources for Delivery of Planned Works	NR/L3/INI/P3M/132 Issue 1	93
NR/L3/SCO/306 Issue 2	Disposal of Redundant Assets	NR/L3/SCO/306 Issue 1	99
NR/L3/SCO/311 Issue 5	Supply Chain Operations, T&RS and OTM Engineering and Management Manual	NR/L3/SCO/311 Issue 4	99
NR/L3/TEL/30181 Issue 7	Telecoms Maintenance Work Instructions Handbook	NR/L3/TEL/30181 Issue 6	167
NR/L3/TRK/003 Issue 38	Index of Track Engineering Forms	NR/L3/TRK/003 Issue 37	179
NR/L3/TRK/1015 Issue 7	Management of Basic Visual Inspection	NR/L3/TRK/1015 Issue 6	183
NR/L3/TRK/9022 Issue 1	Weld Procedure Specifications	New at Issue 123	188
NR/SIN/206 Issue 2	Managing Wheel Strike Risk at Cast Obtuse Crossings	NR/SIN/206 Issue 1	197

2.2 Withdrawn, Closed and Superseded Standards

References	Title	Replaced by/Status
NR/GN/CIV/200 Issue 3	Station Design Manual	NR/GN/CIV/200 Issue 4
NR/GN/RMVP/27702 Issue 2	Plant Product Acceptance Process	NR/GN/RMVP/27702 Issue 3
NR/L1/CIV/094 Issue 1	National Asset Protection and Optimisation Delivery Framework	NR/L1/CIV/094 Issue 2
NR/L1/CIV/192 Issue 1	Management of Lift Assets	NR/L1/CIV/192 Issue 2
NR/L1/CIV/195 Issue 1	Management of Escalator and Moving Walk Assets	NR/L1/CIV/195 Issue 2
NR/L2/CIV/096 Issue 1	Asset Protection and Optimisation Management of Outside Party Works	NR/L2/CIV/096 Issue 2
NR/L2/CSG/STP001 Issue 8	Standards and Controls Management	NR/L2/CSG/STP001 Issue 9
NR/L2/CTM/028 Issue 2	Competence and Training in OLE Construction Engineering	NR/L2/ELP/CTM028 Issue 3
NR/L2/INF/02220 Issue 1	Document and Records Management	NR/L1/INF/02220 Issue 2
NR/L2/MTC/MG0012 Issue 6	Route Business (Non-Operations) Briefing Process	NR/L2/CSG/STP001 Issue 9
NR/L2/OHS/005 Issue 7	“High Street” Environment & Conditions for Work Outside Network Rail Managed Infrastructure	NR/L2/OHS/00130 Issue 1
NR/L2/OHS/053 Issue 2	Assessing the Risk of Stress in the Workplace	NR/L2/OHS/053 Issue 3
NR/L2/OHS/501 Issue 3	Trackworker Protection and Warning Systems	NR/L2/OHS/501 Issue 4
NR/L2/RSE/070 Issue 2	Engineering Verification	NR/L2/RSE/070 Issue 3
NR/L2/SCO/306 Issue 4	Disposal of Redundant Assets	NR/L2/SCO/306 Issue 5
NR/L2/SIG/19820 Issue 8	Signalling and Level Crossing Product Specifications	NR/L2/SIG/19820 Issue 9
NR/L2/SIG/50035 Issue 1	Competence Standard – Competence and Training in Signal and Level Crossing Engineering	NR/L2/SIG/50035 Issue 2
NR/L2/TEL/30022 Issue 7	Engineering Assurance Arrangements for Communications Engineering Schemes and Services	NR/L2/TEL/30022 Issue 8
NR/L2/TRK/001 Issue 21	Inspection and Maintenance of Permanent Way	NR/L2/TRK/001 Issue 22
NR/L2/TRK/0132 Issue 6	Maintenance Arc Welding of Rails, Switches and Crossings	NR/L2/TRK/0132 Issue 7
NR/L2/TRK/029 Issue 5	Wood Sleepers, Bearers and Longitudinal Bearer Systems	NR/L2/TRK/029 Issue 6
NR/L3/INI/P3M/132 Issue 1	Portfolio Integration Manual	NR/L3/P3M/132 Issue 2
NR/L3/MTC/CP009 Issue 10	COVID-19 Contingency Plan: Safe Working Practices	NR/L3/MTC/CP009 Issue 11
NR/L3/MTC/MG0020 Issue 2	Management of Amey 3rd Line HABD Support Contract	NR/L2/MTC/EP0233 Issue 1
NR/L3/MTC/SG0019 Issue 2	Failure Escalation of Servo Type Hot Axle Bearing Detector (HABD) Equipment	NR/L2/MTC/EP0233 Issue 1
NR/L3/OHS/005 Issue 1	Design and Construction Management in a High Street Environment	NR/L3/OHS/005 Issue 2
NR/L3/OPS/045 Issue 20	National Operating Procedures Index	NR/L3/OPS/045 (Jan) Issue 21
NR/L3/OPS/045 Issue 21	National Operating Procedures Index	NR/L3/OPS/045 (Mar) Issue 22
NR/L3/SCO/306 Issue 1	Route Services - Disposal of Redundant Assets	NR/L3/SCO/306 Issue 2
NR/L3/SCO/311 Issue 4	Supply Chain Operations, T&RS and OTM Engineering and Management Manual	NR/L3/SCO/311 Issue 5
NR/L3/TEL/30181 Issue 6	Telecoms Maintenance Work Instructions Handbook	NR/L3/TEL/30181 Issue 7
NR/L3/TRK/003 Issue 37	Index of Track Engineering Forms	NR/L3/TRK/003 Issue 38
NR/L3/TRK/1015 Issue 6	Management of Basic Visual Inspection	NR/L3/TRK/1015 Issue 7
NR/L3/TRK/7014 Issue 1	Inspection and Maintenance of Permanent Way Using Risk Based Maintenance (Plain Line CWR Track)	NR/L2/TRK/7014 Issue 2
NR/SIN/206 Issue 1	Managing Wheel Strike Risk at Cast Obtuse Crossings	NR/SIN/206 Issue 2
RT/E/PS/00016 Issue 1	Lineside Hot Axle Bearing Detectors	NR/L2/MTC/EP0233 Issue 1

2.3 Emergency Changes

2.3 Emergency Changes (Previously Known As Letters of Instruction)

To access any active Emergency Change you need to refer to its associated Network Rail Standard. The front page of the standard will provide details of the relevant change. When using the online service there will be an active link to each relevant change.

Reference	Title	Issue	Date
NR/BS/LI/485	Standard/control document affected: NR/L3/OPS/009 (Issue 4), Track Circuit Operating Device (T-COD) Identification of Locations for use – REPLACES NR/BS/LI/477	1	11/12/2021
NR/BS/LI/484	Standard/control document affected: NR/L3/ELP/27240 (Issue 11), Distribution Work Instructions	1	14/02/2022
NR/BS/LI/483	Standard/control document affected: NR/L3/OPS/021 Module 8 Managing The Weather - Earthworks (Issue 01) – REPLACES NR/BS/LI/474	1	05/12/2021
NR/BS/LI/482	Standard/control document affected: NR/L3/OPS/021 Module 13 Managing the Weather – Extreme Weather Response Process (Issue 01) – REPLACES NR/BS/LI/473	1	05/12/2021
NR/BS/LI/480	Standard/control document affected: NR/L3/ELP/21067 (Issue 5), Instructions for making out, issuing and cancelling high voltage Permits to Work, Sanctions for Test and Circuit State Certificates – REPLACES NR/BS/LI/456 & NR/BS/LI/461	1	11/11/2021
NR/BS/LI/478	Standard/control document affected: NR/SP/CTM/016 Issue 1, Competency & Training in Fixed Plant Engineering	1	30/07/2021
NR/BS/LI/472	Standard/control document affected: NR/L2/CIV/196 (Issue 1), Standard Specification for New and Upgraded Escalators	1	28/07/2021
NR/BS/LI/470	Standard/control document affected: NR/SP/ELP/21060 (Issue 2), Issue of Safety Documentation for Work on 650/750 V dc Apparatus – HISTORIC 04/03/2022	1	19/04/2021
~~NR/BS/LI/469~~	~~Standard/control document affected: NR/L3/OPS/045/3.17 (Issue 3), Weather Arrangements – HISTORIC 04/12/2021~~	1	21/05/2021
NR/BS/LI/468	Standard/control document affected: NR/L3/ELP/27241 (Issue 4), Fixed Plant Work Instructions – HISTORIC 26/03/2022	1	25/03/2021
NR/BS/LI/467	Standard/control document affected: NR/L2/ELP/27238 (Issue 7), Maintenance Specification for Fixed Plant Equipment – HISTORIC ON 26/03/2022	1	25/03/2021
NR/BS/LI/466	Standard/control document affected: NR/L2/ELP/21088 (Issue 4), General Maintenance Parameters for Overhead Line Electrification Equipment – HISTORIC 25/03/2022	1	25/03/2021
NR/BS/LI/465	Standard/control document affected: NR/SP/ELP/27224 (Issue 2), Specification for the installation of cable routes forming part of the traction distribution system – HISTORIC 01/03/2022	1	01/03/2021
NR/BS/LI/464	Standard/control document affected: NR/L3/ELP/27240 (Issue 11), Distribution Work Instructions. HISTORIC 08/03/2022	1	08/03/2021
~~NR/BS/LI/461~~	~~Standard/control document affected: NR/L3/ELP/21067 (Issue 5), Instructions for making out, issuing and cancelling high voltage Permits to Work, Sanctions for Test and Circuit State Certificates – SUPERSEDED BY NR/BS/LI/480~~	1	13/11/2020
~~NR/BS/LI/456~~	~~Standard/control document affected: NR/L3/ELP/21067 (Issue 5), Instructions for making out, issuing and cancelling high voltage Permits to Work, Sanctions for Test and Circuit State Certificates – SUPERSEDED BY NR/BS/LI/480~~	1	14/09/2020
NR/BS/LI/442	Standard/control document affected: NR/L2/TRK/1054 (Issue 5), Inspection of cast, welded and fabricated crossings in the track	1	25/03/2020
NR/BS/LI/441	Standard/control document affected: NR/L2/TRK/053 (Issue 9), Inspection and Repair to Control the Risk of Derailment at Switches	1	25/03/2020
NR/BS/LI/440	Standard/control document affected: NR/L2/TRK/001 (Issue 15), Inspection and Maintenance of Permanent Way	1	25/03/2020
NR/BS/LI/426	Standard/control document affected: NR/L1/CIV/032 (Issue 2), The Management of Structures SUPERSEDED BY NR/L2/CIV/032 Issue 1 - HISTORIC 04/12/2022	2	20/07/2020
NR/BS/LI/383	Standard affected: NR/L2/CTM/021 (Issue 4). Competence and Training	2	08/12/2016
NR/BS/LI/371	Standard affected: NR/L2/CIV/162 (Issue 2). Platform Extensions. Location of metal structures on Third Rail area Station Platforms	1	02/03/2016
NR/BS/LI/347	Standard affected: NR/L2/CTM/028 (Issue 2). Competence and Training – SUPERSEDED BY NR/L2/ELP/CTM028 ISSUE 3 – HISTORIC 04/06/2022	1	16/01/2015
NR/BS/LI/342	Standard affected: NR/SP/ELP/21028 (Issue 3). Specification for ancillary wiring of electrical distribution equipment on A.C. and D.C. electrified lines. SUPERSEDED BY NR/L2/ELP/21028 ISSUE 4 – HISTORIC 05/03/2022	1	13/04/2016
NR/BS/LI/331	Requirements for parapet heights on over bridge and footbridge structures spanning overhead line electrification equipment – HISTORIC 04/12/2021	3	18/12/2020
NR/BS/LI/328	Standard affected: NR/SP/ELP/21104 (Issue 2). Design and Installation of Electric Track Equipment for DC Electrified Lines	1	28/03/2014
NR/BS/LI/326	Standard affected: NR/L2/OHS/050 (Issue 4), Sentinel Scheme Rules	1	16/04/2014
NR/BS/LI/306	Standard affected: NR/L1/CIV/032: The Management of Structures Issue 2 SUPERSEDED BY NR/L2/CIV/032 Issue 1 - HISTORIC 04/12/2022	2	26/09/2014
NR/BS/LI/305	Standards Affected: NR/L2/TRK/001 Issue 6. NR/L2/TRK/2102 Issue 6. NR/L2/TRK/3038 Issue 5. NR/L2/TRK/0032 Issue 5.NR/L2/TRK/0132 Issue 6. NR/L3/TRK/3510/A01 Issue 1. NR/L3/TRK/3510/B01 Issue 1.NR/L3/TRK/1015 Issue 2	2	31/01/2014
NR/BS/LI/292	NR/L3/TRK/1010 (Issue 2). Management of responses to extreme weather conditions at structures. earthworks and other key locations	1	18/07/2013
NR/BS/LI/256	Standard affected: NR/SP/ELP/27243 (Issue 1). Specification for Signalling Power Supplies	2	24/10/2016

2.3 Emergency Changes

Reference	Title	Issue	Date
NR/BS/LI/217	Standards affected: NR/SP/ELP/27224 Issue: 2 Specification for the installation of cable routes forming part of the traction distribution system	4	25/01/2016
NR/BS/LI/163	Standard affected: RT/CE/S/130 (Issue 1). Flash-Welded Rails: Site Welded Strings	2	01/10/2010
NR/BS/LI/154	Use Of The Geismar THR542 Lightweight Stressing Equipment In Tandem. Standard affected: NR/L2/TRK/3011 Issue 6	1	18/01/2010
NR/BS/LI/106	Electric Points Heating - standard affected NR/L2/ELP/40045	2	01/09/2011
NR/BS/LI/101	Standard affected: RT/CE/S/077 Storage. Installation &Testing of TSR &ESR AWS	1	08/09/2008
NR/BS/LI/061	Dangerous Incident Notification: 11kV indoor switchgear type YSF6 manufactured by Yorkshire Switchgear WITHDRAWN BY NR/L2/ELP/23001 ISSUE 1 – HISTORIC ON 06/03/2022	1	23/11/2006
NR/BS/LI/060	Traction electrical distribution sites with compromised earthing due to theft of cables - affected standard NR/SP/ELP/21032	1	23/11/2006
NR/BS/LI/047 - E&P	Bimold Connections on Rectifier Transformers at DC Traction Substations	1	05/052006
NR/BS/LI/040	650 V D.C. Traction Power Cables - Support Systems - affected standard NR/SP/ELP/27224	1	20/12/2005
NR/BS/LI/032	Labelling of Track Isolating Switches (T.I.S)	1	17/10/2005
NR/BS/LI/028	Segregation of D.C. Track Feed Cables	1	22/08/2005
NR/BS/LI/025	Paralleling of EDFE Supply Points New Cross - Croydon. Wimbledon. Northfleet: Restrictions	3	07/01/2008

3

Network Rail Catalogues

3. Network Rail Catalogues

3.1 Network Rail Catalogues

NR/CAT/STP001	**Catalogue of Network Rail Standards** Issue 123; Mar 22		**Replaces** NR/CAT/STP001 Iss 122; Dec 21

The Network Rail Standards Catalogue, formerly known as The Line Standards Catalogue, lists Standards issued by Engineering, Safety & Environment, and Contract & Supply.

RT/LS/CAT004	**Index of Network Rail Documents Relating to Signalling and Communications Equipment: Part 2 – Signalling Structure Drawings** Issue 4; Feb 00		**Replaces** Iss 3

This catalogue lists documents (drawings) relating to signalling equipment – Signalling Structure Drawings.

NR/L2/SIG/CAT003	**Index of Network Rail Documents Relating to Signalling Equipment** Issue 10; Mar 19	**Compliance** 01/06/19	**Replaces** RT/L3/CAT003 Iss 9; Dec 16

This index is part 1 of a 4 part series providing listings of documents relating to Signalling Equipment. Part 1 deals with former BRS SM (Mechanical) drawings and BRS SE (Electrical) drawings.

NR/GN/SIG/CAT005	**Index of Network Rail Documents Relating to Signalling & Communications Equipment** Issue 56; Dec 21		**Replaces** NR/GN/SIG/CAT005 Iss 55; Jun 21

The purpose of this standard is to provide signal engineers a standardised approach to signalling design. This prevents additional costs being incurred when a design solution already exists and assists maintainers when fault finding.
The document includes a listing of typical circuits for signalling and level crossing applications.

NR/GN/SIG/CAT006	**Index of NR Documents Relating to Signalling and Communications Equipment** Issue 11; Jun 12		**Replaces** RT/LS/CAT006 Iss 10; Aug 04

This catalogue lists documents (drawings) relating to signalling equipment – Equipment and Systems Specifications. The standards shown in catalogue 6 are for reference purposes only, they may not reflect today's requirements nor Network Rail's future asset strategy.

Listing of Network Rail Standards

4. Listing of Network Rail Standards

4.1 ASSET INFORMATION

Level 1

NR/L1/ADG/001	**Asset Data Policy** Issue 1; Dec 16	**Compliance** 04/03/17	**Replaces** New at Issue 102

This policy specifies the principles for governance of the Network Rail quality management system for asset-related data and information. In support of Network Rail's objective to treat data as an asset, these principles apply to the asset data estate across all its lifecycle stages.

NR/L1/ADG/004	**Geospatial Referencing** Issue 1; Dec 20	**Compliance** 31/03/24	**Replaces** New at Issue 118

This policy mandates requirements to improve Network Rail's geospatial referencing data and provides a structure to accurately capture and reference geospatial data.

Level 2

NR/L2/ADG/002	**Asset Data Governance Framework Manual** Issue 2; Mar 17	**Compliance** 03/06/17	**Replaces** NR/L2/ADG/002 Iss 1; Dec 16

These modular standards set out the processes within the quality management system for asset-related data and information and for asset data governance:

- data quality planning – the process to define data and information requirements and to set plans to maintain the required accuracy of asset related data;
- data architecture management – the process to maintain the asset data architecture and at a conceptual level to meet business information needs;
- data stewardship management – the process to define the responsibilities for asset data and deliver a stewardship model;
- data flow management – the process to identify where and how asset related data is used and maintained throughout Network Rail;
- data design – the process to translate data requirements into logical and physical designs to store and maintain asset related data;
- data quality criteria set-up – the process to define the measures and method to (assess) the accuracy of asset related data;
- data error cause analysis – the process to perform root cause analysis of identified errors and issues and to develop remediation plans;
- data processing – the processes to collect, maintain and provide asset related data for reporting and use;
- data quality measurement – the process to measure the accuracy of asset related data;
- data error correction – the process to correct / fix asset related data issues and errors;
- verification and validation of asset related data – the process to perform self-assurance and cross functional assurance of the accuracy of asset related data and the effectiveness of the asset data governance framework; and,
- operate the asset data governance framework – the process to maintain and modify the asset data governance framework.

NR/L2/ADG/002/	Module	Issue	Issue Date
01	Data Quality Planning	1	Dec 2016
02	Data Architecture Management	1	Dec 2016
03	Data Stewardship Management	1	Dec 2016
04	Data Flow Management	1	Dec 2016
05	Data Design	1	Dec 2016
06	Data Quality Criteria Set-up	1	Dec 2016
07	Data Error Cause Analysis	1	Dec 2016
08	Data Quality Measurement	1	Dec 2016
09	Data Error Correction	1	Dec 2016
10	Data Processing – Collection	1	Dec 2016
11	Data Processing – Maintenance	1	Dec 2016
12	Data Processing – Presentation for use	1	Dec 2016
13	Validation and Verification of Asset Data	1	Mar 2017
14	Operate Asset Data Governance Framework	1	Mar 2017

Level 3

NR/L3/AIF/003	**Asset Data Management for Ellipse and GEOGIS** Issue 1; Sep 10	**Compliance** 04/12/10	**Replaces** See below

Replaces: NR/L2/EBM/MG0027, (NR/L3/MTC/MG0027) Iss 2, NR/L3/EBM/AM0001 Iss 2
This standard specifies the processes that are used to manage changes to data concerning the infrastructure assets of Network Rail.

4.2 CIVIL ENGINEERING

4.2.1 Civil Engineering

Company Standards

RT/CE/P/044 **Managing Structures Works** Issue 1; Apr 04

The purpose of this Network Rail Standard is to define the requirements for works to new and existing structures on, over or under Network Rail's infrastructure such that there is no unacceptable risk to safety as a result of their Design or construction.
Responds to GC/RT5180, GC/RT5203 and GK/RT0033

Specifications (including Procedures)

RT/CE/S/087 **Management of Existing Buildings and Station Structures** Issue 1; Apr 04 **Replaces** RT/CE/P/023 Iss 3; Feb 99, RT/CE/S/222 Iss 1; Feb 99

The purpose of this Specification is to define the requirements for the management of existing Buildings and station structures on, over or under Network Rail's infrastructure such that there is no unacceptable risk to safety as a result of their condition, use or location.

RT/ENGP/06 **Buildings, Stations & Depots Engineering Policy** Issue 2; Dec 01 **Replaces**

The Buildings, Stations and Depots (BS&D) engineering policy sets out a proactive and pragmatic asset management regime for maintaining ('steady state'), improving ('renewal improvements'), enhancing (new and improved) assets and rationalising/right sizing redundant or oversized assets.

Level 1

NR/L1/CIV/001 **The Management of Buildings and Civils Infrastructure** Issue 1; Mar 21 **Compliance** 06/03/22 **Replaces** New at Issue 119

The purpose of this document is to define the Network Rail Buildings and Civils (B&C) Infrastructure, identify the assets, define accountabilities and help users navigate through the Buildings and Civils standards framework.

NR/L1/CIV/094 **National Asset Protection and Optimisation Delivery Framework** Issue 2; Mar 22 **Compliance** 04/06/22 **Replaces** NR/L1/CIV/094 Iss 1; Jun 18

This document provides a National framework for Network Rail's Asset Protection and Optimisation function.

NR/L1/CIV/192 **Management of Lift Assets** Issue 2; Mar 22 **Compliance** 03/09/22 **Replaces** NR/L1/CIV/192 Iss 1; Mar 20

The purpose of this document is to specify the high-level requirements to be followed when undertaking any activity as part of the life cycle management for Lift assets.

NR/L1/CIV/192/	Title	Issue	Issue Date
01	Lift Asset Data/Information Management	1	Mar 2020
02	Lift Asset Design	1	Mar 2020
03	Lift Construct, Commission and Decommission	1	Mar 2022
04	Lift Maintenance	1	Mar 2020
05	Lift Measure	1	Mar 2022
06	Lift Assure	1	Mar 2022

NR/L1/CIV/195 **Management of Escalator and Moving Walk Assets** Issue 2; Mar 22 **Compliance** 03/09/22 **Replaces** NR/L1/CIV/195 Iss 1; Mar 20

The purpose of this document is to specify the high-level requirements to be followed when undertaking any activity as part of the life cycle management for escalator and moving walk (EMW) assets.

NR/L1/CIV/195/	Title	Issue	Issue Date
01	Escalator and Moving Walk Asset Data/Information Management	1	Mar 2020
02	Escalator and Moving Walk Assets Design	1	Mar 2020
03	Escalator and Moving Walk Construct and Commission & Decommissioning	1	Mar 2022
04	Escalator and Moving Walk Maintenance	1	Mar 2020
05	Escalator and Moving Walk Measure	1	Mar 2022
06	Escalator and Moving Walk Assure	1	Mar 2022

NR/L1/CIV/601	**Managing the Highways Interface** Issue 1; Dec 21	**Compliance** 04/12/21	**Replaces** New at Issue 122

This policy provides a National framework for the Network Rail Highways Interface function. It supports Network Rail to assess the effect of works on railway assets that impact the highway/road network and its users. The benefits reduce the risk of imposed external timings of works by highway/road authorities under section 56 (section 115) of the New Roads and Street Works Act 1991.

Level 2

NR/L2/CIV/003	**Engineering and Architectural Assurance of Building and Civil Engineering Works** Issue 7; Dec 21	**Compliance** 04/03/22	**Replaces** NR/L2/CIV/003 Iss 6; Sep 20

This business process sets out:
a) the engineering and architectural assurance of Works to Building and Civil Engineering infrastructure; and
b) Entry into (Operational) Service (EIS) requirements for such Works.

NR/L2/CIV/005	**Drainage Systems Manual** Issue 1; Jun 18	**Compliance** 03/12/18	**Replaces** See Below

Replaces: NR/L3/CIV/005 Iss 2, NR/L3/TRK/002/D08 Iss 1, NR/L3/TRK/002/D18 Iss 1, TWI 2B009 ISS 1, TWI 2B011 ISS 1, TWI 2B012 ISS 1, TWI 2B013 ISS 1, TWI 2B014 ISS 1, TWI 2B017 ISS 1
This Manual helps mitigate the risk of drainage system failure by promoting a co-ordinated approach to the management of railway drainage assets.

NR/L2/CIV/005/	Title	Issue	Issue Date
01	Drainage Asset Management	1	Jun 2018
02	Railway Drainage	1	Jun 2018
03	Drainage Management Plans	1	Jun 2018
04	Drainage Inspections	1	Jun 2018
05	Drainage Surveys	1	Jun 2018
06	Drainage Evaluation	1	Jun 2018
07	Drainage Intervention	1	Jun 2018
08	Drainage Assessment	1	Jun 2018
09	Drainage Design	1	Jun 2018
10	Drainage Installation	1	Jun 2018
11	Drainage Maintenance	1	Jun 2018
12	Maintenance of Chambers	1	Jun 2018
13	Maintenance of Pipes	1	Jun 2018
14	Maintenance of Channels including Ditches	1	Jun 2018
15	Maintenance of Culverts	1	Jun 2018

NR/L2/CIV/032	**The Management of Structures Manual** Issue 1; Dec 21	**Compliance** 04/12/22	**Replaces** See below

Replaces: NR/L1/CIV/032 Iss 2, RT/CE/S/080 Iss 1, RT/CE/S/082 Iss 1, RT/CE/S/091 Iss 1
The purpose of this business process is to:
1. define Structures assets groups and set out high level requirements for how these are recorded and identified in an Asset Register through common asset hierarchies;
2. set out a consistent approach to structures asset management through a framework of controls. These are locally applied to assets according to their function, structural form, engineering characteristics, degradation behaviour, physical location and environment;
3. support Structures Asset Policy and its accompanying strategies in delivering safe, reliable and sustainable railway structures.

NR/L2/CIV/032/	Title	Issue	Issue Date
MOD01	Structures Asset Register Data Requirements	1	Dec 2021
MOD02	Structures Asset Risk Appraisal	1	Dec 2021
MOD02A	Retaining Walls Risk-Based Prioritisation Procedures	1	Dec 2021
MOD03	Management of Post-Tensioned Concrete Bridges	1	Dec 2021
MOD04	Structures Asset Evaluation	1	Dec 2021

NR/L2/CIV/035	**Management of Structures** Issue 2; Jun 19	**Compliance** 01/06/19	**Replaces** NR/L2/CIV/035 Iss 1; Dec 17

This document sets out the procedures and defines the methods and requirements for carrying out Structural Assessments. It forms part of the control barrier ‘Carry out Structural Assessment and implement actions’ to prevent functional failure of the structure.

NR/L2/CIV/035/	Title	Issue	Issue Date
MOD01	Management of Structural Assessment	2	Jun 2019
MOD02	Carry Out Structural Assessment	1	Dec 2017

NR/L2/CIV/044	**Planning, Design and Construction of Undertrack Crossings** Issue 4; Mar 20	**Compliance** 01/06/20	**Replaces** NR/L2/CIV/044 Iss 3; Jun 17

This Network Rail Business Process Document defines the requirements for the planning, design and construction of undertrack crossings to maintain:

- safe operation of trains; and / or
- the safe movement and control of people to and from the trains.

It contains requirements supplementary to NR/CS/CIV/044. Compliance with this Specification and the Procedures and Specifications referenced in it, will deliver compliance with the Railway Group Standards in respect of the design and construction of undertrack crossings.

NR/L2/CIV/072	**Wind Loading of Overhead Line Equipment and Structures** Issue 2; Sep 19	**Compliance** 07/12/19	**Replaces** NR/L2/CIV/072 Iss 1; Dec 15

This standard enables Network Rail to achieve economy, safety and performance in the design of overhead line equipment, structures and foundations.
Guidance is provided on the application of design to the structural Eurocodes, as well as supplementary information to the application of BS EN 50119:2009.

NR/L2/CIV/073	**Design of Overhead Line Structures** Issue 1; Dec 15	**Compliance** 05/03/16	**Replaces** RT/E/S/27215 Iss 1; Dec 04

This standard enables Network Rail to achieve economy, safety and performance in the design of overhead line equipment.
Guidance is provided on the application of design to the structural Eurocodes, as well as supplementary information to the application of BS EN 50119:2009.

NR/L2/CIV/073/F001 **Design of OLE Structures to Eurocodes** Issue 1; Dec 15

In conjunction with the development of Network Rail's new codes NR/L2/CIV/072 and NR/L2/CIV/073 for OLE Structure design to the Eurocodes, this document contains worked examples demonstrating the use of the Eurocode for the design of typical OLE structures.

NR/L2/CIV/074	**Design and Installation of Overhead Line Foundations** Issue 1; Dec 17	**Compliance** 03/03/18	**Replaces** New at Issue 106

This standard defines the requirements for the design of foundations for Overhead Line Equipment, to achieve economy, safety and performance and mitigate the risk of dewirements.
Guidance is provided to the application of design to the structural Eurocodes, as well as supplementary information to the application of BS EN 50119: 2009.

NR/L2/CIV/084	**Management of Tunnels** Issue 3; Dec 21	**Compliance** 05/03/22	**Replaces** NR/L2/CIV/084 Iss 2; Mar 19

The pupose of this standard is to set out the approach for the management of Tunnels through their lifecycle to meet the requirements in Network Rail's Tunnels' Asset Policy and Asset Management Strategy.
To provide a framework to support the operating business to deliver safe, reliable and sustainable Tunnels throughout their lifecycle by mitigating risks to Tunnels managed by Network Rail.

NR/L2/CIV/086	**Management of Earthworks Manual** Issue 11; Dec 21	**Compliance** 04/12/21	**Replaces** NR/L2/CIV/086 Iss 10; Jun 21

This process outlines the procedures that manage the geotechnical controls mitigating the risks of:
a) loss of track support and/or track geometry;
b) slope failure leading to loss of kinematic envelope and/or track geometry.

NR/L2/CIV/086/	Title	Issue	Issue Date
Mod01	Earthwork Evaluations	2	Dec 2021
Mod02	Earthwork Assessments	1	Mar 2018
Mod03	Geohazard Assessment	1	Mar 2019
Mod04	Earthworks Interventions	1	Sep 2017
Mod05	Earthwork Mitigations	1	Sep 2017
Mod06	Earthworks Monitoring Strategy Selection and Implementation	1	Sep 2017
Mod07	Earthworks Operational Restriction Selection and Implementation	1	Sep 2017
Mod08	Earthworks temporary restraint selection and implementation	1	Sep 2017
Mod09	Earthworks Adverse/Extreme Weather Risk Assessment	1	Sep 2017
Mod11	Definition of Earthworks Derailment Models	1	Sep 2017
Mod12	Definition of Earthwork Criticality	1	Sep 2017
Mod13	Management of Vegetation on Earthworks	1	Sep 2018
Mod14	Asbestos Risk Assessment for Earthwork Interventions	1	Jun 2021

NR/L2/CIV/095	**Asset Protection and Optimisation Management of Third Party Works on Network Rail Infrastructure** Issue 1; Mar 20	**Compliance** 06/06/20	**Replaces** NR/L2/INI/CP0043 Iss 3; Jun 16

The purpose of this business process is to support in the mitigation of potential risks imported to the Network Rail infrastructure by Third Party organisations when working on, near, over or under the infrastructure through the application of Asset Protection and Optimisation (ASPRO) controls.

NR/L2/CIV/096	**Asset Protection and Optimisation Management of Outside Party Works** Issue 2; Mar 22	**Compliance** 04/06/22	**Replaces** NR/L2/CIV/096 Iss 1; Mar 21

The purpose of this business process is to support the mitigation of potential risks imported to the Network Rail (NR) infrastructure by Outside Party organisations. These Outside Parties may present risks when working on, near, over or under the infrastructure therefore the Asset Protection and Optimisation (ASPRO) function should evaluate what level of control is required.

NR/L2/CIV/140	**Model Clauses for Civil Engineering Works** Issue 12; Mar 17	**Compliance** 03/06/17	**Replaces** NR/L3/CIV/140 Iss 11; Jun 16

The purpose of the standard is to define the requirements for the production and use of Model Clauses for specifying Civil Engineering Works.

Sections	Title	Issue	Issue Date
10	General	2	Jun 2008
21	Aerial Survey	1A	Sep 1996
22	Land and Trackwork Surveys	1A	Sep 1996
23	Structural Repair Survey	2	Jun 2010
25	Presentation of Survey Data and Information	1A	Sep 1996
30 - 35	Ground Investigation	1C	Dec 1996
	30:General Requirements for Ground Investigation		
	31:Schedule 1: Information		
	32:Schedule 2: Exploratory Holes		
	33:Schedule 3: Employer's Representative's Facilities		
	34:Schedule 4: Specification Amendments		
	35:Schedule 5: Specification Additions		
40	Demolition and Site Clearance	2	Jun 2008
50	General requirements for Earthworks and Excavations	2	Sep 2010
51	Excavations	2	Sep 2010
52	Earthworks	2	Sep 2010
53	Grouting of Embankments	2	Sep 2010
70	General Requirements for Piling	2	Mar 2010
71	Precast Concrete Piles	2	Mar 2010
72	Cast-in-place Piles	2	Mar 2010
73	Steel Piles	2	Mar 2010
74	Timber Piles	2	Mar 2010
75	Testing of Piles	2	Mar 2010
76	General Requirements for Embedded Retaining Walls	2	Mar 2010
77	Diaphragm Walls	2	Mar 2010
78	Embedded Retaining Walls constructed using Bored Concrete Piles	2	Mar 2010
79	Sheet Pile Walls	2	Mar 2010
83	Structural Concrete Repairs	2	Aug 2008
85	Concrete for Ancillary Purposes	2	Aug 2008
93	Structural Steelwork Repairs	1A	Feb 1997
100	Bearings	2	Jun 2010
100GN	Guidance Note for the specification of bearings	2	Jun 2010
110	General requirements for Waterproofing Underline Bridges	2	Dec 2008
111	Tightly bonded systems for Underbridge Bridges	2	Dec 2008
112	Loose-laid systems for Underline Bridges	2	Dec 2008
113	Waterproofing road carrying Bridges	2	Dec 2008
114	Tanking	2	Dec 2008
120	General Requirements for Bridge Installation Methods and Temporary Works	3	Jun 2008
121	Bridge Installation by Sliding or Rolling	3	Jun 2008
122	Bridge Installation by Large Capacity Crane	3	Jun 2008
123	Bridge Installation Using Self Propelled Lifting Vehicles	3	Jun 2008
124	Temporary Works Tunnels Constructed Using a Shield	3	Jun 2008
125	Bridge Installation by Thrust Boring	3	Jun 2008
126	Temporary Bridges	3	Jun 2008

Sections	Title	Issue	Issue Date
130 - 134	Inspection of New Steelwork, Precast Concrete, Protective Treatment and Waterproofing	1A	Jan 1997
	130:General Requirements for Inspection		
	131:Inspection of New Steelwork		
	132:Inspection of Precast Concrete		
	133:Inspection of Protective Treatment		
	134:Inspection of Waterproofing		
150	Brickwork, Blockwork and Masonry	1C	Sep 1994
153	Brickwork and Masonry Repairs	1A	May 1997
160	General requirements for structural timber	2	Dec 2009
160GN	Guidance Note for structural timber	2	Dec 2009
161	Design requirements for structural timber	2	Dec 2009
162	Workmanship for structural timber	2	Dec 2009
163	Maintenance and repair of structural timber	2	Dec 2009
164	Timber preservation and fire protection	2	Dec 2009
170	General requirements for protective treatments	2	Jun 2009
171	Maintenance coating works	2	Jun 2009
172	Protective coating of new structural steelwork	2	Jun 2009
173	Protective coating of existing structural steelwork and ironwork	2	Jun 2009
174	Protective coating of timber surfaces	2	Jun 2009
175	Protective coating of concrete and masonry surfaces	2	Jun 2009
176	Protective coating systems	2	Jun 2009
180 - 182	Building and Structure Drainage	1C	Mar 1996
	180:General Requirements for Drainage		
	181:Materials		
	182:Installation		
185 & 186	Track Drainage	1B	Jan 1997
	185:Track Drainage		
	186:Maintenance of Track Drainage		
190 & 191	External Service Ducts and Cable Troughing	1C	Feb 1996
	190:Ducts		
	191:Cable Troughing		
200	General Requirements for Roads and Pavings	2	Sept 2009
201	Subgrade and Formation Works	2	Sept 2009
202	Road Pavements	2	Sept 2009
203	Kerbs, Footways and Paved Areas	2	Sept 2009
204	Traffic Signs and Road Markings	2	Sept 2009
210	Permanent Way General	1B	Mar 1997
211	Permanent Way Design	1B	Mar 1997
212	Installation of New and Renewal of Existing Permanent Way	1B	Mar 1997
213	Permanent Way Acceptance Standards	1B	Mar 1997
214	Inspection of Permanent Way	1B	Mar 1997
215	Maintenance of Permanent Way	1B	Mar 1997
216	Permanent Way Materials	1B	Mar 1997
217	Construction Standards for Permanent Way	1B	Mar 1997
218	Permanent Way Small Plant, Tools and Equipment	1B	Mar 1997
219	Permanent Way Ancillary Equipment	1B	Mar 1997
220	Permanent Way Incident Management	1B	Mar 1997
221	Permanent Way for Bridgework	1A	Mar 1997
225	Permanent Way Particular Specification (Plain Line Renewals)	1B	Mar 1997
226	Permanent Way Particular Specification (S&C Renewals)	1A	Mar 1997
227	Permanent Way Particular Specification for Bridgeworks	1A	Mar 1997
230	General Requirements for Level Crossings	1A	Jan 1997
230GN	Level Crossing Guidance Notes for Specifiers	1A	Jan 1997
231	Public Vehicular Level Crossings	1A	Jan 1997
232	Occupation and Accommodation Level Crossings	1A	Jan 1997
233	Footpath, Bridleway and Other Minor Types of Level Crossings	1A	Jan 1997
240	Fencing and Gates	2	Jun 2008
250 - 253	Landscaping	1C	Mar 1996
	250:Preparation of Topsoil		
	251:Grass Seeding and Turfing		
	252:Planting of Shrubs and Trees		
	253:Maintenance of Landscaped Works		

Sections	Title	Issue	Issue Date
255 - 257	Management of Lineside Vegetation	1 B	Mar 1996
	255:General Requirements for the Management of Lineside Vegetation		
	256:Weedkilling		
	257:Tree Felling and Scrub Clearance		
1700	Structural Concrete	1	Mar 2017
1800	Structural Steelwork	1	Jun 2016

NR/L2/CIV/150 **Station Wayfinding Design and Assurance Procedure** Issue 1; Sep 20 | **Compliance** 05/12/20 | **Replaces** New at Issue 117

This business process supports the statutory requirement to achieve consistency between installations undertaken in different locations. It sets out the requirements for the provision of Wayfinding in a consistent manner that enables designs and compliance to be measured.

NR/L2/CIV/168 **Asbestos Management** Issue 2; Dec 21 | **Compliance** 04/12/22 | **Replaces** NR/L2/CIV/168 Iss 1; Mar 17

This business process sets out the process by which Network Rail will comply with the current Control of Asbestos Regulations (CAR) and associated approved code of practice and guidance L143.

NR/L2/CIV/169 **Design of Tunnels** Issue 2; Dec 21 | **Compliance** 05/03/22 | **Replaces** NR/L2/CIV/169 Iss 1; Mar 19

The purpose of this standard is to define the requirements for the Design and enable the project team to confirm that the Design complies with relevant codes and standards such that there is no unacceptable risk to safety as a result of the Design.

NR/L2/CIV/171 **Examinations, Inspections and Assessments of Buildings & Architecture Assets: Structures and Fabric** Issue 2; Sep 19 | **Compliance** 01/04/21 | **Replaces** NR/L2/CIV/171 Iss 1; Dec 17

The process outlined in this document helps manage, through examinations and inspections, the following risks:
a) loss of safe environment
b) slips, trips and falls at building assets
c) train collision due to failure of building asset.

NR/L2/CIV/172 **Buildings and Architecture: Instructing Reactive, Minor Emerging Works and Business Plan Interventions** Issue 1; Dec 17 | **Compliance** 03/03/18 | **Replaces** New at Issue 106

This document outlines the business process for the planning, investment and maintenance management of building fabric and Mechanical and Electrical (M&E) assets.

NR/L2/CIV/177 **Monitoring Track Over or Adjacent to Construction Works** Issue 3; Mar 21 | **Compliance** 06/03/21 | **Replaces** NR/L2/CIV/177 Iss 2; Mar 20

This business process controls the hazard of non-compliant track geometry being caused through Construction Works which could affect train operations.
It defines the requirements for monitoring of the Track over or adjacent to Construction Works to maintain:
a) safe operation of trains; and/ or
b) the safe movement and control of people to and from the trains.

NR/L2/CIV/191 **Mining Manual** Issue 2; Mar 21 | **Compliance** 06/09/21 | **Replaces** NR/L2/CIV/191 Iss 1; Mar 20

The purpose of this manual and its modules is to define the roles, responsibilities and procedures for managing the risks that mineral extraction poses to safety and performance throughout
Network Rail. This helps to achieve compliance with the requirements of mineral and construction legislation, as identified in the individual modules.

NR/L2/CIV/191/	Document Title	Issue	Issue Date
1	Managing the Risk from Abandoned Underground Mines to Existing Infrastructure	1	Mar 2020
2	Planning Consultations for Mineral Extraction	1	Mar 2020
3	Inspection of Surface Mining and Tips	1	Mar 2020
4	Assessing the Risk to the Railway from Hydraulic Fracturing	1	Mar 2020
5	Managing the Risk from Mining in Design and Construction	1	Mar 2020
6	Notices of Approach for Mineral Extraction	1	Mar 2020
7	Inspection of Abandoned Underground Mines	1	Mar 2020
8	Inspection of Working Underground Mines	1	Mar 2020
9	Management of Mining Related Incidents	1	Mar 2021

NR/L2/CIV/193	**Standard Specification for New and Upgraded Lifts** Issue 1; Dec 19	**Compliance** 01/01/20	**Replaces** NR/GN/ELP/27230 Iss 1 NR/SP/ELP/27228 Iss 1

The purpose of this specification is to provide a recognised methodology and standardised approach for the installation of new lifts or refurbishing existing lifts and/or replacement of life expired lifts.

NR/L2/CIV/196	**Standard Specification for New and Upgraded Escalators** Issue 1; Dec 19	**Compliance** 01/01/20	**Replaces** NR/SP/ELP/40067 Iss 1

The purpose of this specification is to provide a recognised methodology and standardised approach for the installation of new lifts or refurbishing existing escalators and/or replacement of life expired lifts.

NR/L2/CIV/250	**Landlord's Consent** Issue 1; Mar 20	**Compliance** 05/12/20	**Replaces** New at Issue 115

The purpose of this business process is to confirm Network Rail are maintaining and protecting the safety of the railway by ensuring that all necessary Network Rail departments have consented for the works to go ahead and support our position as being a Statutory Undertaker under the Buildings Act 1984 (England and Wales Only).

NR/L2/CIV/295	**Scour Assessment of Bridges, Culverts and Retaining Walls** Issue 2; Sep 18	**Compliance** 01/12/18	**Replaces** NR/L2/CIV/295 Iss 1; Jun 17

This business process describes the procedures for safeguarding Network Rail structures from the risk of scour.
It manages the threat of scour, which can lead to functional failure of a structure.

NR/L2/CIV/602	**Highways Interface Planning Process** Issue 1; Dec 21	**Compliance** 04/12/21	**Replaces** NR/L3/MTC/PL0067 Iss 3

The purpose of this standard is to mitigate against failing to plan access to the publicly maintainable highway, and to provide alignment with possession planning requirements where works require access to both networks

Level 3

NR/L3/CIV/006	**Structures, Tunnels and Operational Property Examinations** Issue 9; Sep 19	**Compliance** 01/04/21	**Replaces** NR/L3/CIV/006 Iss 8; Jun 17

This document is the overarching document for the set of documents that govern how the examinations of Buildings and Civils Assets should be managed and carried out. This document guides the user to the applicable part of the standard depending on asset type and activity. Failure to implement and manage examination regime for Buildings and Civils assets could result in potential functional failures going undetected by the asset management teams. This may result in accidents and/or disruptions to the operation of the railway network.

NR/L3/CIV/006/	Document Title	Issue	Issue Date
1A	Management of Examinations	4	Sep 2019
1B	Undertake Examinations	3	Sep 2019
1C	Management of Additional Examinations	6	Sep 2019
1D	Creating and Maintaining Structure Hierarchy	3	Sep 2019
1E	Structures Defects	1	Sep 2019
2A	Detailed Examination Requirements	3	Sep 2019
2B	Requirements for Visual Examination	3	Sep 2019
2C	Requirements for Underwater Examination	2	Sep 2019
2D	Requirements for Visual by Line of Route	1	Sep 2019
3A	Examination of Operational Property Structures and Fabric	3	Sep 2019
3B	Examination of Operational Property Structures and Fabric - Reconnaissance Survey	1	Sep 2019
3C	Examination of Operational Property Structures and Fabric - Visual Examinations	1	Sep 2019
3D	Examination of Operational Property Structures and Fabric – Pre-detailed Inspection and Detailed Examinations	1	Sep 2019
3E	Examination of Operational Property Structures and Fabric - HCE Examinations	1	Sep 2019
3F	Examination of Operational Property Structures and Fabric - Additional Examinations	1	Sep 2019
3G	Examination of Operational Property Structures, Fabric and M&E - Reporting and Recording of Examinations in OPAS	1	Sep 2019
4A	Examination of Tunnels	2	Sep 2019
4C	Recording of Tunnel Condition Marking Index (TCMI)	3	Sep 2019
4D	Unlined Tunnel Geotechnical Risk Assessment (UTGRA)	2	Sep 2019

NR/L3/CIV/00012	**Road Vehicle Incursions: Risk Assessment of Public and Non-Public Bridge and Neighbouring Sites** Issue 2; Sep 20	**Compliance** 05/12/20	**Replaces** NR/L3/CIV/00012 Iss 1; Jun 03

This standard sets out methodologies to establish the risk of road vehicle incursion at public and non-public sites. This standard covers the following scenarios:
a) Overbridge sites carrying single carriageway roads, dual-carriageway roads and motorways;
b) Neighbouring sites where road and rail are beside each other;
c) Areas adjacent to a railway line where vehicles regularly park.

NR/L3/CIV/020	**Design of Bridges** Issue 1; Mar 11	**Compliance** 04/06/11	**Replaces** RT/CE/S/007 Iss 1; Jun 10

The purpose of the standard is to define the requirements for the structural Design of Bridges and Bridge-like structures

NR/L3/CIV/023	**Assessment of Footbridges** Issue 1; Mar 18	**Compliance** 02/03/19	**Replaces** New at Issue 107

This document provides requirements and advice for the assessment of footbridges.

NR/L3/CIV/024	**Assessment of Operational Property Structures** Issue 1; Mar 18	**Compliance** 02/03/19	**Replaces** New at Issue 107

This document provides requirements and advice for the assessment of Operational Property structures.

NR/L3/CIV/028	**Reporting of Structures and Operational Property Safety Related Events** Issue 6; Sep 19	**Compliance** 07/12/19	**Replaces** NR/L3/CIV/028 Iss 5; Sep 15

This work instruction defines the system for the recording, rating, reporting and reviewing of safety related events
This allows Network Rail to:
a) investigate and report safety related events;
b) carry out a continuous review of the performance of the network;
c) improve current practice through lessons learned Scope.

NR/L3/CIV/028/	Title	Issue	Issue Date
01	Guidance on Filling in the CIV028 Structures Safety Event Template	1	Sep 2019
02	Guidance on Filling in the CIV028 Operational Property Safety Event Template	1	Sep 2019

NR/L3/CIV/030	**Platform Components and Prefabricated Construction Systems** Issue 3; Sep 11	**Compliance** 03/12/11	**Replaces** RT/E/PS/00030 Iss 2; Jun 05

This specification provides specification requirements for manufactured platform components and pre-fabricated platform systems to be installed at Network Rail owned stations.

NR/L3/CIV/038	**Managing the Potential Effects of Coal Mining Subsidence** Issue 1; Dec 08	**Compliance** 01/03/09	**Replaces** NR/SP/CIV/037 Iss 2; Apr 04 (RT/CE/P/037)

The purpose of this standard is to define the procedure for managing the potential effects of subsidence arising from coal mining, so that in following this procedure (a) such effects will not produce an unacceptable risk to the integrity, safe use or performance of the rail infrastructure, and (b) the cost of Works to manage such effects or for requiring Reservation of Support are determined and, respectively, recovered or paid.

NR/L3/CIV/039	**Specification for the Assessment and Certification of Protective Coatings and Sealants** Issue 5; Mar 09	**Compliance** 05/12/09	**Replaces** RT/CE/S/039 Iss 4; Feb 02

The purpose of this standard is to define the procedures and test methods that shall be followed when assessing and certifying coatings and sealants for use on Network Rail's infrastructure.

NR/L3/CIV/040	**Work Instruction for the Use of Protective Coating Systems** Issue 2; Jun 19	**Compliance** 07/09/19	**Replaces** NR/L3/CIV/140 Iss 1; Mar 09

This work instruction defines the selection and use of protective coating systems for Network Rail's infrastructure. Protective coatings are applied and reapplied to:

- preserve and protect the infrastructure so that it provides the required service life in the most cost-effective manner;
- in some cases, the colour of the final coat complies with regulations that govern the safe operation of the railway; and/or
- to satisfy aesthetic requirements.

NR/L3/CIV/041	**Waterproofing Systems for Underline Bridge Decks** Issue 3; Aug 08	**Compliance** 06/06/09	**Replaces** RT/CE/S/041 Iss 2; Aug 01

This specification provides the performance criteria for waterproofing systems proposed to be used on Network Rail's underline bridge decks and provides recommendations for tests to be carried out to prove compliance with the performance requirements.
Responds to GC/RT5110

NR/L3/CIV/0063	**Piling, Drilling, Crane, MEWP and SMPT Operations Adjacent to the Railway** Issue 1; Dec 21	**Compliance** 05/03/22	**Replaces** NR/L3/INI/CP0063 Iss 1; Mar 10

This standard addresses risks where piling, drilling, crane, mobile elevated working platform (MEWP) and self-propelled modular transport (SPMT) operations are taking place on or adjacent to Network Rail Managed Infrastructure.

NR/L3/CIV/065	**Examination of Earthworks Manual** Issue 6; Sep 17	**Compliance** 31/12/17	**Replaces** NR/L3/CIV/065 Iss 5; Dec 14

This business process manages the control, 'earthwork examination', mitigating the following risks:

- loss of track support or track geometry;
- slope failure leading to loss of kinematic envelope or track geometry.

NR/L3/CIV/065/	Title	Issue	Issue Date
Mod01	Definition of Risk Evaluation Matrix	1	Sep 2017
Mod02	Definition of Soil Cutting Hazard Index	1	Sep 2017
Mod03	Definition of Rock Slope Hazard Index	1	Sep 2017
Mod04	Definition of Soil Embankment Hazard Index	1	Sep 2017

NR/L3/CIV/066	**Managing the Risks to the Railway from Landfill Operations** Issue 1; Sep 20	**Compliance** 05/09/20	**Replaces** NR/L3/CIV/037 Iss 3; Dec 08

The purpose of this standard is to help mitigate risks that Landfill operations pose to Network Rail's operations and infrastructure.

NR/L3/CIV/071	**Geotechnical Design** Issue 4; Jun 11	**Compliance** 03/09/11	**Replaces** NR/L3/CIV/071 Iss 3; Mar 10

The purpose of the standard is to define the requirements for geotechnical designs undertaken for Network Rail.

NR/L3/CIV/076	**Management of the Risk of Bridge Strikes from Road Vehicles and Waterborne Vessels** Issue 4, Sep 10	**Compliance** 04/12/10	**Replaces** NR/L3/CIV/076 Iss 3, Jun 2008

The purpose of this Network Rail standard is to:

- define the requirements for the management of Underline and Overline Bridges on Network Rail's infrastructure such that there is no unacceptable risk to safety as a result of Bridge Strikes;
- reduce the risks to the operational railway from Bridge Strikes, as far as is reasonably practicable, by assessing the safety risks at each Bridge and implementing mitigating measures as necessary;
- reduce train delays resulting from Bridge Strikes, as far as is reasonably practicable, without compromising the safety of train operations.

NR/L3/CIV/142	**The Management of the Movement of Abnormal Road Loads** Issue 3; Dec 17	**Compliance** 03/03/18	**Replaces** NR/L3/CIV/142 Iss 2; Sep 10

The purpose of this document is to define the requirements for the management of the movement of Abnormal Road Loads over Network Rail structures. These procedures form a control barrier against the threat of overloading by live loads to structures.

NR/L3/CIV/151	**Engineering Assurance of Standard Designs and Details for Building and Civil Engineering Works** Issue 6; Mar 12	**Compliance** 03/03/12	**Replaces** NR/L3/CIV/151 Iss 5; Mar 11

The purpose of the standard is to issue Standard Designs and Details for Building and Civil Engineering Works, along with supplementary information to that given in NR/L2/CIV/003 on the process for their application.

NR/L3/CIV/151/F010	**Index of Standard Designs and Details for Building and Civil Engineering Works** Issue 17; Mar 21	**Compliance** N/A	**Replaces** NR/L3/CIV/151/F010 Iss 16; Sep 20

This document provides lists of Drawings, Engineering Assurance Forms, Technical User Manuals and Selection Guides.

NR/L3/CIV/160	**The Design of Car Parks for Railway Stations and Depots** Issue 1; Jun 09	**Compliance** 05/12/09	**Replaces** New at Issue 72

The purpose of the standard is to provide direction and guidance on the design of car parks for railway stations and depots.

NR/L3/CIV/162	**Platform Extensions** Issue 2; Sep 11	**Compliance** 03/12/11	**Replaces** NR/L3/CIV/162 Iss 1; Mar 10

This Standard provides requirements and guidance on works to extend existing platforms at stations; for example, those involved in the Longer Trains Programme.
(Contains NR/BS/LI/371)

NR/L3/CIV/164	**Legionnaires' Disease — The Control of Legionella Bacteria in Water Systems** Issue 1; Sep 11	**Compliance** 03/12/11	**Replaces** New at Issue 81

The purpose of this Standard is to raise awareness of legionella risks and obligations of employers under HSE regulations. Responsible persons are identified, and requirements provided to reduce the growth of legionella and subsequent infection risks to passengers and employees on Network Rail Property

NR/L3/CIV/170	**Assessment of Tunnels** Issue 2; Dec 21	**Compliance** 05/03/22	**Replaces** NR/L3/CIV/170 Iss 1; Mar 19

This document provides requirements and guidance for the structural assessment of Tunnels.

NR/L3/CIV/176	**Management of Reports on Bridge Strikes** Issue 4; Sep 10	**Compliance** 04/12/10	**Replaces** NR/L3/CIV/176 Iss 3; Jun 06

The purpose of this Network Rail standard is to define the processes and the responsibilities for reporting information on Bridge Strikes.

NR/L3/CIV/185	**Management of Reports of Safety Related Geotechnical Incidents** Issue 3; Sep 20	**Compliance** 05/09/20	**Replaces** NR/L3/CIV/185 Iss 1*: Sep 17

This procedure manages the control, 'the receipt of ad-hoc reports from train operating companies, freight operating companies, Network Rail staff and earthworks reporting procedures', relating to the risks of:
a) loss of track support and/or track geometry
b) slope failure leading to loss of kinematic envelope and/or track geometry.

NR/L3/CIV/185/	Title	Issue	Issue Date
01	Reporting of the M6 Regulatory Measure for Earthwork Failures	2	Sep 2020

* Issue 2 withdrawn before publication.

NR/L3/CIV/187	**Coastal and Estuarine Asset Management Plans** Issue 1; Sep 19	**Compliance** 07/12/20	**Replaces** RT/CE/S/089 Iss 1; Apr 04 NR/L3/CIV/006/6 Issue 1

Coastal and Estuarine assets require specialist knowledge to fully understand the associated coastal erosion and flood risks. This work instruction mitigates the risk to the safe use or performance of railway infrastructure due to coastal and estuarine asset failure by the preparation and implementation of Coastal and Estuarine Asset Management Plans (CEAMPs). The CEAMP will provide recommendations for asset management interventions.

NR/L3/CIV/190	**Developing Extreme Weather Plans** Issue 1; Dec 17	**Compliance** 03/03/19	**Replaces** New at Issue 106

The purpose of this document is to define a standard approach for the development of Extreme Weather Plans for Structures assets.
An Extreme Weather Plan (Structures) (EWPS):

- identifies structures at risk from extreme weather;
- outlines the management actions to protect the structures under these conditions; and
- defines a procedure for receiving and acting upon notifications of extreme weather.

NR/L3/CIV/194	**Selection and Design of New and Upgraded Lifts** Issue 1; Dec 19	**Compliance** 01/01/2020	**Replaces** NR/GN/ELP/27230 Iss 1 NR/SP/ELP/27228 Iss 1

The purpose of this work instruction is to provide a systematic approach to the selection and design of Lifts.

NR/L3/CIV/197	**Selection and Design of New and Upgraded Escalators and Moving Walk** Issue 1; Dec 19	**Compliance** 01/01/2020	**Replaces** NR/SP/ELP/40067 Iss 1

The purpose of this work instruction is to provide a systematic approach to the selection and design of Escalators and Moving Walks.

NR/L3/CIV/198	**Lift Construct, Commission and Decommission** Issue 1; Mar 22	**Compliance** 03/09/2022	**Replaces** New at Issue 123

The purpose of this work instruction is to provide a systematic approach to the construction, commissioning and decommissioning of Lifts.

NR/L3/CIV/199	**Escalator and Moving Walk Construct, Commission and Decommission** Issue 1; Mar 22	**Compliance** 03/09/2022	**Replaces** New at Issue 123

The purpose of this work instruction is to provide a systematic approach to the construction, commissioning and decommissioning of escalators and moving walk (EMW) assets.

NR/L3/CIV/300	**Managing Complaints About Pigeons** Issue 1; Jun 07	**Compliance** 02/06/07	**Replaces**

The purpose of this Work Instruction is to define:

- The procedure for managing complaints and Legal Notices concerning the nuisance caused by pigeons
- The roles and responsibilities of Network Rail employees in managing such complaints and Notices.

The procedure is designed to deliver an amicable, timely and cost-effective solution that satisfies all legal obligations.

NR/L3/CIV/603	**Working at the Highways Interface** Issue 1; Dec 21	**Compliance** 04/12/21	**Replaces** New at Issue 122

The purpose of this standard is to mitigate against conflicting works or works progressing without a granted Notice/Permit. By providing instructions for the co-ordination, preparation, and submission of notifications for Network Rail's proposed works in the street/road.

NR/L3/CIV/604 **Highways Interface Manual** Issue 1; Dec 21 **Compliance** 04/12/21 **Replaces** New at Issue 122

This manual mitigates against the risk of deploying Network Rail staff or contractors on highways interface worksites without a NRSWA accredited Operative or Supervisor, as required by the New Roads and Street Works Act 1991 section 67 (section 126).

NR/L3/CIV/604/	Title	Issue	Issue Date
01	Highways Interface – Qualifications for supervisors and operatives	1	Dec 2021
02	Highways Interface – Works Quality and Inspection	1	Dec 2021
03	Network Rail major bridge and Major Transport Works (Diversionary Works)	1	Dec 2021

Guidance Notes (Including Codes of Practice)

NR/GN/CIV/001 **Waterproofing Underline Bridge Decks** Issue 3; Aug 08 **Replaces** RT/CE/C/001 Iss 2; Aug 01

The purpose of this standard is to supplement NR/GN/CIV/041: Waterproofing systems for Underline Bridge decks by providing information on;

- the types of Waterproofing Systems, and their components,
- the selection of a Waterproofing System for a particular bridge deck,
- the detailing of a Waterproofing System,
- the application of a Waterproofing System,
- the performance criteria for a Waterproofing System.

NR/GN/CIV/002 **The Use of Protective Treatments and Sealants** Issue 5; Mar 09 **Replaces** RT/CE/C/002 Iss 4; Feb 02

The purpose of this standard is to support NR/L3/CIV/040: Specification for the use of protective coating systems by providing guidance and information on the selection, application and reapplication of such systems to Network Rail infrastructure.

NR/GN/CIV/003 **Guidance on Engineering and Architectural Assurance of Building and Civil Engineering Works** Issue 1; Dec 21 **Replaces** New Issue 122

This guidance note provides guidance on B&C Project Engineering assurance review during the design and execution of projects, to assist B&C Project Engineers achieve architectural and engineering assurance of Buildings and Civils works. It is to be read with NR/L2/CIV/003 and all associated Forms. It fulfils the requirements of NR/L2/RSE/02009 to provide discipline specific guidance.

NR/GN/CIV/025 **The Structural Assessment of Underbridges** Issue 3: Jun 06 **Replaces** RT/CE/C/025 Iss 2; Feb 04

The purpose of this document is to provide recommendations for applicable standards and analytical methods which may be used to determine the load carrying capacity of existing Network Rail underbridges.

NR/GN/CIV/065 **Examination of Earthworks Guidance Manual** Issue 1: Jun 21 **Replaces** New at Issue 120

Earthwork examinations are carried out to check the likelihood of failure of the asset. These examinations are required to confirm the asset failure likelihood and to qualitatively assess its ability to perform its function. The purpose of this manual is to help to standardise the information recorded by different examiners, by providing definitions for each of the parameters to be recorded. The definitions are supported by illustrative photographs and sketches as appropriate.

NR/GN/CIV/065/	Title	Issue	Issue Date
01	Soil Cuttings	1	Jun 2021
02	Soil Embankments	1	Jun 2021

NR/GN/CIV/100 **Strategic Design Manual** Issue 3: Dec 21 **Replaces** NR/GN/CIV/100 Iss 2: Mar 21

This standard provides advisory guidance which supports Network Rail's broad objectives, goals, strategies and policy requirements for station design and planning. It references UK legislation and British Standards and provides a framework for design processes, assurance systems and specified controls that will encourage good design, assurance and control at all levels of station and infrastructure.

NR/GN/CIV/100/	Title	Issue	Issue Date
01	Design Advice Panel Project Guidance	1	Dec 2020
02	Station Design Guidance	1	Mar 2021
03	Station Capacity Planning	1	Dec 2021
04	Climate Action Design Manual for Buildings and Architecture	1	Dec 2021
05	Heritage: Care and Development	1	Dec 2020
07	Masterplanning at Stations	1	Dec 2021

NR/GN/CIV/163 **Management of Water Supply** Issue 1: Dec 10 **Replaces** New at Issue 78

The purpose of this document is to establish roles and responsibilities for the monitoring, reporting, tracking and repair of water leaks, as well as the process for claims resulting from water leaks, leading to the proactive management of water consumption.

NR/GN/CIV/165 **De-icing of Operational Property Assets** Issue 1: Dec 10 **Replaces** New at Issue 78

This Guidance Note provides recommendations and guidance on the use of de-icing products on all Network Rail Operational Property. This includes both Franchised Stations and Managed Stations, Depots and lineside buildings.

NR/GN/CIV/166 **R22 Refrigerant Systems – Phasing out** Issue 1: Dec 10 **Replaces** New at Issue 78

This guidance is provided for phasing out of R22 refrigerant systems currently in use on all Network Rail Operational Property, in accordance with EU Regulations for reduction of greenhouse gases and gases which are likely to cause damage to the ozone layer. Guidance is provided for suitable cost effective alternatives to R22. This guidance applies to all R22 refrigerant systems present in Stations, Depots and all lineside buildings.

NR/GN/CIV/200 **Station Design Manual** Issue 4; Mar 22 **Replaces** NR/GN/CIV/200 Iss 3; Jun 21

This standard provides advisory guidance which supports Network Rail's broad objectives, goals, strategies and policy requirements for station design and planning. It references UK legislation and British Standards and provides a framework for design processes, assurance systems and specified controls that will encourage good design, assurance and control at all levels of station and infrastructure development.

NR/GN/CIV/200/	Title	Issue	Issue Date
03	Station Facilities & Amenities	1	Mar 2022
04	Public Toilets In Stations	2	Mar 2021
07	Station Footbridges & Subways	1	Dec 2020
10	Public Realm Design Guidance for Stations	1	Mar 2022
11	Parking & Mobility at Stations	1	Mar 2022
12	Third Party Funded Railway Car Parks	1	Jun 2021

NR/GN/CIV/201 **Managing Bridge Strike Incidents - Good Practice Guide for Bridge Strike Nominees** Issue 4; Jun 08 **Replaces** NR/GN/CIV/201 Issue 3; Apr 06

The purpose of NR/GN/CIV/201 is to provide guidance and additional information on the processes to be followed by Bridge Strike Nominees during examinations of Bridges following a reported bridge strike, and gives examples showing the damage limits to a bridge following a bridge strike up to which Bridge Strike Nominees are authorised to permit train movements.

NR/GN/CIV/202 **Management of the Risk of Bridge Strikes** Issue 3; Sep 10 **Replaces** NR/GN/CIV/202 Issue 2; Jun 08

The purpose of this Guidance Note is to provide guidance and information to those within Network Rail, and its suppliers, contractors and consultants who have responsibilities for complying with the requirements of NR/L3/CIV/076 Management of the risk of Bridge Strikes from road vehicles and waterborne vessels.

NR/GN/CIV/203 **Evaluation and Assessment of Earthworks** Issue 1; Oct 07 **Replaces**

The purpose of this document is to provide guidance on the Evaluation and Assessment of Earthworks. The objectives of these key activities of the asset management cycle are (a) to determine or confirm the stability of existing Earthworks, and (b) to assess the risk posed by the continued use of an Earthwork. The information from (a) and (b) may be used in the design of remedial works to the Earthwork.

NR/GN/CIV/208 **Ground Investigation** Issue 1; Dec 18 **Replaces** New at Issue 110

The purpose of this guidance note is to provide guidance, information and best practice on the design and implementation of ground investigations.
This document provides guidance on railway specific aspects of ground investigation, including ecological surveys, contaminated land, buried services, operational railway restrictions and mining.

NR/GN/CIV/300 **Compliance Design Manual** Issue 2; Mar 21 **Replaces** NR/GN/CIV/300 Iss 1; Dec 20

This standard provides advisory guidance which supports Network Rail's broad objectives, goals, strategies and policy requirements for station design and planning. It references UK legislation and British Standards and provides a framework for design processes, assurance systems and specified controls that will encourage good design, assurance and control at all levels of station and infrastructure development

NR/GN/CIV/300/	Title	Issue	Issue Date
01	Wayfinding	1	Dec 2020
04	Inclusive Design	1	Mar 2021

NR/GN/CIV/400	**Operational Property Design Manual** Issue 2; Mar 21	**Replaces** NR/GN/CIV/400 Iss 1; Dec 20

This standard provides advisory guidance which supports Network Rail's broad objectives, goals, strategies and policy requirements for station design and planning. It references UK legislation and British Standards and provides a framework for design processes, assurance systems and specified controls that will encourage good design, assurance and control at all levels of station and infrastructure development.

NR/GN/CIV/400/	Title	Issue	Issue Date
04	Maintenance Delivery Units	1	Mar 2021
05	Office Workplace DNA	1	Mar 2021
06	Redundant Signal Box Strategy	1	Dec 2020

NR/GN/CIV/801	**The Application of the Observational Approach to the Design of Remedial Works to Earthworks** Issue 3; Mar 09	**Replaces** NR/L3/CIV/801 Iss 2; Apr 07

The purpose of this Guidance Note is to supplement NR/SP/CIV/071: Design of earthworks, earthwork remediations and geotechnical aspects of foundations for structures by providing advice on the application of the Observational Approach (OA) to the design of remedial works to embankments and soil cuttings.

RT/CE/C/015	**The Assessment of Underbridge Capacity** Issue 1; Nov 95	**Replaces**

Defines parameters and methods for the assessment of underbridges owned by Network Rail.
Responds to GC/RT5100

Special Inspection Notices

NR/SIN/143	**Special Inspection of Architectural Features Attached to Station Building Assets** Issue 3; Apr 15*	**Compliance** 30/04/16	**Replaces** New at Issue 97

This Special Inspection Notice (SIN) applies to all station building assets which have decorative or functional architectural features attached to them. This SIN is issued following an incident at Bath Spa Station and requires Route Asset Managers (RAMs) responsible for station buildings as part of the Operational Property portfolio to:-

- Identify if the above features are present on Station buildings
- Instruct and manage a detailed additional inspection / examination of these features by utilising the current CEFA contractor or a competent surveyor.

* Issues 1 & 2 were not formally published

NR/SIN/204	**Special Inspection Notice of Operational Property Buildings for Inspection of Pitched Roofs Gable Walls** Issue 1; Jun 21	**Compliance** 15/10/21	**Replaces** New at Issue 120

The purpose of this Special Inspection Notice (SIN) is to identify Operational Property buildings with pitched roofs where defects in the gable end walls increase the risk of functional failure which might result in disproportionate health, safety, or operational incidents.
This SIN provides:

- instructions for the process to be followed,
- competency requirements for staff undertaking the identification,
- guidance on the prioritisation of the asset inspections, and
- indicative remedial measures for the assets affected.

4.2.2 Railway Estates Policy & Planning

Guidance Notes

RT/LS/G/00002	**Responsive Maintenance** Issue 3; Jun 05	**Replaces** RT/LS/G/00002 Iss 2; Apr 01

This guidance note has been developed to provide practical advice for use at an operational level to maximise the value for money spent on common responsive maintenance repairs.

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4.3 COMMERCIAL PROPERTY

Level 2

NR/L2/PRO/001	**Property Clearance Process** Issue 1; Dec 09	**Compliance** 06/03/10	**Replaces** New at Issue 74

This Network Rail standard specifies the application process to be followed for Stage 1 (Business) Clearance and Stage 2 (Technical) Clearance and defines the type of proposals and schemes which are subject to or exempt from the clearance process.

4.4 COMPANY STANDARDS GROUP

Level 2

NR/L2/CSG/STP001	**Standards and Controls Management** Issue 9; Mar 22	**Compliance** 04/06/22	**Replaces** NR/L2/CSG/STP001 Iss 8; Jun 20

The purpose of this manual and its modules is to:
a) support the control of risks throughout Network Rail;
b) help maintain a consistent, safe and coherent company-wide set of standards and control documents;
c) provide structure and consistency to the management of the Network Rail standards and control documents change process;
d) provide structure and consistency to the management of variations to standards and control documents; and
e) provide structure and consistency to the production of bowties used to support the development of standards and control documents.

NR/L2/CSG/STP001	Title	Issue	issue Date
01	Principles of Standard and Control Management	9	Mar 2022
02	Managing Standard and Control Document Change Projects	9	Mar 2022
03	Drafting Criteria for Standards and Control Documents	4	Mar 2022
04	Managing Variations to Network Rail Standards and Control Documents and Railway Group Standards	8	Mar 2022
05	Producing Bowties and Using Them to Support the Management of Standards and Control Documents	2	Mar 2022

NR/L2/CSG/10072	**Business Process for Special Inspection Notices** Issue 1; Mar 16	**Compliance** 04/06/16	**Replaces** NR/L2/SIG/10072 Iss 6; Dec 10

This purpose of this standard is to provide a consistent approach to the development, implementation and closure of special inspection notices (SINs).

4.5 COMPETENCE & TRAINING MANAGEMENT

Company Standards

NR/CS/CTM/001	**Competence Management** Issue 1; Dec 06	**Compliance** 31/12/07	**Replaces**

This standard sets out the requirements for a management system that ensures people involved in work or provision of services that may affect the operational safety and/or performance of Network Rail controlled infrastructure, are competent to perform the work. It defines processes to ensure Network Rail maintains a robust Competence Management System.

Specifications (including Procedures)

NR/SP/CTM/011	**Competence and Training in Track Engineering** Issue 1; Dec 06	**Compliance** 31/12/08	**Replaces**

This specification sets out the minimum requirements for the training and assessment of people who undertake track engineering work on Network Rail controlled infrastructure. It defines processes that shall be implemented to ensure that people who undertake track engineering work are competent to perform the work.

NR/SP/CTM/016	**Competence and Training in Fixed Plant Engineering** Issue 1; Dec 06	**Compliance** 31/03/09	**Replaces**

This specification sets out the minimum requirements for the assessment of people who undertake Fixed Plant engineering work on Network Rail controlled infrastructure. It defines processes that shall be implemented and the standards that shall be achieved to ensure that people who undertake Fixed Plant engineering tasks are competent to perform the work. Where a person is required to isolate or work near electrical equipment reference should be made to NR/SP/CTM/018 Training & Competence in Traction Power Distribution Engineering
(Contains NR/BS/LI/429 Issue 1)

NR/SP/CTM/017	**Competence and Training in Civil Engineering** Issue 1; Jun 06	**Compliance**	**Replaces**

This Specification sets out the minimum requirements for the training and assessment of people who undertake Civil Engineering work that may affect the operational safety of Network Rail controlled infrastructure. It defines processes that shall be implemented and the standards that shall be achieved to ensure that personnel who undertake Civil Engineering work are competent to perform the work.

Level 2

NR/L2/CTM/012	**Competence and Training in Signal Engineering** Issue 3; Sep 11	**Compliance** 02/06/12	**Replaces** NR/L2/CTM/012 Iss 2; Mar 10

This specification sets out the minimum requirements for the training and assessment of people who undertake signal engineering work on Network Rail managed infrastructure. It defines processes that shall be implemented and the standards that shall be achieved to confirm that people who undertake signal engineering work are competent to perform the work.

NR/L2/CTM/012/	Document Title	Issue	Issue Date
001	Sig. 1: Undertake Preventative Maintenance of Track Circuits	1	Mar 2010
002	Sig. 2: Undertake Preventative Maintenance of Electrical Signals and AWS	1	Mar 2010
003	Sig. 3: Undertake Preventative Maintenance of Signalling Power Supplies	1	Mar 2010
004	Sig. 4: Undertake Preventative Maintenance of Signalling Cables	1	Mar 2010
005	Sig. 5: Undertake Corrective and Preventative Maintenance of Track Circuits	1	Mar 2010
006	Sig. 6: Undertake Corrective and Preventative Maintenance of Axle Counters	1	Mar 2010
007	Sig. 7: Undertake Corrective and Preventative Maintenance of Electrical Signals Including AWS and TPWS	1	Mar 2010
008	Sig. 8: Undertake Corrective and Preventative Maintenance of Mechanical Signals and AWS Equipment	1	Mar 2010
009	Sig. 9: Undertake Corrective and Preventative Maintenance of Mechanically Operated Points	1	Mar 2010
010	Sig. 10: Undertake corrective and Preventative Maintenance of Electro–Mechanical Point Machines	1	Mar 2010
011	Sig. 11: Undertake Corrective and Preventative Maintenance of Pneumatically Operated Point Machines	1	Mar 2010
012	Sig. 12: Undertake Corrective and Preventative Maintenance of Rail Clamp Point Lock Point Machines	1	Mar 2010
013	Sig. 13: Undertake Corrective and Preventative Maintenance of Signalling Power Supplies	1	Mar 2010
014	Sig. 14: Undertake Corrective and Preventative Maintenance of Signalling Cables	1	Mar 2010
015	Sig. 15: Undertake Corrective and Preventative Maintenance of Level Crossing Systems	1	Mar 2010
016	Sig. 16: Undertake Corrective and Preventative Maintenance of Lever Frames And Locks And Circuit Controllers	1	Mar 2010
017	Sig. 17: Undertake Corrective and Preventative Maintenance of Absolute Block Systems	1	Mar 2010
018	Sig. 18: Undertake Corrective and Preventative Maintenance of Relay Based Interlocking	1	Mar 2010
019	Sig. 19: Undertake Corrective and Preventative Maintenance of Electronic Based Interlocking	1	Mar 2010
020	Sig. 20: Undertake Corrective and Preventative Maintenance of Control Systems	1	Mar 2010
021	Sig. 21: Undertake Corrective and Preventative Maintenance of Train Describer Systems	1	Mar 2010
022	Sig. 22: Undertake Corrective and Preventative Maintenance of Hot Axle Box Detector Systems	1	Mar 2010
023	Sig. 23: Undertake Initial Diagnosis of Failures to Determine the Necessary Course of Action	1	Mar 2010
024	Sig. 24: Effective Progression of Work and Use of Resources During Signalling Testing, Maintenance or Installation Activities	1	Mar 2010
025	Sig. 25: Take And Relinquish Responsibility for Signalling Equipment	1	Mar 2010

NR/L2/CTM/012/	Document Title	Issue	Issue Date
026	Sig. 26: Implement And Monitor Safe Working Systems for Signal Engineering Maintenance and Renewal Activities	1	Mar 2010
027	Sig. 27: Assemble System and Sub System Component Parts	1	Mar 2010
028	Sig. 28: Install and Terminate Wires and Cables	1	Mar 2010
029	Sig. 29: Install and Configure Track Circuits	1	Mar 2010
030	Sig. 30: Install and Configure Axle Counters	1	Mar 2010
031	Sig. 31: Install and Adjust Electro–Mechanical Point Operating Systems	1	Mar 2010
032	Sig. 32: Install and Adjust Mechanical Point Operating Systems	1	Mar 2010
033	Sig. 33: Install and Adjust Mechanical Signals	1	Mar 2010
034	Sig. 34: Install and Adjust Rail Clamp Point Locks	1	Mar 2010
035	Sig. 35: Install and Configure Signalling Power Supply Systems	1	Mar 2010
036	Sig. 36: Control Planned and Staged Alterations to Existing Signalling Systems	1	Mar 2010
037	Sig. 37: Inspect Level Crossings	1	Mar 2010
038	Sig. 38: Special Inspection of S&T Equipment	1	Mar 2010
039	Sig. 39: Undertake Corrective and Preventative Maintenance of Points Fittings	1	Mar 2010
040	Sig. 40: Undertake Corrective And Preventative Maintenance of Intelligent Infrastructure Systems	1	Mar 2010
041	Sig. 41: Undertake Corrective And Preventative Maintenance of Rail Mounted Treadles	1	Mar 2010
042	Sig. 42: Work Safely on Signalling Power Supplies	1	Mar 2010
043	Sig. 43: Joint and Terminate Cables and Wires	1	Mar 2010
044	Smth (Core): Confirm That Signalling Systems Have Been Tested to Signal Maintenance Testing Handbook Requirements Following Maintenance /Defect Repair or Renewal	1	Mar 2010
045	SWT Mod 1: Tester in Charge	1	Mar 2010
046	SWT Mod 2: Principles Tester	1	Mar 2010
047	SWT Mod 3: Signalling Verification Tester	1	Mar 2010
048	SWT Mod 4: Signalling Functional Tester	1	Mar 2010
049	SWT Mod 5: Undertake Tests/Checks Under Direction of a Qualified Tester	1	Mar 2010
050	SWT Mod 6: Configure, Test and Introduce Electronic Systems & Equipment into Service	1	Mar 2010
055	Sig. 55: G1 10 Tester / Lead Tester	1	Mar 2010
056	Sig. 56: G1 10 Test Schedule Author / Checker	1	Mar 2010
057	Sig. 57: G1 10 Test Schedule Approver	1	Mar 2010

NR/L2/CTM/014 **Competence and Training in Overhead Line Engineering** Issue 2; Mar 10 | **Compliance** 05/06/10 | **Replaces** See below

Replaces: NR/SP/CTM/014 Iss 1; Dec 06, NR/L2/ELP/24001 Iss 5; Aug 08, NR/L2/ELP/21070 Iss 5; Aug 08
This specification sets out the minimum requirements for the assessment of personnel who undertake OLE engineering, isolation and/or switching and object removal activities on Network Rail managed infrastructure. It defines processes to be implemented and the standards to be achieved to confirm that personnel who undertake OLE engineering, isolation and/or switching and object removal activities are competent to perform the work.

NR/L2/CTM/018 **Competence and Training in Traction Power Distribution** Issue 2; Mar 10 | **Compliance** 05/03/11 | **Replaces** NR/SP/CTM/018 Iss 1; Dec 06

This specification sets out the minimum requirements for the assessment of personnel who undertake Traction Power Distribution work on Network Rail controlled infrastructure. It defines processes to be implemented and the standards to be achieved to confirm that personnel who undertake Traction Power Distribution work are competent to perform the work.

NR/L2/CTM/021 **Competence and Training in Track Safety** Issue 4; Dec 10 | **Compliance** 04/12/10 | **Replaces** NR/L2/CTM/021 Iss 3; Sep 10

This specification sets out the minimum requirements for the training and assessment of individuals who undertake Track Safety activities on Network Rail managed infrastructure. It defines the processes that are to be implemented and the standards that are to be achieved to confirm that individuals who are required to go on or near the line are competent.
(Contains NR/BS/LI/383)

NR/L2/CTM/022 **Competence and Training in the Loading and Load Examination of Infrastructure Wagons (Including Special Vehicles)** Issue 2; Jun 12 | **Compliance** 01/09/12 | **Replaces** NR/L2/CTM/022 Iss 1; Jun 07

The purpose of this standard is to set out the minimum requirements for the training and assessment of individuals who undertake loading and load examination of infrastructure wagon activities on Network Rail managed infrastructure. It defines processes to be implemented and the standards to be achieved to confirm that individuals who undertake loading and examination of loading of infrastructure wagons activities are competent.

NR/L2/CTM/025	**Competence & Training in On-Track Plant Operation & Activities** Issue 2; Mar 21	**Compliance** 05/06/21	**Replaces** NR/L2/CTM/025 Iss 1; Sep 08

This standard is part of the competence and trainingrequirements for planning, controlling and operating On-Track Plant within a possession. It:
a) Sets out the minimum requirements for the training and competence assessment of persons who plan, control and operate OTP used on Network Rail managed infrastructure.
b) It defines processes to be implemented and the standards to be achieved to confirm that persons who plan, control and operate OTP are competent to do so.

NR/L2/CTM/201	**Competence Management** Issue 2; Mar 12	**Compliance** 02/06/12	**Replaces** NR/L2/CTM/001 Iss 1; Dec 10

This standard sets out the requirements for managing the competence of Network Rail employees involved in work that can affect the operational safety and/or performance of Network Rail managed infrastructure. It defines the processes that Network Rail implements and maintains as part of its Competence Management System.

NR/L2/CTM/202	**Quality Assurance of Training & Assessment Organisations** Issue 3; Dec 19	**Compliance** 07/03/2020	**Replaces** NR/L2/CTM/202 Iss 2; Dec 11

This business process is part of Network Rail's Competence Management System. It:
a) provides assurance that training and/or assessment organisations have safe and effective management systems in place to deliver training and/or assessments which awards a Network Rail competence; and
b) confirms that training and/or assessment organisations use approved trainers and/or assessors with the required skills and knowledge.

NR/L2/CTM/205	**Competence and Training for the Maintenance of Traction and Rolling Stock and On-track Machines** Issue 1; Jun 11	**Compliance** 02/06/12	**Replaces** New at Issue 80

The purpose of this document is to define the minimum requirements for the training and assessment of individuals required to undertake maintenance and/or overhaul work on Traction and Rolling Stock (T&RS) and On-track machine (Including modules on-track plant, which have been deemed to be T&RS assets in order to reduce ambiguity and complexity), which are owned, hired and/or leased by Network Rail, or where Network Rail has an engineering responsibility.

NR/L2/CTM/206	**Competence and Training in Lookout Operated Warning Systems** Issue 1; Sep 11	**Compliance** 03/12/11	**Replaces** New at Issue 81

This standard sets out the minimum requirements for the training and assessment of personnel who operate or control the operation of Lookout Operated Warning Systems (LOWS) equipment on the Network Rail Managed Infrastructure

NR/L2/CTM/207	**Competence and Training in Planning** Issue 2; Jun 12	**Compliance** 01/06/13	**Replaces** NR/L2/CTM/207 Iss 1; Sep 11

The purpose of this standard is to set out the minimum requirements for the training and review/assessment of individuals who undertake the planning of work activities that takes place on, or that affects the Network Rail managed infrastructure. It defines processes that are to be implemented and the standards that are to be achieved to confirm that people who are required to undertake these activities are competent.

NR/L2/CTM/209	**Competence and Training in Safe System of Work Planner** Issue 1; Dec 10	**Compliance** 04/06/11	**Replaces** New at Issue 78

The purpose of this standard is to set out the minimum requirements for the training and assessment of individuals who plan a safe system of work (SSOW) on the Network Rail managed infrastructure. It defines processes that are to be implemented and the standards that are to be achieved to confirm that people who are required to a plan a SSOW for individuals or groups that go on or near the line are competent.

NR/L2/CTM/220	**Competence & Training in Portable, Transportable & Mobile Plant (PTMP) Operation & Activities** Issue 2; Jun 21	**Compliance** 04/09/21	**Replaces** NR/L2/CTM/220 Iss 1; Jun 12

This standard is part of the Competency and Training requirements for planning, controlling and operating Portable, Transportable and Mobile Plant (PTMP). It:
a) Sets out the minimum requirements for the training and competence assessment of persons who plan, control and operate PTMP on Network Rail Managed Infrastructure (NRMI) and/or Network Rail owned or leased property.
b) It defines processes to be implemented and the standards to be achieved to confirm that persons who plan, control and operate PTMP are competent to do so.

NR/L2/CTM/222	**Competence and Training in Track Welding, Weld Inspection and Ancillary Processes** Issue 1; Dec 10	**Compliance** 04/06/11	**Replaces** New at Issue 78

This standard sets out the minimum requirements for the training and competence assessment of individuals who undertake track welding activities on Network Rail managed infrastructure. It defines processes to be implemented and the standards to be achieved to confirm that individuals who undertake track welding activities are competent to do so.

NR/L2/CTM/223	**Competence and Training in Managing Site Safety** Issue 1; Jun 11	**Compliance** 04/06/14	**Replaces** New at Issue 80

This standard sets out the minimum requirements for the training and assessment of people who manage site safety on Network Rail managed infrastructure. It defines processes that shall be implemented to confirm that people who manage site safety are competent to perform the work.

NR/L2/CTM/229	**Competence and Training for Emergency Evacuation Wardens and Persons Responsible for Fire Safety** Issue 1; Mar 12	**Compliance** 31/10/12	**Replaces** New at Issue 83

This standard sets out the minimum requirements for the training and assessment of Network Rail employees who are required to undertake the roles of Emergency Evacuation Wardens and Persons Responsible for Fire Safety.

Level 3

NR/L3/CTM/131	**IRSE Assessing Agency Network Rail Watford** Issue 1; Sep 09	**Compliance** 05/09/2009	**Replaces** New at Issue 73

This Standard defines how Competence and Training Management operate the Maintenance IRSE Assessing Agency located at Watford.

NR/L3/CTM/301	**Management Review & Advisory Visit Process** Issue 1; Jun 10	**Compliance** 04/09/10	**Replaces** NR/L3/CTM/108 Iss 4 NR/L3/CTM/111 Iss 3

This procedure defines the information required and the processes necessary to conduct management reviews and briefs across all Network Rail C&T teams and the responsibilities, scope, methods and processes required to check/confirm the status of the compliance of Network Rail Competence and Training to required standards and the Network Rail Assurance Framework NR/SP/ASR/036.

NR/L3/CTM/302	**Production and Maintenance of Training and Assessment Solutions** Issue 3; Mar 21	**Compliance** 05/06/21	**Replaces** NR/L3/CTM/302 Iss 2; Sep 18

This work instruction provides guidance and direction for Network Rail employees, and those acting on their behalf, so that training is appropriate, efficient, effective and safe. This process serves as a guiding framework for creating effective training and assessment solutions. This work instruction:
a) controls the risk of unsafe and inefficient working practicesdue to the implementation of unsuitable training and assessment solutions (T&AS);
b) uses selected elements taken from Systems Approach toTraining (SAT) and Analyse, Design, Develop, Implement and Evaluate (ADDIE) to provide a uniform, logical process to be applied to the production and maintenance of all T&AS.

NR/L3/CTM/303	**Trainer Approval** Issue 1; Jun 10	**Compliance** 04/09/10	**Replaces** NR/L3/CTM/105 Iss 3 NR/L3/CTM/106 Iss 3

This specification establishes the process to be followed to approve andmaintain trainer competence to deliver training modules. It provides a framework whereby professional and vocational competence requirements are satisfied prior to unobserved delivery of training courseware, thereby providing an auditable quality control process to maintain safe and effective delivery of training.

NR/L3/CTM/304	**Training, Planning and Administration** Issue 1; Jun 10	**Compliance** 04/09/10	**Replaces** See below

Replaces: NR/L3/CTM/101 Iss 4, NR/L3/CTM/102 Iss 3, NR/L3/CTM/103 Iss 4, NR/L3/CTM/104 Iss 3, NR/L3/CTM/114 Iss 3
This procedure sets out the process to be followed for establishing prioritised statement of training requirements, and subsequent planning, administration and delivery of these requirements, including the provision for the procurement of training services and development of resources.

NR/L3/CTM/305	**Training Evaluation** Issue 1; Jun 10	**Compliance** 04/09/10	**Replaces** NR/L3/CTM/104 Iss 3 NR/L3/CTM/114 Iss 3

This standard defines the processes required to evaluate Network Rail training programmes at immediate (assessments) and reaction level (as per the Kirkpatrick model) and intermediate level evaluation (as per Network Rail's methodology).In addition it defines the process to be followed for complaints associated with Network Rail's training events.

NR/L3/CTM/306	**Skills Assessment Scheme** Issue 2; Dec 15	**Compliance** 11/10/16	**Replaces** NR/L3/CTM/306 Iss 1; Sep 10

The Skills Assessment Scheme is a competence assurance process based on risk. It applies a methodology to attain, maintain and renew competence based on the activity being performed by an individual

NR/L3/CTM/306/	Title	Issue	Issue Date
01	Competence Assurance Process	1	Dec 2015
02	Assessor Competence	1	Dec 2015
03	Verification and Audit	1	Dec 2015

NR/L3/CTM/307	**Advanced Apprenticeship Scheme and Foundation Degree (Part-time) Programme Administration** Issue 1; Sep 10	**Compliance** 04/12/10	**Replaces** NR/L3/CTM/133 Iss 1

The purpose of the document - NR/L3/CTM/307 - is to define the administrative processes to be followed in regard to the Advanced Apprenticeship (AA) Scheme and the Foundation Degree (FD) (part-time) programme.

4.6. CONTRACTS & PROCUREMENT

Guidance Notes

NR/GN/CPR/401	**Guidance on Contractual Health and Safety Requirements** Issue 1; Dec 08	**Compliance** n/a	**Replaces** NR/SP/CPR/008 Iss E14

The purpose of this document is to show how the process and requirements specified in the obsolete standard Contract Requirements Safety (NR/SP/CPR/008) are dealt with in revised company standards and other documents.

4.7 ELECTRICAL POWER

Specifications (including Procedures)

NR/SP/ELP/21014	**Specification of Voltage Testing of High Voltage Electrical Distribution Equipment (Including Cables) on AC and DC Electrified Lines** Issue 2; Dec 05	**Replaces** RT/E/S/21014 Iss 1; Nov 97

This specification states the Directorate's requirements for voltage testing (pressure testing) of major items of electrical distribution equipment, in the range 3.3kV to 66kV, 50Hz, on AC and DC Electrified Lines when the performance of insulation has been affected by refurbishment, modification, repair or relocation. The test voltage values and acceptance criteria are included.

NR/SP/ELP/21024	**Specification for Impedance Protection Relay for 650/750V DC Track Feeder Circuit Breakers** Issue 2; Dec 05	**Replaces** RT/E/S/21024 Iss 1; Mar 97

This specification states the requirements for the design, manufacture and testing of an impedance protection relay for use in association with new or existing 650/750V dc track feeder circuit breakers. When the relay is installed on existing switchgear, as a replacement for an existing protection device, this specification shall also apply to circuit breaker operation, wiring modifications external to the relay and accessories.

NR/SP/ELP/21026	**Specification for 415V and 440V Changeover Switchboards for DC Traction Substations** Issue 2; Dec 05	**Replaces** RT/E/S/21026 Iss 1; Mar 98

This specification states the requirements for the design, manufacture and testing of low voltage changeover switchboards used in DC traction substations for the control and distribution of 400 V or 440 V, 50 Hz auxiliary supplies for substation domestic and for signalling and other trackside purposes.

NR/SP/ELP/21030	**Specification for Prefabricated and Modular Steel Housings for Electrical Distribution Equipment on DC Electrified Lines** Issue 2; Dec 05	**Replaces** RT/E/S/21030 Iss 1; Nov 97

This specification states the Directorate's requirements for secure and weatherproof prefabricated and modular housings of steel construction for indoor electrical distribution equipment for dc electrified Lines. The specification states requirements for overall performance and technical details including construction and testing.

⚠ *Please see caution below*

NR/SP/ELP/21032	**Earthing Systems for DC Traction Substations, Track Paralleling Huts and Similar Equipment Locations** Issue 2; Apr 06	**Replaces** RT/E/S/21032 Iss 1; Oct 96

This specification states the requirements for the design, manufacture, installation and testing of equipotential bonding of equipment and earth electrode systems for d.c. traction substations, track paralleling huts and similar equipment locations (except for metal enclosures around controlled track switches).
(Contains NR/BS/LI/060)

NR/SP/ELP/21033	**Specification for the Welding of Transformer Tanks and Conservators During Manufacture** Issue 2; Dec 05	**Replaces** RT/E/S/21033 Iss 1; Dec 96

This specification states the requirements for the control of welding, including supervision, materials, welding procedures, inspection, testing and also the approval of welders and operators, to achieve the appropriate quality level during the manufacture of power transformer tanks and conservators.

NR/SP/ELP/21041	**Specification of Batteries and Battery Charging Equipment for Electrification Applications** Issue 2; Dec 05	**Replaces** RT/E/S/21041 Iss 1; Nov 97

This specification states the requirements for the design, manufacture and testing of batteries and battery charging equipment for use in substations and at other similar locations to provide supplies for tripping, closing, protection and control of electrical switchgear and associated electrical distribution equipment.

⚠ *Please see caution below*

NR/SP/ELP/21046	**Examination of DC Traction Electrification Equipment in Light Maintenance Depots** Issue 3; Apr 06	**Replaces** RT/E/S/21046 Iss 2; Sep 97

This specification states the requirements for the periodic examination, to determine the general condition, of dc electrification equipment installed in light maintenance depots for the purpose of supplying traction power to rolling stock.

⚠ CAUTION: The requirements for protective treatments materials and their application referred to in this specification have been superseded by:
NR/L3/CIV/039 - Specification for the Assessment and Certification of Protective Coatings & Sealants;
NR/GN/CIV/002 - The use of Protective Treatments & Sealants

NR/SP/ELP/21051	**Specification for Calculation of Protection Settings for DC Circuit Breakers** Issue 2; Dec 05	**Replaces** RT/E/S/21051 Iss 1; Oct 98

This specification states the requirements for the calculation of settings for protection against short circuit faults between the positive and negative circuits of track feeder sections.

NR/SP/ELP/21066	**Restrictions on Entry into Substations Equipped with GEC Type KC 33kV Switchgear** Issue 4; Apr 06	**Replaces** RT/E/S/21066 Iss 3; Jun 99

This specification details the special arrangements necessary for persons requiring entry into certain substations equipped with GEC type KC 33kV switchgear.

NR/SP/ELP/21073	**The Siting of Pantograph Monitoring Equipment** Issue 2; Apr 06	**Replaces** RT/E/S/21073 Iss 1; Nov 97

This specification states the requirements for siting of trackside pantograph monitoring equipment defined in Network Rail specification NR/PS/ELP/21072, “Trackside pantograph monitoring equipment”.

NR/SP/ELP/21081	**Specification of Security Palisade Fencing for Electrical Distribution Installations for AC and DC Electrified Lines** Issue 2; Dec 05	**Replaces** RT/E/S/21081 Iss 1; Mar 98

This specification states the requirements for the design, manufacture and installation of perimeter palisade fencing of the security type for use, when specified, around electric traction distribution installations.

NR/SP/ELP/21082	**25kV Overhead Line Equipment Insulators** Issue 2; Feb 06	**Replaces** RT/E/S/21082 Iss 1; Mar 98

This specification states the requirements for the design, manufacture and testing of insulators for overhead line equipment used on 25 kV ac Electrified Lines.

NR/SP/ELP/21104	**Design and Installation of Electric Track Equipment for DC Electrified Lines** Issue 2; Apr 06	**Replaces** RT/E/S/21104 Iss 1; Mar 98

This specification states the requirements for the design, manufacture, installation and testing of electric track equipment, including conductor rail and negative bonding, for use on the existing third rail dc traction system areas and where extensions are proposed.
(Contains NR/BS/LI/328)

NR/SP/ELP/21106	**Specification for 25kV AC System Protection Calculations** Issue 2; Dec 05	**Replaces** RT/E/S/21106 Iss 1; Dec 98

This specification states the requirements for system protection calculations for 25 kVac traction installations to cater for overloads and short circuit faults having negligible impedance at the point of fault.

NR/SP/ELP/21107	**Bolted Running Rail Connections for Traction Bonding on AC and DC Electrified Lines** Issue 2; Apr 06	**Replaces** RT/E/S/21107 Iss 1; Mar 98

This specification states the requirements for the design, manufacture and testing of bolted electrical connections for attachment to running rails. The connections are used for: a) traction bonding; b) signal track circuit connections.

NR/SP/ELP/21112	**Calculation of Protection Settings for 3-phase H.V. Distribution Systems** Issue 2; Apr 06	**Replaces** RT/E/S/21112 Iss 1; Dec 98

This specification states the requirements for the calculation of settings on 3 phase h.v. distribution systems for protection against short circuit faults and, when specified in the procurement specification, overloads.

NR/SP/ELP/21130	**Technical Competency Requirements for Design of Overhead Line Equipment** Issue 2; Feb 06	**Replaces** RT/E/S/21130 Iss 1; Dec 98

This specification states the requirements for technical competency and accreditation for the supply of overhead line equipment design to Network Rail.

NR/SP/ELP/27021	**Electric Track Equipment Layout Design for DC Electrified Lines** Issue 2; Apr 06	**Replaces** RT/E/C/27021 Iss 1; Mar 98

This guidance note states the best practice for electric track equipment layout design on Network Rail dc Electrified Lines including those which are designated ‘standard current’ and ‘high current’.

NR/SP/ELP/27030	**Overhead Line Equipment as Installed Data Records** Issue 2; Apr 06	**Replaces** RT/E/C/27030 Iss 1; 1 Dec 04

This document defines the record of parameters which need to be produced and kept up to date. The data records will form the basis of any future developments in automated checking of the electrified system parameters for acceptance and maintenance.

NR/SP/ELP/27044	**Allocation of Designations for Switching Stations, Auxiliary Supply Points, Electrical Sections, Overhead Line Switches, Circuit Breakers and the Like, for AC Electrified Lines** Issue 2; Apr 06	**Replaces** RT/E/C/27044 Iss 1; Dec 04

The principles laid down in this document give the preferred method of determining designations for use on all future electrification schemes.

NR/SP/ELP/27169	**Isolation of Switching Stations at Electrical Control Room Boundaries to Comply with issue of Permits-to-work and Sanctions-for-test Certificates** Issue 2; Apr 06	**Replaces** RT/E/P/27169 Iss 1; Dec 04

At switching stations where the high voltage equipment is part or dual controlled from two different Electrical Control Rooms (ECR) the information defined in this specification will apply for isolation of the high voltage equipment and issue of Permit-to-Work (21067/P/1) or Sanction-for-Test (21067/S/1)

NR/SP/ELP/27175	**Acceptance of High Mast Winching Mechanisms and Associated Equipment** Issue 2; Dec 05	**Replaces** RT/E/P/27175 Iss 1; Dec 04

This specification is written to ensure a common policy and assist in the fulfilment of statutory obligations for the acceptance, registration, testing and certification of high mast winching mechanisms and associated equipment.

NR/SP/ELP/27183	**50 Cycle Single Phase AC Electrification Overhead Line Equipment** Issue 2; Apr 06	**Replaces** RT/E/S/27183 Iss 1; Dec 04

This standard includes drawings, descriptions, loading diagrams, calculations and instructions appertaining to the equipment shall be provided in sufficient detail to permit efficient manufacture, erection and maintenance in “polluted” and “clean” areas, of a nominal 25kV, 50 cycles, single phase ac overhead system of railway electrification.

NR/SP/ELP/27192	**Design and Installation of Negative Bonding and Associated Equipment on High Current DC Electrified Lines** Issue 2; Apr 06	**Replaces** RT/E/S/27192 Iss 1; Dec 04

This specification details the engineering requirements for the design and installation of negative bonding on Network Rail dc Electrified Lines which are designated “High Current”.

NR/SP/ELP/27193	**Specification for Earthing and Bonding for Dollands Moor International Freight Yard** Issue 2; Feb 06	**Replaces** RT/E/S/27193 Iss 1; Dec 04

This document details the specific earthing and bonding requirements for Dollands Moor International Freight Yard.

NR/SP/ELP/27195	**Earthing and Bonding at North Pole International Depot** Issue 2; Feb 06	**Replaces** RT/E/S/27195 Iss 1; Dec 04

This Earthing and Bonding specification is unique to the North Pole Depot area and the section of the West London Lines between West Way and Mitre Bridge Junction, it should be read in conjunction with NR/SP/ELP/21085 which contains general information regarding standard bonding practices, cable sizes, use of spider plates etc.

NR/SP/ELP/27202	**Concrete for Overhead Line Equipment Structures** Issue 2; Feb 06	**Replaces** RT/E/S/27202 Iss 1; Dec 04

This Specification pertains to every aspect of the use of concrete for overhead line electrification foundations and associated concrete structures.

NR/SP/ELP/27203	**Provision of Isolation, Earthing and Indication Facilities Where Local Isolations are Permitted on AC Electrified Lines** Issue 2; Apr 06	**Replaces** RT/E/S/27203 Iss 1; Dec 04

This document covers the provisions necessary to enable the procedures to be followed within those areas and for those tasks to which local isolation instructions apply. It amplifies, but in no way modifies the requirements of NR/L3/ELP/29987.

NR/SP/ELP/27205	**Specification for the Installation and Operation of Buffer Sections and Permanently Earthed Sections in AC Overhead Line Equipment** Issue 2; Apr 06	**Replaces** RT/E/S/27205 Iss 1; Dec 04

This document details the installation and operational requirements for buffer sections and permanently earthed sections on ac overhead line equipment.

NR/SP/ELP/27210	**Maintenance of Electro-mechanical Supervisory Equipment** Issue 2; Apr 06	**Replaces** RT/E/S/27170 Iss 1; Dec 04

This specification defines the minimum planned periodic maintenance that shall be carried out on electro mechanical supervisory equipment in order to ensure the safety of the electrical system.

NR/SP/ELP/27217	**Emergency Disconnection of Grid Supply Feeders for DC Electrification** Issue 2; Apr 06	**Replaces** RT/E/S/27217 Iss 1; Dec 04

This standard lays down the arrangements to be adopted following the removal of emergency tripping facilities that utilised the electrification telephone circuits.

NR/SP/ELP/27224	**Specification for Installation of Cable Routes Forming Part of The Traction Distribution System** Issue 2; Apr 06	**Replaces** RT/E/S/27224 Iss 1; Aug 05

This document details the requirements for the design, refurbishment and construction of new cable routes and the refurbishment of existing cable routes for high voltage ac power distribution cables and associated pilot supervisory cables, signalling supply distribution and point heater cables, ac and dc traction cables and other cables used on electrical distribution systems.
(Contains NR/BS/LI/040, NR/BS/LI/217)

NR/SP/ELP/27242	**Specification of Low Voltage Electrical Installations on Railway Premises (Including Plugs, Sockets, Trailing Leads and Appliances)** Issue 1; Dec 05	**Replaces**

This specification has been prepared to control the design and maintenance of hydraulic fluid power systems.

NR/SP/ELP/27243	**Specification for Signalling Power Supplies** Issue 1; Aug 06	**Replaces**

This document specifies Network Rail's requirements for signalling power supply trackside distribution systems. This document focuses on the different types of distribution feeder that can be used and the applicability of BS7671. These requirements ensure that the system design complies with the Electricity at Work Regulations 1989. This specification references supporting standards where appropriate.
(Includes NR/BS/LI/256)

NR/SP/ELP/27300	**Specification for Computer Aided Design Formats for Electrification and Plant Documentation** Issue E1; Sep 05	**Replaces**

The purpose of this document is to ensure that Cad documentation is consistent in appearance and format. The processes described in this specification shall be applied to 'drawings' which includes any document that is wholly or primarily graphical in nature.

NR/SP/ELP/40041	**Core Maintenance Specification for Overhead Trolley Jumper Systems** Issue 2; Apr 06	**Replaces** RT/E/S/40041 Iss 1; Mar 96

This document is the Technical Specification for the maintenance of Overhead Trolley Jumper Systems. The document is to be read in conjunction with the relevant Contract Documentation.

NR/SP/ELP/40042	**Periodic Inspection and Testing of Electrical Installations, Appliances and Equipment** Issue 3; Feb 06	**Replaces** RT/E/P/40042 Iss 2; Dec 01

This procedure defines the process for determining the frequency of testing and examination and the minium standard of testing that the installations, equipment and appliances shall undergo in order to ensure continued safe usage.

RT/E/S/27223	**Specification for Tyne and Wear Metro (Sunderland Extension) – OLE Maintenance** Issue E1; Jun 05	**Replaces**

This specification states the minimum requirements in order to ensure the safety and reliability of the Tyne and Wear Metro (Sunderland Extension) overhead line electrification energised at 1500V dc.

RT/E/P/24000	**Content and Preparation of Control Room Instructions** Issue 3; Dec 02	**Replaces** RT/E/P/24000 Iss 2; Aug 02

This procedure states the mandatory requirements for the content and preparation of electrical control room instructions by Network Rail zones for use at electrical control rooms by electrical control operators to ensure that adequate and correct procedures are followed in the control and operation of the electrification and plant equipment under their jurisdiction.

RT/E/P/24010	**Management of Warnings and Alarms Received from Trackside Pantograph Monitoring Equipment** Issue 1; Nov 97	**Replaces**

This is a procedure for the reporting and investigating pantograph uplift exceedances detected by trackside pantograph monitoring equipment operating on 25kV overhead line electrification equipment managed by Network Rail.

RT/E/P/27180	**Operating & Maintaining Escalator Trolleys at London Victoria** Issue 1; Dec 04	**Replaces** formerly SP-PM-66

Former BRB standard, migrated to Network Rail template, December 04

Product Specifications

NR/PS/ELP/00003	**Resistive Type Live Line Indicators** Issue 2; Feb 06	**Replaces**

This Product Specification states the minimum performance requirements for a resistive type live line indicating device for use on the overhead line and switching station equipment.

NR/PS/ELP/00006	**Portable DC Short Circuiting Devices** Issue 2; Apr 06	**Replaces** RT/E/PS/00006 Iss 1; Apr 00

This Product Specification gives the minimum performance requirements for the design, manufacture and testing of portable short circuiting devices to be used on d.c. electrified lines.

NR/PS/ELP/00007	**Product Specification for Uninterruptible Power Supplies (UPS)** Issue 3; Oct 05	**Replaces** RT/E/PS/00007 Iss 2; Jun 03

This product specification states the requirements for Uninterruptible Power Supply (UPS) units when installed to provide power for Network Rail's operational infrastructure.

NR/PS/ELP/00008	**Product Specification for High Voltage Cables and Accessories for Traction Supplies** Issue 3; Dec 05	**Replaces** RT/E/PS/00008 Iss 2; Dec 01

This Product Specification states the Directorate's requirements for polymeric insulated 6.35/11 kV, 12.7/22 kV and 19/33 kV single and three-core cables for DC Electrified Lines and 25 kV two-core concentric and single-core cables and accessories for AC Electrified Lines.

NR/PS/ELP/00021	**Product Specification for Standby Diesel Generators for Signalling Supplies** Issue 2; Oct 05	**Replaces** RT/E/PS/00021 Iss 1; Oct 01

This product specification states the minimum requirements for diesel generating sets installed as fixed installations in order to provide standby power supplies for signalling equipment on Network Rail's operational infrastructure.

NR/PS/ELP/00022	**400V 3-phase AC Shore Supply Equipment for use in non Electrified Areas** Issue 2; Feb 06	**Replaces** RT/E/PS/00022 Iss 1; Apr 01

This product specification states the requirements for the design, manufacture, testing, installation and commissioning of 400 V, 3 phase, 3 wire, 50 Hz shore supply equipment for use in non electrified areas in depots etc, to provide power supplies for train auxiliaries when the train is stabled and the on-board auxiliary power supplies are not in service.

Note: NR/PS/ELP/00022 Issue 2, (aka NR/L2/RMVP/00022) is no longer mandatory, as of July 2012

NR/PS/ELP/21072	**Trackside Pantograph Monitoring Equipment** Issue 2; Apr 06	**Replaces** RT/E/S/21072 Iss 1; Nov 97

This specification states the Directorate's performance requirements for equipment to monitor the dynamic performance of pantographs fitted to passing trains.

NR/PS/ELP/27182	**Insulating Shroud for Foot of Conductor Rail** Issue 2; Apr 06	**Replaces** RT/E/S/27182 Iss 1; Dec 04

This product specification covers the design, manufacture and testing of a conductor rail shroud for use in conjunction with Network Rail standard conductor rail systems other than the dc Electrified lines in the Liverpool area.

NR/PS/ELP/27187	**Product Specification for Fused Isolators** Issue 2; Apr 06	**Replaces** RT/E/S/27187 Iss 1; Dec 04

The Specification covers the design, manufacture and testing of silicone-rubber covered "primary" live-line insulated poles for use in live-line testing and earthing on electrified lines.

NR/PS/ELP/27188	**Silicone–Rubber Covered Primary Live Line Insulated Poles** Issue 2; Apr 06	**Replaces** RT/E/S/27188 Iss 1; Dec 04

The Specification covers the design, manufacture and testing of silicone-rubber covered "primary" live-line insulated poles for use in live-line testing and earthing on electrified lines.

NR/PS/ELP/27189	**Ancillary Equipment Enclosures for 25kV Structure Mounted Outdoor Switchgear** Issue 2; Feb 06	**Replaces** RT/E/S/27189 Iss 1; Dec 04

This specification covers the requirements for the design, manufacture and installation of these types of enclosures together with the preparation of associated drawings, manuals, provision of certain electrical fittings and their installation.

NR/PS/ELP/27196	**Specification for Outdoor Ancillary Cubicles for 25kV AC Isolation Transformers** Issue 2; Feb 06	**Replaces** RT/E/S/27196 Iss 1; Dec 04

This specification covers the electrical supply and pilot cables to the isolating transformers, from outdoor ancillary cubicles, installation and commissioning of outdoor ancillary cubicles and the electrical equipment housed within the cubicle. This specification includes the design, manufacture, erection, factory & site testing/commissioning and for the supply and installation testing/commissioning of the cubicle and electrical installation.

NR/PS/ELP/27219	**750V DC Track Voltage Relays** Issue 2; Apr 06	**Replaces** RT/E/S/27219 Iss 1; Dec 04

This general specification covers the design and manufacture of track voltage relay systems, based on solid state technology, for use on 750V dc third rail electrification systems. The system specified in this document are to be used for indicating the state of energisation of a track section and to trip the associated dc circuit breakers in the event of a fault that creates low voltage conditions.

NR/PS/ELP/27220	**Paired Core Compound Filled Supervisory Cable** Issue 2; Apr 06	**Replaces** RT/E/S/27220 Iss 1; Dec 04

This specification details the requirements for paired core compound filled supervisory cables for modem based supervisory systems operating in the VF range 300 to 3000 Hz.

Level 1

NR/L1/ELP/27000	**Policy Requirements for Electrical Power Assets** Issue 4; Jun 21	**Compliance** 31/07/21	**Replaces** NR/L1/ELP/27000 Iss 3; Dec 20

The requirements in NR/L1/ELP/27000 have been updated to reflect changes in the EP standard portfolio, the CP6 EP Asset Policy and the Routes' strategic business plans, the electrical safety vision and variations against the existing standard. The changes include:
• The transposition of relevant requirements from the CP6 Asset Policy into the standard;
• Removal of duplication and misalignment of requirements;
• Providing greater clarity on the difference between requirements and guidance;
• Incorporate any lessons learnt from recent renewals and enhancement schemes to drive improvements in safety, performance and/or delivery efficiency;
• Modification to the policy for PCB contaminated asset to align with changes to legislation.

Level 2

NR/L2/ELP/1007	**Specification for 25kV A.C. Disconnectors, Earthing Switches and Switches** Issue 3; Jun 19	**Compliance** 07/09/19	**Replaces** NR/L2/ELP/1007 Iss 2; Mar 17

The purpose of this document is to define the specific requirements for Network Rail's 25 kV A.C. single-pole and two-pole disconnectors, earthing switches and switches for on-load applications, following as closely as possible those identified within the applicable British Standard BS EN 50152-2:2012

NR/L2/ELP/21015	**Maintenance of Negative Traction Cables and Bonding for DC Conductor Rail Systems** Issue 4; Sep 17	**Compliance** 02/12/17	**Replaces** NR/L2/ELP/21015 Iss 3; Jun 15

The purpose of this standard is to specify the planned periodic maintenance for negative traction cables and bonding on DC conductor rail traction power electrified lines.

NR/L2/ELP/21028	**Ancillary Wiring and Connections of Electrical Equipment on AC & DC Electrified Lines** Issue 4; Dec 21	**Compliance** 05/03/22	**Replaces** NR/SP/ELP/21028 Iss 3; Feb 06

The purpose of this document is to state the requirements for the design, manufacture, installation and testing of ancillary wiring BETWEEN main items of electrical distribution equipment (including SCADA outstation equipment and substation data cables on AC and DC Electrified Lines).

NR/L2/ELP/21048	**Maintenance of Positive Conductor Rail and Traction Cables for DC Conductor Rail Systems** Issue 2; Sep 17	**Compliance** 02/12/17	**Replaces** NR/L2/ELP/21048 Iss 1 NR/SP/ELP/27048 Iss 2

The purpose of this standard is to specify the planned periodic maintenance for positive conductor rail and associated cables on DC conductor rail traction power electrified lines.

NR/L2/ELP/21085	**Earthing and Bonding on A.C. Electrified Railways** Issue 5; Dec 21	**Compliance** 05/03/21	**Replaces** NR/L2/ELP/21085 Iss 4; Jun 20

The purpose of this standard is to define the fundamental design principles that support the development of earthing and bonding system design to meet legislative requirements and to achieve safety, economy and performance.

NR/L2/ELP/21087	**Specification of Maintenance Frequency and Defect Prioritisation of Overhead Line Electrification Equipment** Issue 9; Jun 20	**Compliance** 06/06/20	**Replaces** NR/L2/ELP/21087 Iss 8; Sep 18

This specification defines the required delivery frequency of maintenance work activities on Overhead Line Electrification Equipment by detailing the asset technical requirements to produce the optimum frequencies for inspection and defect removal, maximising availability through Risk Based Maintenance.

NR/L2/ELP/21088	**General Maintenance Parameters for Overhead Line Electrification Equipment** Issue 4; Jun 21	**Compliance** 05/06/21	**Replaces** NR/L2/ELP/21088 Iss 3; Dec 15

This standard defines the general maintenance parameters for all OLE systems currently in use on Network Rail controlled infrastructure. The maintenance parameters for each OLE system are detailed within the modules which support this standard.
(Contains NR/BS/LI/466)

NR/L2/ELP/21088/	Title	Issue	Issue Date
01	Glossary	1	Dec 2015
02	Mark 1 Maintenance Parameters *(Contains NR/BS/LI/466)*	1	Dec 2015
03	Mark 2 Maintenance Parameters *(Contains NR/BS/LI/466)*	1	Dec 2015
04	Mark 3 Maintenance Parameters *(Contains NR/BS/LI/466)*	1	Dec 2015
05	Mark 3A Maintenance Parameters *(Contains NR/BS/LI/466)*	1	Dec 2015
06	Mark 3B Maintenance Parameters *(Contains NR/BS/LI/466)*	1	Dec 2015
07	Mark 3C Maintenance Parameters *(Contains NR/BS/LI/466)*	1	Dec 2015
08	Mark 3D Maintenance Parameters *(Contains NR/BS/LI/466)*	1	Dec 2015
09	Mark 5 Maintenance Parameters *(Contains NR/BS/LI/466)*	1	Dec 2015
10	BBC Maintenance Parameters *(Contains NR/BS/LI/466)*	1	Dec 2015
11	GE-MSW Maintenance Parameters *(Contains NR/BS/LI/466)*	1	Dec 2015
12	SCS Maintenance Parameters *(Contains NR/BS/LI/466)*	1	Dec 2015
13	Sunderland Direct Maintenance Parameters *(Contains NR/BS/LI/466)*	1	Dec 2015
14	SICAT Maintenance Parameters *(Contains NR/BS/LI/466)*	1	Dec 2015
15	UK1 Maintenance Parameters *(Contains NR/BS/LI/466)*	1	Dec 2015
16	Series 1 Maintenance Parameters *(Contains NR/BS/LI/466)*	1	Dec 2015
17	Series 2 Maintenance Parameters *(Contains NR/BS/LI/466)*	1	Dec 2015
18	Sheffield Tram Train 750V DC OLE Maintenance Parameters (STT 750).	1	Jun 2021

NR/L2/ELP/21090	**OLE Seasonal Preparation Response for Extreme Weather** Issue 1; Dec 20	**Compliance** 05/12/20	**Replaces** New at Issue 118

The purpose of this document is to provide a systematic and structured approach to preparing and responding to the threat of adverse weather conditions, the triggers and monitoring regime that determine when action needs to take place to prevent overhead line failures that lead to disruption of the line, and the actions that are required to prevent any service affecting failures.

NR/L2/ELP/21120	**E&P Records Management Process** Issue 1 Jun 08	**Compliance** 01/12/08	**Replaces** New at Issue 68

This document describes the management of new and altered Electrification and Plant Business Critical records for which the Network Records Group are custodians

NR/L2/ELP/21131	**Warning and Other Signs for A.C. and D.C. Electrified Lines** Issue 3; Dec 19	**Compliance** 01/01/20	**Replaces** NR/L2/ELP/21131 Iss 2; Dec 18

The purpose of this document is to provide a specification for the design and display of signs on Network Rail infrastructure to warn and provide safety information to persons on or near a.c and/or d.c electrified lines.

NR/L2/ELP/23001	**Technical Requirements for High Voltage A.C. Switchgear used in Traction and Non-Traction Systems** Issue 1; Mar 21	**Compliance** 06/03/22	**Replaces** NR/PS/ELP/27236 Iss 2 NR/SP/ELP/21018 Iss 2

This standard states the specific requirements for the design, manufacture, and testing of High Voltage (HV) switchgear used for traction and non-traction power supplies on Network Rail infrastructure.

NR/L2/ELP/23001/	Title	Issue	Issue Date
MOD A	Technical Requirements for 25 kV A.C. Switchgear	1	Mar 2021
MOD B	Technical Requirements for 6.6, 11, 22 and 33 kV A.C. Switchgear	1	Mar 2021

NR/L2/ELP/23002	Specification for High Voltage AC Cables, AC Traction Earthing and Bonding Cables DC Traction Cables, Pilot Cables and Associated Accessories Issue 1; Dec 20	Compliance 05/06/21	Replaces NR/PS/ELP/21101 Iss 2

The purpose of this manual is to define the requirements for high voltage (HV) AC cables, AC traction bonding, DC traction power cables, multicore pilot cables and cable accessories to provide assurance that they are suitable for use on Network Rail infrastructure.

NR/L2/ELP/23002/	Title	Issue	Issue Date
02	750V and 1500V DC Traction Power Cables	1	Dec 2020
05	Earthing and Bonding Cables for A.C. Electric Traction Energy Sub-systems	1	Dec 2020

NR/L2/ELP/23003	Technical Requirements for Transformers, Rectifiers, and Oil Containment Systems Used in A.C. & D.C. Electrification Issue 1; Mar 20	Compliance 05/09/20	Replaces See below

Replaces: NR/L2/ELP/27400, NR/PS/ELP/27185, NR/SP/ELP/21019, NR/SP/ELP/21020, NR/SP/ELP/21021, NR/SP/ELP/21036, NR/SP/ELP/21075 (All Iss 2)
This standard states the specific requirements of the design, manufacture, and testing of transformers and transformer rectifier units used for traction supplies on Network Rail infrastructure. It also includes the requirements of oil containment systems applicable to liquid-filled transformers utilised for this purpose.

NR/L2/ELP/23003/	Title	Issue	Issue Date
MOD A	Technical Requirements for A.C. Electrification Transformers	1	Mar 2020
MOD B	Technical Requirements for D.C. Electrification Transformers and Rectifiers	1	Mar 2020
MOD C	Insulating Oil and Secondary Oil Containment Measures for Transformers used in A.C. & D.C. Electrification	1	Mar 2020

NR/L2/ELP/24011	Booster Transformer Outages Issue 3; Jun 08	Compliance	Replaces NR/SP/ELP/24011 Iss 2; Dec 05

This specification defines the process for managing the outages of booster transformers on Network Rail's 25 kV a.c., 50 Hz electrified lines. It details the actions required to be taken. Further and more detailed information on booster transformer outages can be found in the Network Rail guidance notes NR/GN/ELP/24015

NR/L2/ELP/24013	Notification of Energisation of New AC and DC Electrified Lines Issue 4; Dec 10	Compliance 05/03/11	Replaces NR/SP/ELP/24013 Iss 3; Apr 06

This procedure states the requirements for the design and the display of posters, the publication of notices and the provision of advice concerning the energisation of new, or extensions to ac and dc electrified lines and distribution equipment forming part of the traction distribution system.

NR/L2/ELP/25001	Electrical Safety Principles for New Electrification Issue 1; Sep 17	Compliance 02/10/17	Replaces New at Issue 105

This document provides design principles for new electrification projects that will mitigate the risks of working on or near electrified railways.

NR/L2/ELP/27009	Overhead Line Equipment Campaign Changes Issue 3; Mar 17	Compliance 03/06/17	Replaces NR/L2/ELP/27009 Iss 2; Dec 11

This standard is a catalogue of all approved campaign changes which apply to overhead line equipment (OLE) installed on the Network Rail infrastructure. It enables improved OLE asset performance by achieving a clear understanding of the extent of the risk of the overhead contact system (OCS) failing.

Mod	Title	Issue	Issue Date
C01	Replacement of Cam Type 753 Copper Loop Droppers.	1	Dec 2011
C02	Replacement of BICC Double Ceramic Bead Skidded Neutral Sections.	1	Dec 2011
C03	Replacement of Solid 3/16" Copper 'V' Droppers Prone to Fatigue Failure.	1	Dec 2011
C04	Replacement of Solid 3/16" Copper Windstay Droppers prone to Fatigue Failure.	1	Dec 2011
C05	Replacement of Illegible Structure Number Plates (Stencilled Types).	1	Dec 2011
C06	Replacement of Illegible Structure Number Plates (Self Adhesive Plastic Types).	1	Dec 2011
C07	Upgrading of In-Span Catenary to Contact Wire Jumpers to Minimise Current Related Dropper / Catenary Burning.	1	Dec 2011
C08	Replacement of Solid Core Porcelain Insulators in Terminations Vulnerable to Vandalism Catastrophic Failure.	1	Dec 2011
C09	Replacement of Claw Type Copper Return Conductor Support Insulators Prone to Damaging Return Conductor Stranding.	1	Dec 2011
C10	Damage to Stranded Catenary from Bird Initiated Short Circuits at Portal Structure Supports.	1	Dec 2011
C11	Replacement of Plastic Dropper Sleeves Prone to Ultra Violet Degradation.	1	Dec 2011
C12	Modification of Seized Mechanically Independent Registration (MIR) Hinge Assemblies.	1	Dec 2011
C13	Replace PTFE Spacer Ceramic Beads	1	Dec 2011
C14	Replacement of Bearings In Termination & Support Pulleys Prone to Seizure due to Insufficient Clearance.	1	Dec 2011
C15	Replacement of Roller Bearings in Termination Pulleys.	1	Dec 2011
C16	Replacement of Butyl Rubber U/Br and in Span Rod Insulation Prone to Ultra Violet Degradation.	1	Dec 2011
C17	Replace Copper Ply Span and Tail Wire	1	Dec 2011
C18	Replacement of Taylor Tunnicliff Gas Filled Hollow Support Insulators Prone to Failure.	1	Dec 2011
C19	Replacement of Steatite and Porcelain Products Insulators Prone to Failure.	1	Dec 2011
C20	Catenary Wear at Pulley Wheel Supports.	1	Dec 2011

Mod	Title	Issue	Issue Date
C21	Rapid Wear of the Steady Arm Eye Due to Normal Movement of the Wind Stay Dropper.	1	Dec 2011
C22	Fouling of Deep Curved Steady Arm Anti-Wind Stirrups / Protective Saddles.	1	Dec 2011
C23	Replacement of 'Dunted' Porcelain Insulators	1	Dec 2011
C24	Replacement of 19/3.2Mm Copper Dead End Grips	1	Dec 2011
C25	Rapid Wear of Aluminium & Copper Dropper Saddles in Awac & 19/2.1mm Catenary.	1	Dec 2011
C26	Burning at 'Tee Off' Bi-Metal Termination Feeder Connections	1	Dec 2011
C27	Failure of Cross Span Wire to Tube Clamps When Disturbed.	1	Dec 2011
C28	Modification of Cross - Contact Bridge Assemblies.	1	Dec 2011
C29	Removal of 'Goal Post' Uplift Stop Assemblies for Flat Registrations	1	Dec 2011
C30	Replacement of PTFE Rod Insulators With 'O' Ring End Fitting Seals.	1	Dec 2011
C31	Damage to Stranded Catenary From Bird Initiated Short Circuits at Overbridges.	1	Dec 2011
C32	Damage to Contenary or Contact Wire From Short Circuits at to Concrete / Non Metallic Overbridges.	1	Dec 2011
C33	Damage to Stress Graded Bridge Arm End Fittings From Bird Related Short Circuits at Overbridges	1	Dec 2011
C34	Modification of LEL (BPE) Tubular Blade Isolators Prone To Current Burning / Loose Blade - Jaw Fit.	1	Dec 2011
C35	Modification of South Wales (LEL) Tubular Blade Isolators.	1	Dec 2011
C36	Modification of Morris Line Type Isolator Jaw Connection Plate.	1	Dec 2011
C37	Replacement of BICC High Speed Section Insulator Armour Plate Glass Insulation.	1	Dec 2011
C38	Skidded Neutral Sections and Skidless Ceramic Beads for Class 373 Pantographs	1	Dec 2011
C39	Revised Stagger and Mid Span Offset Criteria for Enhanced Sway Characteristics.	1	Dec 2011
C40	Replacement of 'Pea Shooter' Type Bi Metal Connections to AWAC Catenary	1	Dec 2011
C41	Replacement of 10.5Mm Deformed Type Bi Metal Connections To Awac Catenary	1	Dec 2011
C42	Failure of In-Span Jumper Support Straps 'White Arrow' Type.	1	Dec 2011
C43	Replacement of 'Cad Weld' Traction Bond Rail Connections.	1	Dec 2011
C44	Replacement of 4mm Stainless Steel Solid Droppers.	1	Dec 2011
C45	Replacement of Adjustable 'Rat Trap' Type Dropper Assemblies in Bridge Approach Spans.	1	Dec 2011
C46	Flashover Damage to Ceramic Beads 'Earth End' in Skidless Neutral Section Assemblies.	1	Dec 2011
C47	Removal of Contact Wire Splices Installed Next to Registrations or in 1St Dropper Panels.	1	Dec 2011
C48	Replacement of Porcelain Insulators Prone to Vandalism Damage.	1	Dec 2011
C49	Damage to Catenary from Bird Short Circuits to Return Conductor.	1	Dec 2011
C50	Replacement of Corroded 'Steel Stranded' Type Structure to Rail Bonds.	1	Dec 2011
C51	General Wire Creep Compensation Work.	1	Dec 2011
C52	Conversion of Obsolete Mark 2 Equipment.	1	Dec 2011
C53	Revised Return Conductor Support Design at Booster Transformer Connection Locations.	1	Dec 2011
C54	Replacement of Defective Cap & Pin Insulators.	1	Dec 2011
C55	Modification of Morris Line Type Motorised Mechanisms.	1	Dec 2011
C56	Modification of Morris Line Type Motorised Isolators Prone to Blade Misalignment.	1	Dec 2011
C57	Loosening of Siemens Elasticated Bridge Support Arm.	1	Dec 2011
C58	Insulator Flashover Damage to Stainless Steel Bridles at O/Lap Anchor Terminations.	1	Dec 2011
C59	Modification of Cross Track Feeder Wire Electrical Separation.	1	Dec 2011
C60	Modification of Track Feeder Wires With >3M Unsupported Wire.	1	Dec 2011
C61	Modification of Arthur Flury Section Insulators Prone To Premature Skid Failure.	1	Dec 2011
C62	Modification of Arthur Flury 'Skidded' Neutral Section Insulators	1	Dec 2011
C63	Renew High Risk Porcelain Insulators (Spanwire, Tensile And A682) Prone to Failure due to Discing.	1	Dec 2011
C64	Renew Awac Catenary Prone to Failure Due to Corrosion of the Stainless Steel Inner Cores.	1	Dec 2011
C65	Renew 'Korean' Style Registrations in Tunnel Assemblies.	1	Dec 2011
C66	Renew Arc Damaged Registrations in Headspan Assemblies.	1	Dec 2011
C67	Modify Balance Weight Anchor Tubes in Balfour Beatty Sunderland Direct OLE Equipment.	1	Dec 2011
C68	Renew Half-Flying-Duck Insulators in Overlap Spans.	1	Dec 2011
C69	Renew Slow Speed 'Symmetrical' Section Insulators.	1	Dec 2011
C70	Renew Dep Stalks Without End Nuts.	1	Dec 2011
C71	Balance Weight Anchor Guide Tube Supports	1	Dec 2011
C72	Replacement of A653 Registrations	1	Dec 2011
C73	Insufficient Radial Loading on Uk1 Registrations	1	Dec 2011
C74	Damage To Bridle Wire Due to Current Transfer Through Bridle Wire and Pulley Wheel	1	Dec 2011
C75	Modification of Refurbished MIR Swivel Brackets	1	Dec 2011
C76	Level Arm Modification to Arthur Flury Neutral Sections	1	Dec 2011
C80	Earth Wire Failure due to Water Ingress/Corrosion in Tunnels	1	Mar 2017
C86	Reposition Contact Wire Knuckle	1	Mar 2017
C87	Replace Worn Stainless Steel Bridles	1	Mar 2017
C90	Metallic Bridge Porcelain Insulator Replacement	1	Mar 2017
C91	Removal of Auxiliary Catenary	1	Mar 2017

NR/L2/ELP/27023	Conductor Rail Heating Standard Issue 1; Dec 20	Compliance 06/03/21	Replaces New at Issue 118

The standard states the specific requirements for the design, manufacture and testing components and systems comprising the conductor rail heating installations for use on Network Rail's d.c. electrification infrastructure. The conductor rail heating system is designed to manage icing risk that could prevent effective current collection between the conductor rail and the current collection shoes on the train.

NR/L2/ELP/23023/	Title	Issue	Issue Date
MOD A	Technical Requirement for Conductor Rail Heating	1	Dec 2020
MOD B	Design and Installation Requirement for Conductor Rail Heating	1	Dec 2020

NR/L2/ELP/27032	Management of Incidents Involving Damage to the OLE Issue 1; Jun 15	Compliance 01/06/16	Replaces NR/GN/ELP/00003 Iss 2; Apr 06

This procedure mandates the response by Network Rail staff when damaged overhead line equipment (OLE) has to be restored following an incident. This includes:

- Route Operations and Control staff
- Maintenance recovery teams
- Route asset management teams

It is intended principally for those cases where the severity of damage requires the appointment of a Rail Incident Officer (RIO) on site in accordance with NR/L2/OCS/250 - Network Rail National Emergency Plan

NR/L2/ELP/27172	**Conductor Rail Guard Boarding** Issue 1; Jun 21	Compliance 04/09/21	Replaces New at Issue 120

This document details the requirements for the design of supplementary guard boarding fitted to the outside of the conductor rail, or to the outside of where the conductor rail would be, in depots or sidings to protect staff against accidental passing contact with live shoegear on stabled trains.

NR/L2/ELP/27212	Maintenance of Mark I Overhead Line Equipment Issue 3; Aug 08	Compliance 26/08/08	Replaces NR/SP/ELP/27212 Iss 2; Apr 06

This specification details the maintenance tolerances for mark i design overhead line equipment and shows the background information and method of formulation.

NR/L2/ELP/27213	Maintenance of Mark IIIa Overhead Line Equipment Issue 3; Aug 08	Compliance 26/08/08	Replaces NR/SP/ELP/27213 Iss 2; Apr 06

This specification details the maintenance tolerances for mark iiia design overhead line equipment and shows the background information and method of formulation.

NR/L2/ELP/27214	Maintenance of Mark IIIb Overhead Line Equipment Issue 3; Aug 08	Compliance 26/08/08	Replaces NR/SP/ELP/27214 Iss 2; Apr 06

This specification details the maintenance tolerances for mark iiib design overhead line equipment and shows the background information and method of formulation.

NR/L2/ELP/27229	Specification for Remote Control Equipment for Electrical Distribution Systems Issue 2; Aug 08	Compliance 26/08/08	Replaces See below

Replaces: NR/L2/ELP/27229 Iss 1; Oct 05; RT/E/WI/27124 Iss 1; Dec 04; RT/E/WI/27129 Iss 1; Dec 04; RT/E/WI/27222 Iss 1; Dec 04
This specification states the directorate's minimum requirements for remote control equipment (also known as supervisory control and data acquisition, SCADA equipment) and systems for remote monitoring and control to electric traction power supply equipment on ac and dc traction systems from Electrical Control Rooms.

NR/L2/ELP/27238	Maintenance Specification for Fixed Plant Equipment Issue 8; Sep 21	Compliance 26/03/22	Replaces NR/L2/ELP/27238 Iss 7; Jul 14

This standard forms part of an overall maintenance specification suite which includes work instruction and competence requirements

NR/L2/ELP/27238/	Title	Issue	Issue Date
APP-A	Standby Generators	Issue 7	Sep 2021
APP-B	Electrical Points Heating Installations	Issue 8	Sep 2021
APP-C	Gas/Oil Fired Heating Systems	Issue 7	Sep 2021
APP-D	Air Conditioning and Ventilation Equipment	Issue 7	Sep 2021
APP-E	Electrical Installations and Equipment	Issue 7	Sep 2021
APP-F	Lighting Installations	Issue 6	Sep 2011
APP-G	Emergency Lighting Equipment	Issue 6	Sep 2011
APP-H	Water Distribution Systems	Issue 6	Sep 2011
APP-I	Fire Alarm Systems	Issue 6	Sep 2011
APP-J	Sewage Disposal Plant	Issue 7	Sep 2021

NR/L2/ELP/27238/	Title	Issue	Issue Date
APP-K	Building Maintenance Platforms	Issue 6	Sep 2011
APP-L	Winches	Issue 6	Sep 2011
APP-M	Hydraulic Buffer Stops	Issue 6	Sep 2011
APP-N	Maintenance of Uninterruptible Power Supply Equipment	Issue 6	Sep 2011
APP-O	Non-traction High Voltage Electrical Equipment	Issue 6	Sep 2011
APP-P	Pumping Installations	Issue 6	Sep 2011
APP-Q	Signalling and Safety Related Power Supplies	Issue 7	Sep 2021
APP-R	Moving Bridges	Issue 7	Sep 2021

NR/L2/ELP/27239 **Maintenance Specification for Electrification Distribution Equipment** Issue 2; Jun 08 | **Compliance** 26/08/08 | **Replaces** NR/SP/ELP/27239 Iss 1; Oct 05

This specification states the Directorate's general requirements that apply to all maintenance undertaken on Network Rail's electrical and plant equipment.

NR/L2/ELP/27275 **A.C. Electric Traction Energy Subsystems - System Design Principles** Issue 1; Dec 17 | **Compliance** 03/03/18 | **Replaces** New at Issue 106

The purpose of this standard is to:

- describe the design principles for a.c. electric traction power systems that would lead to compliance with the legislative requirements of Commission Regulation (EU) No. 1301/2014 of 18 November 2014 on the technical specifications for interoperability relating to the 'energy' subsystem of the rail system in the Union;
- allow equipment to be specified so as to prevent danger (as required by the Electricity at Work Regulations 1989);
- provide a standardised approach for the design, dimensioning and assessment of a.c. traction power systems and the provision of economically efficient system designs.

NR/L2/ELP/27307 **Management of M&EE Safety Related Event Reports** Issue 4; Dec 17 | **Compliance** 03/03/18 | **Replaces** NR/L2/ELP/27307 Iss 3; Sep 17

This standard provides a common safety related event (SRE) reporting process for M&EE comprising Power Distribution HV/LV, Contact Systems AC/DC, Traction and Rolling stock (T&RS) and Plant.

NR/L2/ELP/27311 **Engineering Assurance Requirements for Design and Implementation of Electrical Power** Issue 6; Sep 20 | **Compliance** 05/12/20 | **Replaces** NR/L2/ELP/27311 Iss 5; Jun 19

The purpose of this specification is to support the control of risk to Network Rail's infrastructure and railway operations that may arise as a result of any changes to electrical power assets by mandating an electrical power specific engineering assurance process in support of the main engineering assurance process described in NR/L2/INI/02009.

NR/L2/ELP/27314 **Construction Assurance for Overhead Contact Systems** Issue 2; Sep 19 | **Compliance** 07/12/19 | **Replaces** NR/L2/ELP/27314 Iss 1; Dec 17

The purpose of this standard is to define the Construction Assurance requirements for new or modified Overhead Contact Systems (OCS).

NR/L2/ELP/27314/	Module	Issue	Issue Date
01	Material Control	1	Sep 2019
02	Installation	1	Sep 2019
03	Testing and Commissioning	1	Sep 2019
04	Post Commissioning	1	Sep 2019

NR/L2/ELP/27320 **Fixed Plant Equipment Reporting** Issue 2; Aug 08 | **Compliance** 26/08/08 | **Replaces** NR/L2/ELP/27320 Iss 1; Jun 07

This specification details the information required to be reported on Network Rail's fixed plant equipment.

NR/L2/ELP/27325 **Train Borne Monitoring of Traction Power Contact Systems** Issue 1; Mar 16 | **Compliance** 03/12/16 | **Replaces** New at Issue 99

This standard specifies the requirements for train borne monitoring of Traction Power Contact Systems. The purpose is to standardise monitoring provisions and drive improvements in safety, economy and performance.

NR/L2/ELP/27401 **Configuration Management and Change to Protection and Control Systems** Issue 1; Dec 09 | **Compliance** 05/06/10 | **Replaces** New at Issue 74

This standard states the requirement for the management of hardware and software configuration of electrical fault protection and control devices.

NR/L2/ELP/27402 **Specification for Protection and Control Devices for Electrical Systems** Issue 1; Dec 09 | **Compliance** 05/06/10 | **Replaces** NR/SP/ELP/21035 Iss 2

This specification states the requirements for the design, manufacture and type testing of protection and control devices.

NR/L2/ELP/27411	**Product Specification for Polymeric Insulators for Top-Contact Conductor Rails** Issue 1; Mar 12	**Compliance** 03/06/12	**Replaces** New at Issue 83

This specification defines technical and performance requirements for polymeric insulators for support of conductor rails for third and fourth rail electrified lines on Network Rail infrastructure.

NR/L2/ELP/27428	**Product Specification for National Procurement of OLE Components** Issue 1; Dec 16	**Compliance** 04/03/17	**Replaces** New at Issue 102

This Product Specification has been prepared to supplement the provisions of the relevant European, British & International Standards; and codes of practice for the purchase, quality control and inspection of OLE components for use on 25kV AC Electrified Lines..

NR/L2/ELP/27428/	Module	Issue	Issue Date
01	Fixings for Railway Electrification Equipment	1	Dec 2016
02	25kV A.C. Discrete Sectioning Devices for Railway Electrification Equipment	1	Dec 2016
03	25kV A.C. Tensioning Devices for Railway Electrification Equipment	1	Dec 2016
04	25kV A.C. Insulators for Railway Electrification Equipment	1	Dec 2016
05	25kV A.C. Clips and Clamps for Railway Electrification Equipment	1	Dec 2016
06	25kV A.C. Overhead Contact Line Droppers for Railway Electrification Equipment	1	Dec 2016
07	25kV A.C. Overhead Contact Line Cantilever Assemblies for Railway Electrification Equipment	1	Dec 2016

NR/L2/ELP/27500	**Production of Comprehensive Track Diagrams and Operations Diagrams** Issue 2; Dec 17	**Compliance** 03/03/18	**Replaces** NR/L2/ELP/27500 Iss 1; Mar 10

This standard sets out the detailed requirements necessary for all Comprehensive Track Diagrams (CTDs) and Operations Diagrams .produced by or on behalf of Network Rail to maintain a consistent standard in terms of content, format and overall appearance.

NR/L2/ELP/27550	**Traction Power Isolation Documentation** Issue 3; Dec 19	**Compliance** 07/03/20	**Replaces** NR/L2/ELP/27550 Iss 2; Jun 19

This standard sets out the detailed requirements necessary for all Traction Power Isolation documentation produced by or on behalf of Network Rail to maintain a consistent standard in terms of content, format and overall appearance.

NR/L2/ELP/27550/	Module	Issue	Issue Date
01	Production and Control of Isolation Diagrams and Instructions	2*	Jun 2019
1A	Layout and Technical Content of Isolation Diagrams and Instructions	2*	Dec 2019

NR/L2/ELP/27551	**TPCMS Change Management Process** Issue 1; Jun 20	**Compliance** 06/06/20	**Replaces** New at Issue 116

The Traction Power Centralised Management System (TPCMS) provides the user interface and the data concentrator for the Network Rail SCADA network. This standard addresses the process required for managing changes on the electrification network that require an update to TPCMS.

NR/L2/ELP/27715	**Overhead Contact System Design Specification** Issue 3; Sep 18	**Compliance** 01/09/18	**Replaces** NR/L2/ELP/27715 Iss 2; Mar 18

The purpose of this standard is to specify the Network Rail requirements to achieve safety, economy and performance when developing Overhead Contact System design for an electrified railway

NR/L2/ELP/27715/	Module	Issue	Issue Date
01	Fundamental Design Requirements	1	Mar 2018
02	Allocation Design Principles	1	Mar 2018
03	Design of Auto Transformer Feeder and Ancillary Conductors	1	Mar 2018
04	Electrical and Mechanical Clearances and Separation	3	Sep 2018
05	Engineering Deliverables	1	Mar 2018
06	Governance of Overhead Contact System Design Ranges	1	Mar 2018

NR/L2/ELP/27730	**Specification for 750V dc Switchgear** Issue 2; Mar 18	**Compliance** 03/03/18	**Replaces** NR/L2/ELP/27730 Iss 1, Jun 17

The purpose of this document is to define the specific requirements for Network Rail's 750 V d.c. switchgear, following as closely as possible those identified within the applicable British Standard BS EN 50123 parts 1 – 4, 6, 7 Railway applications – Fixed installations – D.C. Switchgear.

NR/L2/ELP/27800	**Specification for 25 kV a.c. Earthing Pantographs and Interface with Vehicle (On Track Plant or Road Rail Vehicles)** Issue 1; Dec 20	**Compliance** 06/12/20	**Replaces** New at Issue 118

This standard defines the requirement for the production, design and testing of an earthing pantograph fitted to rail mounted plant or machinery. The earthing pantograph mitigates the risk of electric shock by providing an earth on the 25 kV a.c. overhead contact system as part of an implementation of an isolation in line with Network Rail's electrical safety principles and isolation processes.

NR/L2/ELP/27801	**Portable 25 kV Earths and Earth Continuity Jumpers** Issue 1; Mar 20	**Compliance** 06/06/20	**Replaces** New at Issue 115

The purpose of this standard is to define the functionality and performance requirements for 25 kV portable earthing equipment such that, when devices are maintained, stored and operated correctly, the risk of staff being subjected to an electric shock is mitigated should an electrical isolation be inadvertently re-energised or become charged.

NR/L2/ELP/40045	**Electric Point Heating** Issue 6; Aug 08	**Compliance** 26/08/08	**Replaces** NR/SP/ELP/40045 Iss 5; Dec 05

This Specification states the minimum requirements for the components and systems comprising the electric point heating installations for use on Network Rail infrastructure
(Contains NR/BS/LI/106)

NR/L2/ELP/40068	**Principal Supply Point (DNO + DG) Specification** Issue 1; Aug 07	**Compliance** 06/10/07	**Replaces**

This specification describes the requirements for a 'DNO and DG' (Distribution Network Operator and Diesel Generator set) based principal supply points.

NR/L2/ELP/40069	**Specification for Railway Pumping Installations** Issue 1; Aug 07	**Compliance** 06/10/07	**Replaces**

This Network Rail standard specifies the fundamental requirements for all railway pumping installations on Network Rail Infrastructure.

NR/L2/ELP/CTM015	**Competence & Training in DC Conductor Rail Engineering** Issue 2; Jun 19	**Compliance** 05/06/21	**Replaces** NR/SP/CTM/015 iss 1; Dec 06

This specification sets out the minimum requirements for the assessment of personnel who undertake DC Conductor Rail maintenance and/or isolation work on Network Rail controlled infrastructure. It defines processes that shall be implemented and the standards that shall be achieved to ensure that personnel who undertake d.c. conductor rail maintenance and/or isolation work are competent to perform the work.

NR/L2/ELP/CTM015/	Module	Issue	Issue Date
001	DCCR 1: Undertake Installation of Conductor Rail Equipment.	2	Jun 2019
002	DCCR 2: Install or Replace DC Conductor Rail and Associated Components in Accordance with Design Drawings and Specifications	2	Jun 2019
003	DCCR 3: Install or Undertake Corrective Maintenance on Traction Cable & Bonding Systems	2	Jun 2019
004	DCCR 4: Inspect the DC Conductor Rail Equipment	2	Jun 2019
005	DCCR 5: Inspect Negative Bonding Systems	2	Jun 2019
006	DCCR 6: The Effective Progression of DC Conductor Rail Maintenance or Renewal Activities	2	Jun 2019
007	DCCR 7: Maintenance of Conductor Rail Equipment in DC Depots	2	Jun 2019
008	DCCR 8: Manually Switch the Electrical Supply to DC Conductor Rail Equipment to Meet Defined Requirements	2	Jun 2019
009	DCCR 9: Test and Strap DC Conductor Rail Equipment to Meet Defined Isolation Requirements	2	Jun 2019
010	DCCR 10: Contribute to Minimising Risk When Working On or Near Live DC Conductor Rail or Electrical Power Supply Equipment	2	Jun 2019
011	DCCR 11: Manage the Isolation and Earthing / Short Circuiting of Equipment	2	Jun 2019

NR/L2/ELP/CTM028	**Competence and Training In OLE Construction Engineering** Issue 3; Mar 22	**Compliance** 04/06/22	**Replaces** NR/L2/CTM/028 Iss 2; Jun 10

This modular specification sets out the minimum requirements for the assessment of personnel who undertake OLE construction, renewals, enhancement or modification project activities on Network Rail managed infrastructure.

NR/L2/ELP/CTM028/	Module	Issue	Issue Date
001	OLEC Trainee linesman: Undertake Low Level Activities (Under Direction) & Workshop Skills	1	Mar 2022
002	OLEC 1: Access Overhead Lines Construction Sites	1	Mar 2022
003	OLEC 2: Assist with the Construction, Renewal, Enhancement, and Modification of OLE in Accordance with Design Drawings and Specifications	1	Mar 2022
004	OLEC 3: Lead in the Construction, Renewal, Enhancement, and Modification of OLE in Accordance with Design Drawings and Specifications	1	Mar 2022
005	OLEC 4: Control and Supervise OLE Construction Renewal and Enhancement Activities in Line with Specification.	1	Mar 2022
006	OLEC 5A: Confirm the OLE is Safe for Operational Purposes Between Minor OLE Construction Activities	1	Mar 2022
007	OLEC 5B: Confirm the OLE is Safe for Operational Purposes Between General OLE Construction Activities	1	Mar 2022
008	OLEC 5C: Confirm the OLE is Safe for Operational Purposes Between Complex OLE Construction Activities	1	Mar 2022

Level 3

NR/L3/ELP/00110 **Maintenance of Electrification, Plant, Signalling and Telecommunications Equipment, Incorporating Asbestos Materials or Components** Issue 2; Jun 08 | **Compliance** 26/08/08 | **Replaces** RT/E/WI/00110 Iss E1; May 04

This Work Instruction supplements existing maintenance instructions with asbestos related requirements for electrification, plant, signalling and telecommunications equipment incorporating asbestos materials or components to ensure compliance with current legislation.

NR/L3/ELP/3091 **DC Conductor Rail Electrified Lines Working Instructions** Issue 5; Sep 19 | **Compliance** 07/12/19 | **Replaces** NR/L3/ELP/3091 Iss 4; Sep 18

This Level 3 standard comprises of a suite of main modules and supporting modules. These modules provide a consistent approach to working on the operational railway with d.c. conductor rail electrification, in relation to the dangers arising from working on, or near to exposed live parts. This standard sets out the requirements associated

NR/L3/ELP/3091/	Module	Issue	Issue Date
01	General Requirements	1	Sep 2019
02	Assessing Electrical Risks When Working on or about the Operational Railway with Conductor Rail Electrification	1	Sep 2019
03	Planning of Conductor Rail Isolations	1	Sep 2019
04	Disconnection, Securing, Testing and Short Circuiting Conductor Rail Isolations	1	Sep 2019
06	Electrical Safety Documentation	1	Sep 2019
07	Altering the Extent of a Conductor Rail Isolation	1	Sep 2019
08	Restoring the Conductor Rail Equipment	1	Sep 2019
09	Emergency Switch Off and Rescue of Persons	1	Sep 2019
10	Temporary Isolations	1	Sep 2019
11	Machine Switch Out	1	Sep 2019
Supporting Modules			
A	List of Isolation Documents and Forms	1	Sep 2019
C	Local Isolation Instructions	1	Sep 2019
D	Short Circuiting Conductor Rail Equipment	1	Sep 2019
E	Traction System Return and Bonding	1	Sep 2019
F	Contact Details for Electrical Control Operators	1	Sep 2019
G	Introduction to DC Conductor Rail Systems	1	Sep 2019
H	Working on DC Track Feeder Cables and Equipment connected between the Track Circuit Breaker and the Conductor Rail	1	Sep 2019

NR/L3/ELP/21060 **Work on or near 650/750 V DC Traction Power Distribution Equipment (Including the Issue of Safety Documentation)** Issue 3; Sep 21 | **Compliance** 04/03/22 | **Replaces** NR/SP/ELP/21060 Iss 2: Feb 06

This standard specifies the requirements for working safely on or near 650/750 V DC Traction Power Distribution Equipment installed on Network Rail managed infrastructure.

NR/L3/ELP/21067 **Instructions for Making out Issuing and Cancelling High Voltage Permits to Work, Sanctions for Test and Circuit State Certificates** Issue 5; Dec 11 | **Compliance** 03/12/11 | **Replaces** NR/L3/ELP/21067 Iss 4; Jun 11

This Level 3 Standard gives instructions for the making out, issuing and cancelling of Permits-to-Work, Sanctions-for-Test and Circuit State Certificates for work on high voltage equipment as detailed in Section 2. It forms part of a set of Network Rail Standards which govern safe working on or near all its electrical equipment, distribution systems and traction supply systems.
(Contains NR/BS/LI/480)

NR/L3/ELP/22001 **Procedure and Competence Requirements for Persons Undertaking Works in the Vicinity of High Voltage Cables** Issue 1; Aug 08 | **Compliance** 26/08/08 | **Replaces**

This standard is to confirm works undertaken in the vicinity of High Voltage cables are conducted in a manner which minimises risk to persons, cables and the environment.

NR/L3/ELP/25000 **Electrical Safety Measures for Working on the Operational Railway with Overhead Electrification (Trial Areas Only)** Issue 1; Sep 19 | **Compliance** 02/03/20 | **Replaces** New at Issue 113

This modular standard provides a consistent approach to working on the operational railway with overhead electrification, in relation to the dangers arising from working on, or near to, exposed Live parts.

NR/L3/ELP/25000/	Module	Issue	Issue Date
MOD01	General Requirements	1	Sep 2019
MOD02	Assessing Electrical Risk When Working On the Operational Railway with Overhead Electrification	1	Sep 2019
MOD03	Planning of Earthed Isolations	1	Sep 2019

NR/L3/ELP/25000/	Module	Issue	Issue Date
MOD04	Disconnection, Securing, Testing and Earthing of Overhead Line Equipment	1	Sep 2019
MOD05	Site Control Measures to Establish the Electrical Safe System of Work	1	Sep 2019
MOD06	Electrical Safety Documentation	1	Sep 2019
MOD07	Altering the Extent of an Existing Earthed Isolation	1	Sep 2019
MOD08	Restoring the Overhead Line Equipment	1	Sep 2019
MOD09	Emergency Switch-Off and Arranging an Earthed Isolation at Short Notice	1	Sep 2019
Supporting Modules			
MODA	List of Electrical Safety Documents and Forms	1	Sep 2019
MODB	Outage Planning Process	1	Sep 2019
MODC	Local Earthed Isolations	1	Sep 2019
MODD	Earthing of the Overhead Line Equipment	1	Sep 2019
MODE	Traction Return System and Bonding	1	Sep 2019
MODF	Contact Details for Electrical Control Operators	1	Sep 2019
MODG	Introduction to Overhead Line Equipment	1	Sep 2019

NR/L3/ELP/27051 **Working Instructions for DC Electrified Lines in the Liverpool Area – Manual** Issue 6; Sep 19 | **Compliance** 03/01/20 | **Replaces** NR/L3/ELP/27051 Iss 5; Dec 17

The purpose of this standard is to set:
- electrical safety requirements for persons working on or near to 3rd rail DC. electrified lines in the Liverpool area that will enable them carry out their duties without risk of danger from the conductor rail to themselves or other persons and
- railway operating and safety requirements that apply specifically to the underground railway in the Liverpool area and
- requirements for working of trains on the 3rd rail DC electrified lines and associated depots and sidings in the Liverpool area

NR/L3/ELP/27051/	Module	Issue	Issue Date
01	General Instructions for Working On or Near Conductor Rail Equipment	2	Sep 2019
02	Isolation and Emergency Switch Off of Conductor Rails	2	Sep 2019
03	Working of Trains	2	Sep 2019
04	Additional Instructions in Respect of Mersey, Link and Loop Sections	2	Sep 2019
05	Fire and Dangerous Substances, Liquids etc.	2	Sep 2019

NR/L3/ELP/27052 **Working Instructions for DC Electrified Lines on the Northern City Line** Issue 6; Jun 21 | **Compliance** 05/06/21 | **Replaces** NR/L3/ELP/27052 Iss 5; Mar 20

This document contains the working instructions for the dc electrified lines on the Northern City line.

NR/L3/ELP/27052/	Module	Issue	Issue Date
01	Description of Electrification System	1	Mar 2020
02	General Instructions for Working On or Near Conductor Rail Equipment	2	Jun 2021
03	Isolation of Conductor Rails	2	Jun 2021
04	Working of Trains	2	Jun 2021
05	Engineering Work and Obstruction of the Line Within the Tunnel	1	Mar 2020
06	Shut Down Arrangements	2	Jun 2021
07	Station Emergency Evacuation Instructions	2	Jun 2021

NR/L3/ELP/27077 **Single to Three Phase Converter Installations** Issue 3; Aug 08 | **Compliance** 26/08/08 | **Replaces** NR/WI/ELP/27077 Iss 2; Feb 06

This document describes the periodic maintenance requirements for all Single to Three Phase Converter installations associated with Signalling Supplies.

NR/L3/ELP/27115 **Arrangements for Isolation of the Conductor Rail for Pre-planned Possessions of the Line** Issue 4; Sep 18 | **Compliance** 01/12/18 | **Replaces** NR/L3/ELP/27115 Iss 3; Aug 08

These instructions specify the actions and documentation required for staff undertaking isolation in connection with possessions. These instructions supplement the requirements of the DC Electrified Lines Instructions, NR/L3/ELP/3091.

NR/L3/ELP/27122 **Loss of High Voltage Supply to, or the Tripping of, a High Voltage Circuit Breaker for no Known Reason in a Substation Building Containing Metal Clad Switchgear With Bitumastic Compound Filled Busbar Chambers** Issue 3; Jun 08 | **Compliance** 26/08/08 | **Replaces** NR/WI/ELP/27122 Iss 2; Apr 06

This instruction applies to switchgear operating at 11kV and above. If the High Voltage (HV) supply is lost or a HV circuit breaker operates for no known reason in a building equipped with metal clad switchgear with bitumastic compound filled busbar chambers and staff are present at that location, the following instructions shall be carried out. A list of substations where this instruction is applicable shall be produced within each territory and made available in the appropriate electrical control room instructions.

NR/L3/ELP/27134	**Reporting of Electric Track Equipment Defects** Issue 3; Aug 08	**Compliance**	**Replaces** NR/WI/ELP/27134 Iss 2; Feb 06

This work instruction details the procedures to be adopted for reporting defects found during inspections of electric track equipment.

NR/L3/ELP/27135	**Recording Method for DC Safe Setting Calculations** Issue 3; Jun 08	**Compliance** 26/08/08	**Replaces** NR/WI/ELP/27135 Iss 2; Apr 06

This work instruction defines the responsibilities of the Area Electrification and Plant (E&P) Engineer for maintaining the up to date records of all previously calculated d.c. section “safe” settings and carrying out all future d.c. section “safe” setting calculations.

NR/L3/ELP/27140	**Application of Short Circuits for Conductor Rail Isolations** Issue 4; Mar 19	**Compliance** 02/03/19	**Replaces** NR/L3/ELP/27140 Iss 3; Sep 18

This Work Instruction specifies the actions necessary for the application of and removal of short circuits required for the protection of conductor rail isolations as required by:-

- the D.C. Electrified Lines Instructions (NR/L3/ELP/3091)
- the Liverpool Area DC Lines Operating Instructions (NR/L3/ELP/27051)

NR/L3/ELP/27171	**Electrical Insulating Gloves** Issue 3; Jun 21	**Compliance** 04/09/21	**Replaces** NR/WI/ELP/27171 Iss 2; Apr 06

The purpose of this specification is to detail the requirements for insulating gloves for use in live working on electrical equipment up to 1000V AC / 1500 V DC.

NR/L3/ELP/27218	**Preparation or Modification of Comprehensive Track Diagrams** Issue 3; Aug 08	**Compliance** 26/08/08	**Replaces** NR/SP/ELP/27218 Iss 2; Apr 06

This standard is to provide a basis for the preparation or modification of comprehensive track diagrams. It shall apply to all comprehensive track diagrams issued as from the date of this document. Each diagram completed to this standard shall be endorsed, “Drawn to NR/SP/ELP/27218”. Any diagrams without this endorsement may contain dual standards for an interim period.

NR/L3/ELP/27232	**Work Instruction for Defect Reporting** Issue 2; Aug 08	**Compliance** 26/08/08	**Replaces** NR/WI/ELP/27232 Iss 1; Dec 05

This instruction details the procedure to be adopted for written reporting of defects found on:
a) Substation plant, remote control and protection equipment using the standard defect report form TPS/P/155/1; and,
b) HV and pilot/supervisory cables and associated equipment using a standard tick box report form TPS/P/154/1.

NR/L3/ELP/27237	**Overhead Line Work Instructions** Issue 23; Sep 21	**Compliance** 19/11/21	**Replaces** NR/L3/ELP/27237 Iss 22; Mar 21

The OLE work instructions are provided to establish the approved methods for overhead line work.

NR/L3/ELP/27240	**Distribution Work Instructions** Issue 11; Dec 20	**Compliance** 06/03/21	**Replaces** NR/L3/ELP/27240 Iss 10; Sep 20

This document contains Distribution Work Instructions for use by competent persons to carry out maintenance and fault rectification activities.
(Contains NR/BS/LI/464, NR/BS/LI/484)

NR/L3/ELP/27240/	Title	Issue	Issue Date
NR/DIST INDEX	Distribution Equipment Work Instructions Index	11	Dec 2020
NR/DIST PERIODICITY	Distribution Equipment Maintenance Periodicity Matrix	6	Dec 2020
NR/DIST ABBREV.	Distribution Equipment Work Instruction Abbreviations	5	Dec 2020
Inspection and Maintenance of 25 kV Buildings			
NR/DIST C01	Inspection and Maintenance of 25 kV a.c. Switching Stations	5	Dec 2020
NR/DIST C01a	Inspection and Maintenance of WI GIS 25 kV a.c. Feeder Station and Track Sectioning Cabin Metal Buildings	3	Mar 2017
NR/DIST C01b	Documentation, Notices and Signage at Traction and HV Non-Traction Distribution Locations	4	Dec 2020
NR/DIST C01d	Inspection and Maintenance of GEC Alsthom Type Harmonic Filter Equipment	3	Mar 2017
NR/DIST C01e	Inspection of 25kV Rafts & Raft Compounds	2	Mar 2017
Inspection and Maintenance of HV Cables and Cable Routes			
NR/DIST C02	Maintenance of HV Feeder Cables and Cable Routes (Forming the Traction Distribution System)	5	Sep 2020
Inspection and Maintenance of 25 KV a.c. Switchgear			
NR/DIST C03a	Maintenance of K11 25 kV a.c. Switchgear on A.C. Electrified Lines	3	Mar 2017
NR/DIST C03b	Maintenance of GEC Type OX36 Vacuum Switchgear (Structure Mounted Outdoor Switchgear)	3	Mar 2017
NR/DIST C03b(a)	Maintenance of 25kV GEC Type OX SF6 Insulated Vacuum Switchgear Incorporating Sequential Isolators and Associated Equipment	3	Mar 2017

NR/L3/ELP/27240/	Title	Issue	Issue Date
NR/DIST C03c	Maintenance of ABB SACE ESA FLOUR SFE25 Structure Mounted Outdoor Switchgear	3	Mar 2017
NR/DIST C03d	Maintenance of VCB Switchgear	5	Mar 2019
NR/DIST C03f	Maintenance of ABB FSKII Vacuum Switchgear (Structure Mounted Outdoor Switchgear)	1	Mar 2017
NR/DIST C03i	Maintenance of ABB ZX1.5R Switchgear	1	Mar 2016
NR/DIST C03j	Maintenance of Siemens ASG 25 Switchgear.	1	Mar 2017
NR/DIST C03k	Maintenance of Siemens 8DA11 and 8DA12 Switchgear	1	Mar 2019
NR/DIST C03o	Maintenance of Hawker Siddeley VMAG25 Switchgear	2	Mar 2019
NR/DIST C03p	Maintenance of Areva CBR25 Structure Mounted Outdoor Switchgear	1	Jun 2017
NR/DIST C03r	Routine Maintenance of Hawkgas 25 SMOS (Structure Mounted Outdoor Switchgear)	2	Dec 2020
NR/DIST C03s	Routine Maintenance of Areva 25kV WI SF6 Switchgear	1	Jun 2017
NR/DIST C03t	Routine Maintenance of Balfour Beatty TAC1 25kV AIS Switchgear	1	Jun 2017
NR/DIST C03u	Routine maintenance of 25 kV GEC Type OX SF6 Insulated Vacuum Switchgear	2	Jun 2017
Inspection and Maintenance of Transformers			
NR/DIST C04a	Maintenance of Free Breathing and Sealed Booster Transformers	3	Mar 2017
NR/DIST C04b	Maintenance of Oil Filled Transformers Except Boosters	3	Mar 2017
NR/DIST C04b(a)	Routine Maintenance of Oil Filled Transformers in ex AMEC Areas	2	Mar 2017
NR/DIST C04c	Instructions for Testing and Maintenance of Transformer and Switchgear Insulating Oil	4	Jun 2017
NR/DIST C04d	Routine Testing of Buchholz Relays	2	Mar 2017
NR/DIST C04e	Routine Maintenance of Auxiliary Transformers	3	Dec 2020
NR/DIST C04f	Inspection and maintenance of 25kV Isolating Transformer Return Current Isolating Switches	3	Mar 2017
NR/DIST C04g	Maintenance of Outdoor Voltage Transformer SADTEM Model YE7 *(Contains NR/BS/LI/484)*	1	Feb 2022
NR/DIST C04h	Maintenance of Outdoor Voltage Transformer SADTEM Model BBY2 *(Contains NR/BS/LI/484)*	1	Feb 2022
Inspection and Maintenance of Battery Equipment			
NR/DIST C05a	Routine Maintenance of Batteries – Sealed and Top Up Type – and Associated Battery Charging Equipment	5	Dec 2020
NR/DIST C05d	Measurement of Battery Voltage and Impedance, using the BIDDLE C – BITE Battery Condition Tester	3	Mar 2017
NR/DIST C05h	Precautions to be Taken Before Disconnection of Substation Battery from Charger: Pre-War Construction Country Substations	2	Mar 2017
Inspection and Maintenance of LVAC Distribution Boards			
NR/DIST C06	Maintenance of LV AC Distribution Boards	4	Dec 2020
Inspection and Maintenance of Voltage Regulators			
NR/DIST C07a	Maintenance of Voltage Regulators And Regulating Transformers	3	Mar 2017
Inspection and Maintenance of SCADA Equipment			
NR/DIST C08a	Inspection and Maintenance of Transmitton and Foxboro SCADA Equipment	3	Mar 2017
Inspection and Maintenance of Double Pole Disconnectors / Motorised Switches			
NR/DIST C09a	Inspection and Maintenance of South Wales Switchgear Type Rd100 Double Pole Disconnectors	3	Mar 2017
NR/DIST C09b	Maintenance of Switchgear and Equipment (Bowthorpe) British Type S3M motorised switches	3	Mar 2017
NR/DIST C09c	Maintenance of Morris Line Equipment Motorised Switches	3	Mar 2017
Inspection and Maintenance of 25 KV Protection Relay Equipment			
NR/DIST C10a	Routine Inspection and Secondary Injection Testing of LFZP141 OPTIMHO Relay using the ORTS 50 test set when Installed with K11 Switchgear	3	Mar 2017
NR/DIST C10b	Routine Inspection and Secondary Injection Testing of YTG14 Relay using the ORTS 50 Test Set	3	Mar 2017
NR/DIST C10c	Routine Inspection and Secondary Injection Testing of YTG 14 Relay using ORTS 50 Test Set (West Coast Extension only)	3	Mar 2017
NR/DIST C10c(a)	Routine Inspection and Secondary Injection Testing of YTG 14 Relay on VCBs using ZFB Test Set	3	Mar 2017
NR/DIST C10d	Routine Inspection and Secondary Injection Testing of TFH Overload Relay	3	Mar 2017
NR/DIST C10d(a)	Routine Inspection and Secondary Injection Testing of TFH Overload Relay on OCBs	3	Mar 2017
NR/DIST C10e	Routine Inspection and Secondary Injection Testing of SA2 Thermal Relay (K11 25 kV only)	3	Mar 2017
NR/DIST C10f(a)	Routine Inspection and Secondary Injection Testing of SA2 Thermal Relay using ORTS 50 Test Set	3	Mar 2017

NR/L3/ELP/27240/	Title	Issue	Issue Date
NR/DIST C10f(b)	Routine Inspection and Secondary Injection Testing of SA2 Thermal Relay using ORTS 100 Test Set	3	Mar 2017
NR/DIST C10g(a)	Routine Inspection and Secondary Injection Testing of CAG19 Relay using ORTS 50 Test Set	3	Mar 2017
NR/DIST C10g(c)	Routine Inspection and Secondary Injection Testing of CAG19 Instantaneous Overcurrent and Earth Fault Relays on VCBs using ZFB Test Set	3	Mar 2017
NR/DIST C10h	Routine Inspection and Secondary Injection Testing of FGL Instantaneous Attracted Armature Relay	3	Mar 2017
NR/DIST C10h(a)	Routine Inspection And Secondary Injection Testing of FGL Instantaneous Attracted Armature Relay on OCBs	3	Mar 2017
NR/DIST C10j	Routine Inspection and Secondary Injection Testing of DZA and ZFE Protection Relay	3	Mar 2017
NR/DIST C10j(a)	Method of Applying Zone Reach and Timer Settings to DZA and AKE Protection Relays using BR DZ Test Set	3	Mar 2017
NR/DIST C10j(b)	Method of Applying Zone Reach and Timer Settings to DZA and AKE Protection Relays on OCBs	3	Mar 2017
NR/DIST C10k	Routine Inspection and Secondary Injection Testing of K11 Switchgear LFZP 141 OPTIMHO Relay using the ORTS 100 Test Set	3	Mar 2017
NR/DIST C10l	Routine Inspection and Secondary Injection Testing of PBO Overcurrent Relays at Cargo Sub-station Carlisle using the ORTS 100 Test Set	3	Mar 2017
NR/DIST C10m(a)	Routine Inspection and Secondary Injection Testing of LFZP 141 Optimho Relay using ORTS 50 Test Set (For K11 Locations Refer to NR/DIST C10a)	3	Mar 2017
NR/DIST C10m(b)	Routine Inspection and Secondary Injection Testing of LFZP 141 Optimho Relay using ORTS 100 Test Set (WCML WI GIS Locations Refer to NR/DIST C10n)	3	Mar 2017
NR/DIST C10n	Routine Inspection and Secondary Injection Testing of LFZP 141 Optimho Relay at WI GIS Switchgear Sites using ORTS 100 Test Set	3	Mar 2017
NR/DIST C10p	Maintenance of Micom P521 Protection Relay	1	Mar 2019
NR/DIST C10q	Maintenance of Micom P438 Protection Relay	1	Mar 2019
NR/DIST C10r	Maintenance of Micom P921 Protection Relay	1	Mar 2019
NR/DIST C11	Routine Inspection and secondary Injection Testing of CDG and HO4 Protection Relays	3	Mar 2017
NR/DIST C12	Secondary Injection Testing of PBO2 Relays using the ORTS 100 Test Set	3	Mar 2017
NR/DIST C13	Maintenance of Micom P120 Protection Relay	1	Mar 2019
NR/DIST C14	Maintenance of Micom P142 Protection Relay	4	Mar 2019
Isolation and Earthing of 25 kV Switchgear			
NR/DIST C16a	Isolation and Earthing of 25 kV WI SF6 Switchgear	3	Mar 2017
NR/DIST C16b	The Isolation and Earthing of 25kV a.c. Switchgear Manufactured by Messrs Switchgear and Cowans Type K11 and Cable Connections Thereto	3	Mar 2017
NR/DIST C16c	Isolation and Earthing of 25 kV Switching Stations Incorporating Vacuum Circuit Breakers	4	Mar 2019
NR/DIST C16d	Isolation and Earthing of 25 kV Feeder Stations with Harmonic Filters and Vacuum Circuit Breakers	5	Dec 2020
NR/DIST C16e	Isolating and Earthing Structure Mounted Outdoor Switchgear (SMOS) locations (where working instructions for 25 kV electrified lines NR/SP/ELP/29987 apply)	3	Mar 2017
NR/DIST C16f	Isolation and Earthing of SMOS Location not Adjacent to Overhead Line Equipment, using NR/SP/ELP/21067	3	Mar 2017
NR/DIST C16g	Isolation and Earthing for Feeder Switch Maintenance for A.C. Electrified Lines	3	Mar 2017
NR/DIST C16h	Isolation and Earthing at Hackney Downs No 2 Track Sectioning Cabin	4	Mar 2019
NR/DIST C16i	Isolation and Earthing at Incline Track Sectioning Cabin	4	Mar 2019
NR/DIST C16j	Isolation and Earthing at York Way Track Sectioning Cabin	4	Mar 2019
NR/DIST C16k	Isolation and Earthing of Isolation Transformers at Dollands Moor	3	Mar 2017
NR/DIST C16l	Isolation and Earthing for Isolating Transformer, Associated Cables and Equipment at West London Junction, Mitre Bridge Junction and Scrubbs Lane	3	Mar 2017
NR/DIST C16m	Isolation and Earthing at Old Oak Common Feeder Station No 1 Including Cables to North Pole Depot and Interconnector Cables to Old Oak Common Feeder Station No 2 and Acton Lane and their Isolators	3	Mar 2017
NR/DIST C16n	Isolation and Earthing at DraytonPark A & B Track Sectioning Cabin	4	Mar 2019
NR/DIST C16p	Isolation and Earthing of 25 kV Siemens 8DA GIS Switchgear	1	Mar 2019
NR/DIST C16q	Isolation and Earthing of 25 kV ABB ZX1.5R GIS Switchgear	1	Mar 2017
NR/DIST C16r	Isolation & Earthing of Siemens ASG25 Air Insulated Vacuum Switchgear	1	Mar 2019
NR/DIST C16s	Isolation and Earthing of Balfour Beatty TAC1 25kV AIS Switchgear at Paisley TSC	1	Jun 2017
NR/DIST C16t	Isolation and Earthing of Autotransformer Feeder Cables installed as part of the Autotransformer System between Welwyn B ATFS and Hitchin SATS	2	Sep 2020
Isolation and Earthing of HV equipment			
NR/DIST C17a	Northern City line: Isolation of 11 kV Switchgear, HV Cables and Associated Equipment	3	Mar 2017

NR/L3/ELP/27240/	Title	Issue	Issue Date
NR/DIST C17b	Electrification: use of ASEA Raft Isolation and Earthing Instructions	2	Mar 2017
Condition Assessments			
NR/DIST C19a	Condition Assessment for 25 kV Distribution Assets	2	Mar 2017
NR/DIST C19b	Condition Assessment for HV & DC Distribution Assets	2	Mar 2017
Inspection and Maintenance of DC Traction Buildings and Raft Equipment			
NR/DIST C20a	Routine Inspection and Maintenance of Substations and Associated Buildings on DC Electrified Lines *(Contains NR/BS/LI/464)*	5	Mar 2021
NR/DIST C20d	Routine Examination of Outdoor Raft Reinforced Concrete Structures	2	Mar 2017
NR/DIST C20d(a)	Routine Maintenance of Outdoor Raft Equipment	2	Mar 2017
Inspection and Maintenance of HV Feeders (including oil filled)			
NR/DIST C21a	Routine Maintenance and Testing Instructions for the Type 78 Low Oil Pressure Indicator Panel	2	Mar 2017
Testing Procedures			
NR/DIST C22a	Pressure Testing Procedure	2	Mar 2017
NR/DIST C22b	Instruction for Vacuum Interrupter Pressure Test for Equipment used on 11kv VCB'S (GEC Type VMX, MXS, Brush Type FV and W&B Type CV)	2	Mar 2017
Inspection and Maintenance of HV 3 Phase Switchgear			
NR/DIST C22c	Routine Maintenance of 33kv Oil Circuit Breaker GEC Type JB424 form WM3.	2	Mar 2017
NR/DIST C22c(a)	Routine Inspection of the Top Cap Assembly on JB424 OCB Bushings	2	Mar 2017
NR/DIST C22d	Routine Maintenance of 33kV, 750MVA Metalclad Switchgear GEC Type KC	2	Mar 2017
NR/DIST C22e	Routine Maintenance of 33kV Switchgear – Switchgear & Cowan Type K4	2	Mar 2017
NR/DIST C22f	Routine Maintenance of 33kV SF6 Switchgear – South Wales Switchgear Type HAWKGAS 36	2	Mar 2017
NR/DIST C22g	Routine Maintenance of 11kV Switchgear – Whipp & Bourne Type CV	2	Mar 2017
NR/DIST C22h	Routine Maintenance of 11kV Switchgear – GEC Type KA	2	Mar 2017
NR/DIST C22k	Routine Maintenance of 11kV Switchgear Long and Crawford Ltd Type WPD-2 Mark I	2	Mar 2017
NR/DIST C22m	Routine Maintenance of 11kV Oil Circuit Breaker South Wales Switchgear Type C4X	2	Mar 2017
NR/DIST C22n	Instruction for the Routine Maintenance of a Calor EMAG 33kV SF6 – Insulated Vacuum Interrupter Circuit Breaker Type ZV2.	2	Mar 2017
NR/DIST C22p	Routine Maintenance of ABB. 11kV AND 22kV SF6 Circuit Breakers Type "SAFESIX" and Associated Equipment within the Circuit Breaker Cubicle	2	Mar 2017
NR/DIST C22s	Routine Maintenance of Weatherproof Metal Enclosed SF6 Ring Main Unit Ringmaster 2, Yorkshire Switchgear Ltd.	2	Mar 2017
NR/DIST C22t	Routine Maintenance of 33 kV Switchgear – Reyrolle Type L800T	2	Mar 2017
NR/DIST C22u	Routine Inspection, Examination and Overhaul of GEC Type VMX Switchgear	2	Mar 2017
NR/DIST C22v	Routine Maintenance of ABB ZX0 11 kV Gas Insulated Switchgear	1	Mar 2017
NR/DIST C22w	Maintenance of Schneider VISAX 12 kV and 24 kV Switchgear	1	Mar 2019
NR/DIST C22x	Routine Maintenance of ABB ZX1.1 and ZX1.2 Gas Insulated Switchgear	1	Mar 2017
NR/DIST C22y	Routine Maintenance of Areva WSA 33 kV Gas Insulated Switchgear	1	Mar 2017
NR/DIST C22z	Maintenance of Eclipse 12 kV Metalclad Vacuum Switchgear	1	Mar 2019
Testing of Protection Relay Equipment (DC Electrification)			
NR/DIST C23a	Routine Testing of Reyrolle Solkor 'A' Feeder Protection Relay	2	Mar 2017
NR/DIST C23b	Routine Testing of Reyrolle Solkor 'B' Feeder Protection Relay	2	Mar 2017
NR/DIST C23c	Routine testing of GEC MIDOS Type MVAJ13 Tripping and Control Relay	2	Mar 2017
NR/DIST C23d	Routine Testing of GEC MIDOS Type MBC1 Translay 'S' Differential Feeder Protection Relays with GEC MIDOS Type MRTP01 Pilot Supervision Relays and Type MRTP02 Injection Filters.	2	Mar 2017
NR/DIST C23e	Instruction for Routine Inspection and Secondary Injection Testing of F.G.L. – Instantaneous Attracted Armature Relay	2	Mar 2017
NR/DIST C23f	Routine Testing of GEC MIDOS Type MCGG41 Protection Relay	2	Mar 2017
NR/DIST C23g	Routine Testing of GEC MIDOS Type MCGG11 Protection Relay	2	Mar 2017
Routine Maintenance of Rectifier Equipment			
NR/DIST C24a	Traction Power Supply Silicon Rectifiers.	2	Mar 2017
NR/DIST C24b	Traction Rectifier Diode Test Procedure	2	Mar 2017
Routine Maintenance and Testing of DC Switchgear			

NR/L3/ELP/27240/	Title	Issue	Issue Date
NR/DIST C25a	Routine Maintenance of DC High Speed Circuit Breaker – GEC Type 831 Forms A & E	2	Mar 2017
NR/DIST C25b	Routine Maintenance of DC High Speed Circuit Breaker BTH/AEI Type RJR 721 Form A1, A2, A3 and E.	2	Mar 2017
NR/DIST C25c	Routine Maintenance DC, High Speed Circuit Breaker Bertram Thomas, Type HSE.	2	Mar 2017
NR/DIST C25d	Routine Maintenance of DC HSCB Whipp & Bourne Type MM74 *(Contains NR/BS/LI/464)*	3	Mar 2021
NR/DIST C25e	Instruction for Changing the Main Pull Off Springs on a Whipp & Bourne MM 74 High Speed DC Circuit Breaker	2	Mar 2017
NR/DIST C25f	Routine Maintenance of D.C. High Speed Circuit Breaker – GEC Types - RJR 530 Form H, J, K, and L,: RJR 721 Form K and M, : RJR 561 Form C	3	Dec 2020
NR/DIST C25g	Routine Maintenance of GEC RJR 526C D.C. Rectifier High Speed Circuit Breaker	2	Mar 2017
NR/DIST C25h	Routine Maintenance of DC High Speed Circuit Breaker Secheron UR36 ED 71S & UR40 ED 71S	2	Mar 2017
NR/DIST C25k	Procedure for Replacement and Setting of Kinetrol Dampers Fitted to RJR High Speed Circuit Breakers.	2	Mar 2017
NR/DIST C25m	RJR HSCB's: - Drop Out Current Adjustment when Changing a Holding Coil.	2	Mar 2017
NR/DIST C25n	Routine Maintenance of Whipp & Bourne Wall Mounted 200 amp (Shed) Circuit Breaker (Merseyrail)	2	Mar 2017
NR/DIST C25p	Routine Maintenance of GEC Wall Mounted (Shed) Circuit Breaker	2	Mar 2017
NR/DIST C25r	Routine Maintenance of DC High Speed Circuit Breakers Bertram Thomas Type HSE Installed at West End Lane and Bushley Substations	2	Mar 2017
NR/DIST C25s	Routine Maintenance of 750V DC Tecnivel Contactor Panels and Associated Equipment Installed in Traction and Rolling Stock Depots	2	Mar 2017
NR/DIST C25t	Routine Maintenance of 750V DC Disconnect Switches	2	Mar 2017
NR/DIST C25u	Routine Maintenance of Controlled Track Isolators.	2	Mar 2017
NR/DIST C25v	Routine Maintenance of GE Rapid High Speed DC Circuit Breaker Assembly (as Fitted in Siemens DSG and Balfour Beatty DC Switchgear)	1	Mar 2017
NR/DIST C25x	Routine Maintenance of Hawker Siddeley Lightning NDC Switchgear	1	Mar 2017
NR/DIST C25y	Routine Maintenance of d.c. Negative Short Circuiting Device 4kA Hawker Siddeley Switchgear NDC Type Bonding Switch	1	Mar 2017
NR/DIST C25z	Routine Maintenance of d.c. Negative Short Circuiting Device 2.5kA LC Switchgear Type 8800488	1	Mar 2017
NR/DIST C26a	Instruction for Measurement and Adjustment of Drop- out Current for Whipp and Bourne Type MM74 HSCB Falling Voltage Unit	2	Mar 2017
NR/DIST C26a(a)	Temporary Instruction for Testing Whipp & Bourne MM74 Circuit Breakers	2	Mar 2017
NR/DIST C26b	Measurement and Adjustment of "drop out" Current for Bertram Thomas, Type HSE, High Speed Circuit Breakers	2	Mar 2017
NR/DIST C26c	Measurement and Adjustment of "drop out" Current for Bertram Thomas, Type HSL, High Speed Circuit Breakers	2	Mar 2017
NR/DIST C26d	Measurement and Adjustment of "drop out" Current for BTH/AEI, Type RLR 151 Form A High Speed Circuit Breaker	2	Mar 2017
NR/DIST C26e	Measurement and Adjustment of "drop-out" Current for GEC Type RJR High Speed Circuit Breakers	2	Mar 2017
NR/DIST C26f	Testing and Examination of PCU-P 6006 Protection and Control Units fitted to Scheron High Speed Circuit Breakers	2	Mar 2017
NR/DIST C26h	Routine Testing of Track Circuit Protection Unit	2	Mar 2017
NR/DIST C26j	T.C.R. Monitor/Trip Relays and Associated Low Voltage Alarm Setting up Procedures.	3	Dec 2020
NR/DIST C26k	Guidance on D.C. Frame Leakage Systems (Including Testing)	1	Dec 2020
NR/DIST C26l	Routine Testing of D.C. Frame Leakage Protection - Whipp & Bourne MM74	1	Dec 2020
NR/DIST C26m	Routine Testing of D.C. Frame Leakage Protection - Secheron UR36/UR40	1	Dec 2020
NR/DIST C26n	Routine Testing of D.C. Frame Leakage Protection - Balfour Beatty GE-Rapid	1	Dec 2020
NR/DIST C26o	Routine Testing of D.C. Frame Leakage Protection - Siemens DSG & 8MF94 Second Generation	1	Dec 2020
NR/DIST C26p	Routine Testing of D.C. Frame Leakage Protection - Siemens 8MF94 First Generation	1	Dec 2020
NR/DIST C26q	Routine Testing of D.C. Frame Leakage Protection – Hawker Sidderley Switchgear NDC4	1	Dec 2020
NR/DIST C26r	D.C. Frame Leakage Test Record Sheet	1	Dec 2020
Conductor Rail Heating Control Panels			
NR/DIST C27a	Maintenance of Eltherm Conductor Rail Heating Control Cabinets	1	Mar 2017
NR/DIST C27b	Maintenance of LCS Conductor Rail Heating Switch Panels	1	Mar 2017
Routine Inspection and Testing of Earth Electrodes / Mats / VLDs / Spark Gaps			
NR/DIST C28a	Routine Inspection and Testing of Earth Electrodes / Earth Mats at Substations and Other Supply Points.	2	Mar 2017
NR/DIST C28b	Maintenance of Non Linear Resistor Modules & Spark Gap (Soule) Devices	1	Mar 2017
Inspection and Testing of HV Tools and Equipment			

NR/L3/ELP/27240/	Title	Issue	Issue Date
NR/DIST C29a	Inspection and testing of Glass-Fibre Earthing Pole used on 33kv Outdoor Raft Systems	2	Mar 2017
NR/DIST C29b	Testing instruction for Edgcumbe Instruments 15kV High Voltage Indicator Type F0356A and Proving Unit Type F0300A	2	Mar 2017
NR/DIST C29c	Examination of Edgcumbe Instruments Live Line Tester F0257B, Phasing Rods F0259B, and Proving Unit FOP01B/2 for use on 33kV AC Systems	2	Mar 2017
NR/DIST C29d	Maintenance and care of Edgecumbe Instruments 33kV Live Line Tester Type FO257B and Proving Unit Type FOPO1B/2	2	Mar 2017
NR/DIST C29e	Routine Maintenance of Portable Earthing Equipment – P&B Type for Outdoor High Voltage Equipment	2	Mar 2017
Miscellaneous			
NR/DIST C30a	Instruction for the Jointing Procedures of Aluminium, Copper or Plated Copper in any Combination Except Aluminium to Copper.	2	Mar 2017
NR/DIST C30b	Instruction for the Installation or Modification of Interconnection Wiring for Distribution Equipment	2	Mar 2017
NR/DIST C30c	Recovery of Traction Distribution Equipment Following Catastrophic Failure	1	Mar 2017
NR/DIST C31	Reserved		
Traction Distribution Equipment (on Trial)			
NR/DIST C32a	Routine Maintenance of D.C. Track Feeder Switch (TFS) and TFS Remote Control Panel (RCP);	3	Mar 2020
25 kV Distribution Equipment			
NR/DIST C33a	Maintenance of Wales and Western Region 25 kV A.C. Distribution Equipment	3	Dec 2020
NR/DIST C33b	Maintenance of Autotransformers	2	Mar 2019
NR/DIST C33c	Maintenance of 25kV autotransformer SMOS substation Auxiliary Equipment Enclosure (AEE) Buildings and Substation Compounds	3	Dec 2020
NR/DIST C33d	Maintenance of AquaSentry Bund Pump	2	Mar 2019
NR/DIST C33e	Maintenance of LV Isolating Transformers	2	Mar 2019
NR/DIST C33f	Isolation and Earthing of Western Route (not Crossrail) SMOS Light Equipment not Adjacent to Overhead Line Equipment, using NR/SP/ELP/21067	2	Mar 2019
NR/DIST C33h	Maintenance of 25kV Track-side Driescher Motor Operated Switch (MOS) and Circuit Main Earth (CME)	2	Mar 2019
NR/DIST C33j	Maintenance of ABB SMOS Light 25kV Switchgear Pallets and Busbars	2	Dec 2020
NR/DIST C33k	Maintenance of TSS Control Cabinet	1	Mar 2019
NR/DIST C33l	Maintenance of RATS Automation and IPC Systems on Wales and Western Region Only	1	Dec 2020
NR/DIST C34a	Isolation of the Ludgate Cellars Substation A.C./D.C. Interface D.C. Contactor Suites	1	Dec 2020
NR/DIST C34b	Isolation of the A.C./D.C. Interface Trackside Slave Contactor (TSC) Panels	1	Dec 2020
NR/DIST C34c	Routine Maintenance of the A.C./D.C. Interface D.C. Contactors at Ludgate Cellars Substation	1	Dec 2020
NR/DIST C34d	Routine Maintenance of the A.C./D.C. Interface Programmable Logic Controller (PLC) at Ludgate Cellars Substation	1	Dec 2020
NR/DIST C34e	Routine Maintenance of the A.C./D.C. Interface Trackside Slave Contactor (TSC) Panels	1	Dec 2020
NR/DIST C34f	Isolation of the A.C./D.C. Interface Ludgate Cellars Rectifiers R3, R4, R5, R6	1	Dec 2020
NR/DIST C34g	Isolation of D.C. Voltage Monitoring Panels Installed at Ludgate Cellars Substation	1	Dec 2020
NR/DIST C34h	Routine Maintenance of D.C. Voltage Monitoring Panels Installed at Ludgate Cellars Substation	1	Dec 2020

NR/L3/ELP/27241 **Fixed Plant Work Instructions** Issue 5; Sep 21 **Compliance** 26/03/2022 **Replaces** NR/L3/ELP/27241 Iss 4; Sep 11

This specification details the particular actions to be undertaken during maintenance activities performed on Network Rail's fixed plant equipment.

Ref	Title	Issue	Issue Date
NR/FP A001	Fixed Plant Work Instruction Index	5	Sep 2021
NR/FP A002	Exam Codes	4	Sep 2011
NR/FP C001	Points Heating - Electric	5	Sep 2021
NR/FP C005	Condition of Points Heating - Electric	4	Sep 2011
NR/FP C020	Signalling Principal Supply Point Switchgear and Control Gear	5	Sep 2021
NR/FP C021A	Bender IRDH265 (RS2) Readings & Test Instructions	5	Sep 2021
NR/FP C022A	Portable Insulation Monitoring Tester – Operating Instructions	5	Sep 2021
NR/FP C040	Fixed Standby Diesel Generators	5	Sep 2021
NR/FP C060	Uninterruptible Power Supplies (10 kVA & above)	5	Sep 2021
NR/FP C100	Functional Supply Points (FSPs)	5	Sep 2021
NR/FP C101	SIGNET Automatic Recloser	4	Sep 2011

Ref	Title	Issue	Issue Date
NR/FP C140	Non-Traction High Voltage Apparatus & Substations/Compounds	4	Sep 2011
NR/FP C180	Electricity Supply Points, Distribution Cabinets Switchboards & Associated Cables Except Signalling Supplies	4	Sep 2011
NR/FP C181	Periodic Inspection & Testing of Fixed 'Low Voltage' Electrical Installations	4	Sep 2011
NR/FP C200	Banavie Moving Bridge	4	Sep 2011
NR/FP C202	Goole Moving Bridge	4	Sep 2011
NR/FP C203	Selby Moving Bridge	4	Sep 2011
NR/FP C204	Hull River Moving Bridge	4	Sep 2011
NR/FP C205	Keadby Moving Bridge	4	Sep 2011
NR/FP C220	External Fixed Lighting Installations	4	Sep 2011
NR/FP C221	Internal Fixed Lighting Installations	4	Sep 2011
NR/FP C270	Maintenance of Pumping Equipment	4	Sep 2011
NR/FP C300	Unmanned Lineside Building Services	4	Sep 2011
NR/FP C400	Maintenance of Electrical Installation & Transducer Connections for WheelChex Installations	4	Sep 2011
NR/FP C400/F001	WheelChex Electrical Testing Results	1	Sep 2011
NR/FP C400/F002	WheelChex Electrical Inspection Record	1	Sep 2011
NR/FP C500	Shore Supplies	4	Sep 2011

NR/L3/ELP/27250 **Conductor Rail Equipment Working Instructions** Issue 4; Dec 18 | **Compliance** 02/03/2019 | **Replaces** NR/L3/ELP/27250 Iss 3; Mar 18, NR/L3/ELP/27424 Iss 1; Mar 18

This standard holds the index for the conductor rail work instructions modules which control a range of risks to staff, equipment and trains associated with working on conductor rail equipment.

NR/L3/ELP/27404 **Management of Request for Extended DC Feeding Arrangements** Issue 1; Dec 09 | **Compliance** 05/06/10 | **Replaces** New at Issue 74

The purpose of this procedure is to define the method to be followed on receipt of a request for extended d.c. feeding.

NR/L3/ELP/27406 **Engineering Deliverable Requirements for Electrical Power Asset Design** Issue 2; Dec 11 | **Compliance** 03/03/12 | **Replaces** NR/L3/ELP/27406 Iss 1; Jun 11

The purpose of this specification is to provide the requirements for the engineering deliverables required to support the stages of assurance defined in NR/L2/ELP/27311

NR/L3/ELP/27406/	Tiitle	Issue	Date
MOD A	Generic Requirements	2	Dec 2011
MOD B	Contact Systems – OLE	2	Dec 2011
MOD C	Contact Systems – Conductor Rail	1	Dec 2011
MOD D	SCADA	1	Dec 2011
MOD E	Signalling Power Supplies	1	Dec 2011
MOD F	Points Heating	1	Dec 2011
MOD G	Lighting	1	Dec 2011
MOD H	AC Networks (25kV AC)	1	Dec 2011
MOD I	Protection (25kV AC)	1	Dec 2011
MOD J	DC Networks (DC and 3 Phase)	1	Dec 2011
MOD K	Protection (DC and 3 Phase)	1	Dec 2011
MOD L	AC/DC Traction Power Supply Interfaces	1	Dec 2011

NR/L3/ELP/29987 **Working on or About 25kV AC Electrified Lines** Issue 6; Sep 21 | **Compliance** 19/11/21 | **Replaces** NR/SP/ELP/29987 Iss 5; Dec 18

This modular standard will produce a consistent approach to working on or about 25 kV electrified lines in relation to the dangers arising from proximity to live equipment. This overarching standard for the modules will provide an introduction to the suite of modules and produce consistent use of terminology in the application of the standard.

NR/L3/ELP/29987/	Tiitle	Issue	Issue Date
1	General Requirements	6	Sep 2021
2	Assessment of Electrical Risks	5	Dec 2018
3	Management of Electrical Risks	5	Dec 2018
4	Maintaining the Integrity and Safe Operation of 25 kV A.C. Electrified Lines	6	Sep 2021
5	Particular Actions to be Taken by the Infrastructure Maintainer	5	Dec 2018
6	Planning of Isolations	6	Sep 2021
7	Isolation and Earthing of Overhead Line Equipment	6	Sep 2021
8	Local Isolation and Earthing of Overhead Line Equipment	5	Dec 2018
9	Isolation and Earthing when Constructing or Dismantling Overhead Line Equipment	5	Dec 2018

NR/L3/ELP/29987/	Tiitle	Issue	Issue Date
10	Use of Voltage Testing Devices, Portable Earthing Equipment and Temporary Continuity Jumpers	6	Sep 2021
11	Working On Overhead Line Equipment	5	Dec 2018
12	Management of Local Isolation Instructions for Overhead Line Equipment	5	Dec 2018
X	Securing of points of disconnection for earthed isolations on new electrification infrastructure	3	Sep 2021
Y	Isolation and Earthing of Sheffield Tram Train D.C. Overhead Electrified Lines.	2	Dec 2018

Work Instructions

NR/WI/ELP/27096 **Work Instruction for Production of Mean and Peak Current Profiles for 25kV AC Electrification** Issue 2; Dec 05 **Replaces** RT/E/S/27096 Iss 1; Dec 04

This instruction sets out the methods followed when producing mean and peak current profiles for the 25 kV ac, 50 Hz overhead line electrification system.

NR/WI/ELP/27114 **Work Instruction for Carrying out Testing on all Electrified Lines** Issue 2; Dec 05 **Replaces** RT/E/WI/27114 Iss 1; Dec 04

This instruction sets out the requirements for carrying out testing of electrification systems and equipment.

NR/WI/ELP/27116 **Standard for Replacement Components to be Used on Electrification Equipment** Issue 2; Apr 06 **Replaces** RT/E/WI/27116 Iss 1; Dec 04

This instruction defines the requirements of replacement components to be used on electrification equipment.

NR/WI/ELP/27127 **Work Instruction for Network Rail/Euro Tunnel Electrical Interface at Folkestone Operating and Maintenance Procedures** Issue 2; Dec 05 **Replaces** RT/E/WI/27127 Iss 1; Dec 04

This instruction sets out the electrical operating and maintenance procedures for work on the overhead catenary system, permanent way and distribution equipment at the interface between Network Rail and Eurotunnel at Folkestone.

NR/WI/ELP/27173 **Application of a BR Standard Short Circuiting Bar in an Emergency** Issue 2; Apr 06 **Replaces** RT/E/WI/27173 Iss 1; Dec 04

This work instruction gives details of the short circuiting bars provided for use in an emergency to isolate the current to the dc third rail system, also the DC fourth rail systems between Richmond and Gunnersbury or Wimbledon and East Putney, in certain defined circumstances.

NR/WI/ELP/27231 **Work Instruction for the Operation of 11kV Supplies at Slade Green Depot, Ashford IECC and Victoria Station** Issue 1; Dec 05 **Replaces**

This instruction covers the working arrangements for the above named sites and should be read in conjunction with the appropriate drawings.

RT/E/WI/00112 **Isolation and Earthing Instructions for Cauldwell Depot TSC** Issue E1; Sept 04 **Replaces**

These instructions apply specifically to Cauldwell Depot TSC for the isolation and earthing of Cauldwell Depot TSC complete including interconnector cable BE/CL and outgoing feeder cable CL/635.

RT/E/WI/27130 **Local Operation Instruction – Weymouth Station Alternative Track Feeding Arrangements** Issue 1; Dec 04 **Replaces** TPS/O/805

Former BRB standard, migrated to Network Rail template, December 04

Guidance Notes (including Codes of Practice)

NR/GN/ELP/00011 **Guidance Note for Uninterruptible Power Supply (UPS) Equipment** Issue 3; Oct 05 **Replaces** RT/E/G/00011 Iss 2; Aug 02

These guidance notes are intended to advise Network Rail staff about the principal considerations regarding the application of Uninterruptible Power Supplies (UPS) for railway infrastructure. This document is aimed at UPS systems with a rating of 20kVA upwards for signalling installations however much of the guidance is applicable to smaller units and other installations.

NR/GN/ELP/00015 **Guidance Note for Signalling Power Supply Design** Issue 4; Feb 07 **Replaces** NR/GN/ELP/00015 Iss 3; Oct 05

This guidance note provides advice to Network Rail engineers, principal contractors and designers about the process required to design a signalling power supply for railway Infrastructure. The principles contained within this guide should be applied to any signalling supply installation.

NR/GN/ELP/24015	**Guidance for the Technical Management of Booster Transformer Outages** Issue 2; Dec 05	**Replaces** RT/E/G/24015 Iss 1; Feb 02

These guidance notes support the Network Rail Company procedure for managing the outages of booster transformers on 25kV ac 50 Hz electrified lines and assist the Zone Electrification and Plant Engineer in assessing the actions required to be taken in the event of booster transformer outage(s).

NR/GN/ELP/27006	**Calculation of Protection Settings for DC Track Feeders** Issue 2; Apr 06	**Replaces** RT/E/C/27006 Iss 1; Oct 98

This document sets out approved procedures and data for the calculation of protection settings for track feeders on dc electrified routes. It is designed to present best available practice in order to meet the requirements of Network Rail Business Process Standard RT/E/S/21051.

NR/GN/ELP/27019	**Design and Installation of Composite Aluminium/stainless Steel Conductor Rail and Associated Equipment on DC Electrified Lines** Issue 2; Apr 06	**Replaces** RT/E/C/27019 Iss 1; Mar 98

This guidance note states the best practice for the design, manufacture, installation and testing of aluminium/stainless steel composite conductor rail and associated equipment on Network Rail dc electrified lines. This document is to be read in conjunction with the electric track equipment drawings and NR/SP/ELP/21104 ‘Design and installation of electric track equipment for dc electrified lines’.

NR/GN/ELP/27020	**Design and Installation of Steel Conductor Rail and Associated Equipment for DC Electrified Lines** Issue 2; Apr 06	**Replaces** RT/E/C/27020 Iss 1; Mar 98

This guidance note states the best practice for the design and installation of steel conductor rail and associated electric track equipment on Network Rail dc electrified lines including those which are designated ‘standard current’ and ‘high current’ This document is to be read in conjunction with the electric track equipment drawings and NR/SP/ELP/21104 ‘Design and installation of electric track equipment for dc electrified lines’.

NR/GN/ELP/27022	**Design and Installation of Negative Bonding and Associated Equipment on DC Electrified Lines** Issue 2; Apr 06	**Replaces** RT/E/C/27022 Iss 1 Mar 98

This specification states the best practice for the design, manufacture, installation and testing of negative bonding and associated equipment on Network Rail dc electrified lines including those which are designated ‘standard current’ and those designated ‘high current’. This document is to be read in conjunction with the electric track equipment drawings and NR/SP/ELP/21104 ‘Design and installation of electric track equipment for dc electrified lines’

NR/GN/ELP/27036	**Guidance for Electric Cable Installations Associated With Plant and Machinery in B.R. Underground and Other Specified Locations** Issue 2; Dec 05	**Replaces** RT/E/C/27036 Iss 1; Dec 04

The objective of this document is to give guidance to plant and machinery and BES engineers who are responsible for the design and installation of cable systems in BR underground and other specified locations.

NR/GN/ELP/27043	**Protection Standards and Methods of Calculation for 25kV AC Electrified Lines** Issue 2; Feb 06	**Replaces** RT/E/C/27043 Iss 1; Dec 04

RT/E/C/27043 has been re-issued as a SAF3 Business Process Document NR/GN/ELP/27043.

NR/GN/ELP/27138	**DC Electrified Track, Electrical Protection Arrangements for Work on or Near Conductor Rails** Issue 2; Feb 06	**Replaces** RT/E/WI/27138 Iss 1; Dec 04

RT/E/WI/27138 has been re-issued as a SAF3 Business Process Document NR/GN/ELP/27138. This guidance note details the electrical protection arrangements when working on or near the conductor rail.

NR/GN/ELP/27186	**The Installation of Switching Station Slab Foundation Bases** Issue 2; Feb 06	**Replaces** RT/E/S/27186 Iss 1; Dec 04

This guidance note describes the method of installation of concrete slab bases for switching stations.

NR/GN/ELP/27198	**Identification of Bonds on all Electrified Lines Except the Southern Areas of Network Rail** Issue 2; Apr 06	**Replaces** RT/E/S/27198 Iss 1; Dec 04

This document assists all staff patrolling the track who are required to report the location and identity of bond cables which they regard as being damaged or defective. Reports of damaged and defective bonding must be reported to the E.C.O. by patrolling staff.

NR/GN/ELP/27233	**Characteristics of Railway Electrification Traction Power Supplies** Issue 1; Dec 05	**Replaces**

This document describes the electrification traction power systems forming part of the Network Rail’s railway infrastructure.

NR/GN/ELP/27244	**Guidance for Signalling Power Supplies** Issue 1; Aug 06	**Replaces**

This document supports NR/SP/ELP/27243: Specification for signalling power supplies. This document provides guidance on the requirements of its counterpart standard.

NR/GN/ELP/27247	**Guidance for Electrical Installations on Rail Premises (Including Plugs, Sockets, Trailing Leads and Appliances)** Issue 1; Dec 05	**Replaces**

This document provides guidance on the requirements to be adopted for electrical installations on railway premises (including plugs, sockets, trailing leads and associated appliances). It should be used in conjunction with the current edition of the BS 7671 (I.E.E. Regulations for Electrical Installations) and any other relevant Regulations and Legislation.

NR/GN/ELP/27310	**Management of Signalling Power Supplies** Issue 1; Apr 06	**Replaces**

This document provides guidance on the responsibilities associated with the management of signalling power supplies. The document ensures that members of the engineering function understand their responsibilities within the current organisation.

NR/GN/ELP/27312	**Impedances of 25kV AC Overhead Lines for Classic System** Issue 1; Dec 06	**Replaces**

This guidance note contains information on the impedances of the 25 kV ac overhead lines and related items, for use by electrical design engineers who calculate line voltage drops or the settings of the feeder protection relays.

NR/GN/ELP/27313	**Management of Building Services** Issue 1; Dec 06	**Replaces**

This document provides guidance on the responsibilities associated with the management of building services. The document ensures that members of the engineering function understand their responsibilities within the current organisation.

NR/GN/ELP/27315	**Management of Power Supplies to Telecomms Equipment** Issue 1; Aug 07	**Replaces**

This document provides guidance on the responsibilities associated with the management of telecomms power supplies. The document ensures that members of the engineering function understand their responsibilities within the current organisation

NR/GN/ELP/27319	**Fixed Plant Standards Maps** Issue 2; Aug 07	**Replaces** NR/GN/ELP/27139 Iss 1; Jun 07

The purpose of this guidance note is to provide information on the standards which apply to different areas within fixed plant. The guidance is provided in the form of maps for individual topic areas.

NR/GN/ELP/27407	**Guidance on Taking Possession of Withdrawable DC Circuit Breakers** Issue 1; Mar 11	**Replaces** New at Issue 79

This Guidance Note will provide all areas where DC circuit breakers are used with access to the best practise procedure for taking and clearing possession of withdrawable DC circuit breakers under routine maintenance

NR/GN/ELP/27415	**Calculation and Analysis of Overhead Contact System Geometry** Issue 1; Dec 15	**Replaces** New at Issue 98

This document describes the basic Overhead Contact System geometry calculations that are required to demonstrate compliance to the Company Standard NR/L2/ELP/21087 Specification of Maintenance of 25kV Overhead Line Electrification Equipment.

NR/GN/ELP/27600	**Index of Standard Electrical Power Forms** Issue 2; Mar 17	**Replaces** NR/L3/ELP/27600 Iss 1; Sep 10

This standard provides the index and version control for standard electrical power forms. These forms are used to control a range of risks across the electrification and power asset base. In particular, their use will reduce the risks associated with misunderstandings by enabling consistency of data capture and terminology.

RT/E/C/45002	**The Installation of Electric Point Heating** Issue 4; Jun 2003	**Replaces** RT/E/C/45002 Iss 3; Oct 01

This document states the best practice for the design, layout, installation and commissioning requirements of generic types of electric point heating systems.

RT/E/G/27225	**Guidance Manual for Stations and Depots – Equipment Maintenance** Issue 1; Jun 05	**Replaces** See below

Replaces: RT/E/S/40002 – 04, 07, 08, 10, 11, 13, 15, 16, 18, 19, 21, 23, 26, 27, 32, 33, 36, 44
This guidance manual describes maintenance practices, including minimum maintenance attention, for station and depot plant and equipment, and is to be read in conjunction with the relevant contract documentation.

Special Inspection Notices

NR/SIN/189	**DC Frame Leakage Protection** Issue 1; Jun 20	**Compliance** 06/02/21	**Replaces** New at Issue 116

The purpose of this Special Inspection Notice (SIN) is to confirm the operational status of DC Frame leakage systems on both first and second generation metal clad DC traction switchboards and to address any deficiencies found.

NR/SIN/198	**PCB Contaminated Equipment** Issue 1; Dec 20	**Compliance** 12/03/21	**Replaces** New at Issue 118

The purpose of this Special Inspection Notice (SIN) is to identify all Electrical Power equipment on Network Rail infrastructure that contains, or may contain, Polychlorinated Biphenyls (PCBs), as defined by the following legislation:
• The Environmental Protection (Disposal of Polychlorinated Biphenyls and other Dangerous Substances) (England and Wales) Regulations 2000 and
• The Environmental Protection (Disposal of Polychlorinated Biphenyls and other Dangerous Substances) (Scotland) Regulations 2000.

NR/SIN/205	**Replacement of Small (16mm) Core WT Henley Insulator** Issue 1; Sep 2!	**Compliance** 30/06/22	**Replaces** New at Issue 121

The purpose of this Special Inspection Notice is to identify and replace all small core (16mm diameter) WT Henley Polymetric Insulators in tensioning arrangements which may increase the risk of functional failure resulting in a health and safety or operational incident.

4.8 ENVIRONMENT

Company Standards

NR/CS/ENV/001 **Environment Management Standard** Issue 1; Apr 06 **Replaces**

This standard sets out the process which Network Rail shall use to manage the environmental risks associated with its operations.

Level 1

NR/L1/ENV/100 **Environment and Social Performance Policy** Issue 1; Sep 17 **Compliance** 03/03/19 **Replaces** New at Issue 105

This policy mandates requirements to improve Network Rail's environment and social performance through the mitigation of risks and improved delivery of environment and social management to leave a sustainable legacy for future generations..

Level 2

NR/L2/ENV/015 **Environment and Social Minimum Requirements for Projects – Design and Construction** Issue 9; Jun 21 **Compliance** 04/09/21 **Replaces** NR/L2/ENV/015 Iss 8; Mar 19,

This standard sets out Network Rail's minimum requirements for the management of environment and social risks and opportunities during design and/or construction activities.

NR/L2/ENV/115 **Environment and Social Management System Requirements** Issue 1; Mar 18 **Compliance** 03/03/19 **Replaces** New at Issue 107

This business process provides the framework requirements for Network Rail's business units to implement and maintain an Environment and Social Management System (ESMS), which relates to the management of risks associated with Environment and Social activities.

NR/L2/ENV/120 **Waste Management** Issue 1; Dec 19 **Compliance** 07/03/20 **Replaces** See below

Replaces: NR/GN/ENV/004 Issue 1, NR/L3/MTC/EN0100 Issue 3, NR/L3/MTC/EN0102 Issue 2
This business process enables Network Rail to:
a) manage risks and maximise opportunities around production and management of waste to protect the business and the environment;
b) reduce the amount of material we use and minimise the amount of waste we produce; and
c) comply with waste management legislation and enable good practice.

NR/L2/ENV/121 **Managing Environmental and Social Impact of Noise and Vibration** Issue 1; Dec 19 **Compliance** 07/03/20 **Replaces** See below

Replaces: NR/L3/MTC/EN0103 Issue 2, RT/D/P/003 Issue 2, RT/LS/G/00022 Issue 2, RT/LS/G/00023 Issue 2
This business process identifies how to design out noise and vibration impacts in the design process, as well as, how to plan and manage these to minimise noise and vibration risks, as well as statutory nuisance complaints.

NR/L2/ENV/122 **Biodiversity** Issue 1; Mar 21 **Compliance** 01/01/22 **Replaces** New at Issue 119

This manual defines the requirements for Network Rail and its contractors to meet legislation and other compliance obligations to sustainably manage land and activities for biodiversity.

NR/L2/ENV/122/	Module	Issue	Issue Date
01	Management of Biodiversity	1	Mar 2021
02	Habitat Management Plan	1	Mar 2021

NR/L2/ENV/123 **Prevention of Pollution to Land and Water** Issue 1; Dec 19 **Compliance** 07/03/2020 **Replaces** See below

Replaces: NR/L3/MTC/EN0098 Issue 3, NR/L3/MTC/EN0101 Issue 3, NR/L3/MTC/EN0104 Issue 2
This business process discharges the legal responsibility of Network Rail and its contractors to:
a) manage compliant discharges produced by site activities;
b) prevent damage to the environment from:
1) stored fuels, chemicals and oils (e.g. diesel, petrol, waste oil, mineral oil, etc.) associated with activities on Network Rail land;
2) leaks and spills resulting from Network Rail activities; and
3) leaks and spills resulting from third party activities which impact Network Rail's land and infrastructure.

NR/L2/ENV/124	**Managing Diesel Engine Exhaust Emissions within Stations and Depots** Issue 1; Jun 21	**Compliance** 10/12/21	**Replaces** New at Issue 120

This business process mitigates these risks:
a) diesel rolling stock entering, leaving, and in particular, idling within Network Rail facilities with the potential to expose staff and passengers to short periods of high pollution levels;
b) improper management of diesel engine exhaust emissions (DEEEs) that puts operational platform staff, maintenance staff and passengers at risk.

Level 3

NR/L3/ENV/044	**Track Maintenance Renewal or Alteration - Used Ballast and Excavation Waste Handling** Issue 4; Jun 18	**Compliance** 01/09/18	**Replaces** NR/L3/ENV/044 Iss 3; Sep 11

This work instruction sets out the process to:
- correctly identify and handle used ballast and other excavated infrastructure waste when disposing of it from rail worksites; and
- comply with the requirements of waste management legislation.

NR/L3/ENV/305	**How to Change Utility Supplies** Issue 3; Sep 21	**Compliance** 04/12/21	**Replaces** NR/L3/ENV/305 Iss 2; Mar 18

The purpose of this Network Rail standard is to:
a) reduce the likelihood of supply disconnections which would disrupt the operational railway;
b) identify the Network Rail approved supplier for new utility supplies;
c) identify the correct type of metering to minimise Network Rail's utility cost;
d) reduce the lead times in developing and implementing new utility connections;
e) identify available utility capacity for new utility connections and requirements for increased capacity at other locations;
f) improve the accuracy of the asset information held in Network Rail Energy Database (Energylink).

Guidance Notes (including Codes of Practice)

RT/E/G/00007	**Generic Environmental Management for Light Maintenance Depots** Issue 2; Apr 04	**Replaces** RT/E/G/00007 Iss 1; Apr 01

This guidance note is intended for use by Network Rail and its tenants at Light Maintenance Depots, to provide generic general advice on environmental management. It is not intended to be exhaustive nor does it constitute part of the Depot Access conditions or any other lease condition.

4.9 ERGONOMICS

Specifications (including Procedures)

NR/SP/ERG/00005	**Signalling Centre Desks** Issue 1; Apr 07	**Compliance** 07/04/07	**Replaces**

Signalling centre desks are an important component in ensuring that signalling staff can perform their required tasks efficiently and safely. The desk supports access to the VDU-based Signalling Control System (VSCS) and to a variety of telecommunication and information systems. The purpose of this product specification is to ensure that desks for VSCS and for related equipment support safe and efficient signalling operations for the duration of their design life.

RT/E/S/24017	**Control Room Design Specification, Process and Guidance** Issue 2; Apr 04	**Compliance**	**Replaces** RT/E/S/24017 Iss 1; Apr 03

This standard, recognises the industries increased awareness of the implication of ergonomics on the effective, safe and reliable performance delivery. This draws on the ISO Standard, but sets specific requirements appropriate to the railway environment using recent research findings.

Level 2

NR/L2/ERG/24020	**Engineering Assurance Requirements for Ergonomics Within Design and Development Projects** Issue 3; Dec 11	**Compliance** 03/03/12	**Replaces** NR/SP/ERG/24020 (RT/E/P/24020) Iss 2; Apr 04

The purpose of this standard is to support the structured application of ergonomics in the development or modification of railway infrastructure and supporting systems.

Associated Document

NR/L2/ERG/24020/	Module	Issue	Issue Date
F003	Project Classification Tables	1	Dec 2011

4.10 FIRE SAFETY POLICY

Level 1

NR/L1/FIR/100	**Fire Safety Policy** Issue 6; Sep 10	**Compliance** 04/12/10	**Replaces** NR/CS/FIR/100 Iss 5; Oct 06

The Company Fire Safety Policy mandates requirements applicable to the control of risks arising from fire to the safety of Network Rail workforce, contractors, customers, assets and business activity

Level 3

NR/L3/FIR/101	**Fire Safety – Managed Stations** Issue 7; Sep 10	**Compliance** 04/12/10	**Replaces** NR/GN/FIR/101 Iss 6; Aug 06

This standard sets the minimum standard required to meet the requirements of Fire Safety Policy NR/L1/FIR/100.

NR/L3/FIR/102	**Fire Safety – Operational Estate** Issue 7; Sep 10	**Compliance** 04/12/10	**Replaces** RT/GN/FIR/102 Iss 6; Aug 06

This standard sets the minimum standard required to meet the requirements of Fire Safety Policy NR/L1/FIR/100.

NR/L3/FIR/103	**Fire Safety – Offices and Competency and Training Delivery Centres** Issue 5; Sep 10	**Compliance** 04/12/10	**Replaces** NR/GN/FIR/103 Iss 4; Aug 06

This standard sets the minimum standard required to meet the requirements of Fire Safety Policy NR/L1/FIR/100.

NR/L3/FIR/105	**Fire Safety – Property: Business Space, Freight & Miscellaneous Portfolios** Issue 4; Sep 10	**Compliance** 04/12/10	**Replaces** NR/GN/FIR/105 Iss 3; Aug 06

This standard provides guidance to all staff with responsibility for the management of fire safety within the Business Space, Freight & Miscellaneous portfolios (“the Portfolio”). The standard sets out guidance for implementation of the fire safety policy deliverables contained within the Fire Safety Policy NR/L1/FIR/100.

NR/L3/FIR/106	**Fire Safety – Maintenance** Issue 2; Sep 10	**Compliance** 04/12/10	**Replaces** NR/GN/FIR/106 Iss 1; Aug 06

This standard sets the minimum standard required within Maintenance to meet the requirements of Fire Safety Policy NR/L1/FIR/100.

NR/L3/FIR/107	**Fire Safety – Fire Risk Assessment** Issue 3; Sep 10	**Compliance** 04/12/10	**Replaces** NR/GN/FIR/107 Iss 2; Aug 06

This Standard details the procedure to be taken by the Person Responsible for Fire Safety (PRFS) when undertaking fire risk assessments within Network Rail premises.

NR/L3/FIR/108	**Fire Safety – Fire Extinguishers** Issue 3; Sep 10	**Compliance** 04/12/10	**Replaces** NR/GN/FIR/108 Iss 2; Aug 06

This standard provides information on fire extinguishers to all staff with the responsibility for the management of fire safety. The document sets out requirements for implementation of the fire safety policy deliverables contained within the NR/L1/FIR/100 Fire Safety Policy.

NR/L3/FIR/109	**Fire Safety – Fire Log Book** Issue 3; Sep 10	**Compliance** 04/12/10	**Replaces** NR/GN/FIR/109 Iss 2; Aug 06

The fire logbook is used to record details of fire safety training, inspections, maintenance and incidents etc. as required by fire safety legislation and regulations.

4.11 INFORMATION MANAGEMENT

Level 1

NR/L1/INF/02200	**Digital Preservation Policy** Issue 1; Sep 20	**Compliance** 05/12/20	**Replaces** New at issue 117

This policy mitigates the risk of damage and loss as a result of hardware or software obsolescence by preserving digital records that are of evidential and historical value to the company thereby making them accessible and authentic on a permanent basis.

NR/L1/INF/02220	**Document and Records Management** Issue 2; Mar 22	**Compliance** 04/06/2022	**Replaces** NR/L2/INF/02220 Iss 1; Mar 09

This Records Management Policy confirms how Network Rail manages records to:
a) Promote SAFETY by providing reliable records to the right people at the right time;
b) Exploit the value of our ASSETS by managing our records as a strategic resource;
c) Fulfil LEGAL AND REGULATORY OBLIGATIONS by retaining records for the right time;
d) Promote EFFICIENCY by enabling accurate and timely retrieval of records across the business.

NR/L1/INF/02230	**Corporate Archive Policy** Issue 3; Dec 20	**Compliance** 06/03/21	**Replaces** NR/L2/INF/02230 Iss 2; Jun 15

This policy establishes the remit under which the Network Rail Corporate Archive operates, by establishing how records that are to be kept permanently for legal and regulatory reasons will be acquired, catalogued and managed.

NR/L1/INF/02232	**Information Security Policy** Issue 2; Mar 16	**Compliance** 07/06/16	**Replaces** NR/L1/INF/02232 Iss 1; Dec 09

The purpose of this standard is to set Network Rail's policy and priorities for Information Security. Information Security supports Network Rail's objectives by protecting the information it requires to achieve these. Network Rail has legal and regulatory obligations relating to Information Security

Level 2

NR/L2/INF/02018	**Management of Infrastructure Records** Issue 7; Mar 21	**Compliance** 05/06/21	**Replaces** NR/L2/INF/02018 Iss 6; Dec 10

This document specifies the records management process for new and altered infrastructure records for which the National Records Group are custodians.
This record management process mitigates the risk of records being lost or unavailable for update.

NR/L2/INF/02202	**Records Management of Health and Safety Files** Issue 6; Mar 16	**Compliance** 05/06/16	**Replaces** NR/L2/INF/02202 Iss 5; Jun 11

This standard specifies the records management requirements for the management of health and safety (H&S) files. This standard is compliant with the Construction (Design and Management) Regulations 2015 (CDM Regulations).

NR/L2/INF/02203	**Controlled Publications - Issue and Receipt** Issue 2; Dec 11	**Compliance** 03/03/12	**Replaces** NR/CS/INF/02203 Iss 1; Jun 06

This document mandates the minimum requirement for the management of the process for issuing a publication and any associated updates when acknowledgement of receipt by the recipient is required.

NR/L2/INF/02223	**Information Classifications - Security** Issue 3; Jun 18	**Compliance** 07/12/19	**Replaces** NR/L2/INF/02223 Iss 2; Mar 10

This standard specifies how Network Rail is aligned to the 'Government Security Classifications' policy. The classification of Network Rail data and information, and its associated special handling instructions and security controls, help to mitigate the risk of failing to protect the organisation from incidents which might lead to the loss of confidentiality, integrity or availability of data and information.

NR/L2/INF/02237	**Electronic Signatures** Issue 1; Mar 12	**Compliance** 01/09/12	**Replaces** New at Issue 83

The intent of this standard is to allow the use of electronic signature solutions within Network Rail that are practical, secure and that balance risk and cost and provides a framework for regulating the use of electronic signatures.

Level 3

NR/L3/INF/02204	**Controlled Publications - Process and Accountabilities** Issue 3; Dec 11	**Compliance** 03/03/12	**Replaces** NR/L2/INF/02204 Iss 2; Jun 08

This standard provides a process to demonstrate that recipients have been issued with, received and acknowledged Controlled Publications.

NR/L3/INF/02221	**Document Creation and Approval** Issue 1; Mar 09	**Compliance** 01/10/09	**Replaces** New at Issue 71

This Network Rail Standard is part of a suite of standards published to support the Document Policy and the Records Management Policy

NR/L3/INF/02222	**Metadata for Documents and Records** Issue 1; Mar 09	**Compliance** 01/10/09	**Replaces** New at Issue 71

This Network Rail standard specifies the corporate Network Rail core metadata for documents and records.

NR/L3/INF/02224	**Sharing Framework for Information** Issue 2; Mar 19	**Compliance** 07/12/19	**Replaces** NR/L3/INF/02224 Iss 1; Mar 09

This document specifies the process by which Network Rail shares information with external parties to mitigate the risk of the uncontrolled release of data and information from Network Rail.

NR/L3/INF/02225	**Records Management** Issue 1; Mar 09	**Compliance** 01/10/09	**Replaces** New at Issue 71

This Network Rail standard specifies the minimum required process for managing Network Rail corporate records.

NR/L3/INF/02226	**Corporate Records Retention Schedule** Issue 3; Dec 17	**Compliance** 03/03/18	**Replaces** See below

Replaces: NR/L3/INF/0226 Iss 2 Sep 10, NR/L3/INF/0226/Schedules Iss 3; Jun 17
Implementation of a Corporate Records Retention Schedule will allow Network Rail to:

- retain records for no longer than necessary
- implement a consistent approach across Network Rail
- promote the prompt and auditable disposal of records when they are no longer required
- to be compliant with legislation and regulation relevant to the business of Network Rail including in relation to personal data the Data Protection Act and its principles – see Network Rail's Data Protection Policy
- protect Network Rail's rights and interests and those of its employees, customers, suppliers and the general public affected by its operations.

NR/L3/INF/02231	**Disposal of Records** Issue 1; Sep 10	**Compliance** 03/03/11	**Replaces** New at Issue 77

To provide a standard approach to the disposal of records no longer required by Network Rail in line with the Corporate Records Retention Schedule.

NR/L3/INF/02236	**Scanning of Documentation** Issue 2; Mar 12	**Compliance** 02/06/12	**Replaces** NR/L3/INF/02236 Iss 1; Mar 10

Large quantities of Network Rail's records collection remain, as they were created, in hard copy. This is particularly the case with Engineering documentation such as drawings. These drawings are progressively being scanned to enable the image to be loaded and viewed on electronic systems such as CCMS and eB.
This standard provides a process to enable any future scanning activity to be carried out consistently and according to corporately-agreed principles.

NR/L3/INF/02245	**Working with Information Classifications - Security** Issue 1; Jun 18	**Compliance** 07/12/2019	**Replaces** New at issue 108

This standard sets out how users apply information security classifications to all of Network Rail data and information, and covers the marking and protection of artefacts, including those held in IT systems, and the security controls that are to be followed and provides a process to comply with NR/L2/INF/02223.

Guidance Notes

NR/GN/INF/00850	**Controlled Publications - Document Control Handbook** Issue 4; Mar 11	**Replaces** NR/GN/INF/00850 Iss 3; Dec 09

The purpose of this document is to update the Document Control Handbook to include latest information and publish the handbook as a Network Rail "Guidance Note"

4.12 INFRASTUCTURE MAINTENANCE

Level 2

NR/L2/MTC/006	**Maintenance and Contents of the National Hazard Directory** Issue 6; Dec 08	**Compliance** 01/03/09	**Replaces** NR/L2/MTC/006 Iss 5; Jun 08

This specification provides the minimum content of the National Hazard Directory and stipulates the management arrangements, data maintenance and hazard notification process so that contractors and others can be supplied with current details of hazards at site-specific locations.

NR/L2/MTC/089	**Arrangements for the Exchange of Asset Data and the Continuing Maintenance of Assets Undergoing Change** Issue 2; Dec 18	**Compliance** 01/04/19	**Replaces** See below

Replaces: NR/L2/ADG/003 Iss 1, NR/L2/EBM/088 Iss 4, NR/L3/EBM/089, NR/L2/MTC/MG0208 Iss 1
This document provides a process for introducing new assets or affecting existing assets on Network Rail infrastructure through the development and implementation of an asset management plan (AMP).

NR/L2/MTC/02020	**Ellipse for Network Rail Work Management** Issue 7; Jun 08	**Compliance** 26/08/08	**Replaces** NR/SP/INF/02020 Iss 5; Oct 05

This standard mandates the use of Ellipse and its associated processes and procedures.

NR/L2/MTC/10662	**Process for the Creation of New or Revised Maintenance Regimes Using Reliability Centred Maintenance (RCM)** Issue 12; Mar 20	**Compliance** 06/06/20	**Replaces** NR/L2/MTC/10662 Iss 11; Jun 18 NR/GN/SIG/10670 Iss 2; Mar 11

This standard specifies the minimum requirements for the development and implementation of new or revised maintenance regimes developed using Reliability Centred Maintenance (RCM) analysis techniques to develop scheduled maintenance plans that will provide an acceptable level of operability, with an acceptable level of risk, in an efficient and cost effective manner.

NR/L2/MTC/10662/	Document Title	Issue	Issue Date
01	Training and Mentoring for Reliability Centred Maintenance (RCM)	1	Jun 2018
02	Generic End to End Process	2	Mar 2020
03	Contact Systems End to End Process	2	Mar 2020
04	Signalling End to End Process	2	Mar 2020
05	Track End to End Process	1	Jun 2018

NR/L2/MTC/EP0233	**Lineside Hot Axle Box Detectors** Issue 1; Mar 22	**Compliance** 04/06/22	**Replaces** See Below

Replaces: NR/L3/MTC/MG0020 Iss 2, NR/L3/MTC/SG0019 Iss 2, RT/E/PS/00016 Issue 1
This document provides a process to:
a) reduce the risk of hot axle box detectors (HABD) being incorrectly specified, designed, installed, tested, operated, maintained, and decommissioned,
b) reduce, as far as reasonably practicable, the risk of a catastrophic incident occurring resulting from loss of vehicle axle integrity due to a damaged or failing axle bearing; and
c) enable compliance with BS EN 15437-1:2009 and GE/RT8014 to be achieved.

NR/L2/MTC/EP0234	**Lineside Wheel Impact Load Detector (WILD) and Radio Frequency Identification (RFID) Tag Reader Equipment** Issue 1; Mar 22	**Compliance** 04/06/22	**Replaces** New at Issue 123

This document provides a process to reduce:
a) the risk of Wheel Impact Load Detector (WILD) and associated Radio Frequency Identification (RFID) tag reader equipment being incorrectly specified, designed, installed, tested, operated, maintained, and decommissioned; and
b) as far as reasonably practicable, the risk of a catastrophic incident occurring resulting from damaged or irregular wheel condition.

NR/L2/MTC/II0218	**Intelligent Infrastructure Remote Condition Monitoring Process** Issue 1; Sep 10	**Compliance** 04/12/10	**Replaces** New at Issue 77

Historically, a number of Remote Condition Monitoring systems and approaches have been implemented on a local basis resulting in a non-standard approach to equipment, systems and processes. In December 2009, the Intelligent Infrastructure Remote Condition Monitoring Strategy was signed off. This has been put in place because of a need for a standard approach to Remote Condition Monitoring going forward. In future, all Remote Condition Monitoring implementations will comply with the strategy, and with these associated Standards.

NR/L2/MTC/MG0012	**Route Business (Non-Operations) Briefing Process** Issue 6; Sep 18	**Compliance** 01/12/18	**Replaces** NR/L2/MTC/MG0012 Iss 5; Sep 16

This standard describes the process for the briefing of general, safety and technical information to:
- Staff in Network Rail's Route Businesses within the scope of this document; and
- Maintenance contractors employed in contracts administered in Route Businesses.

The process is designed to achieve a thorough and consistent approach to briefing to mitigate the risk of staff (including contractors) not being made aware of key safety messages and changes to standards and controls.

NR/L2/MTC/MG0042	**The Definition and Review of Maintenance Compliance Indicators** Issue 5; Sep 18	**Compliance** 01/12/18	**Replaces** NR/L2/MTC/MG0042 Iss 4; Mar 10

The purpose of this standard is to explain and mandate the process for defining and reporting the measures associated with Maintenance Compliance Indicators. This is to enable the business to report on issues that are aligned to risk in regard to the management of maintenance delivery and that the measure has been specified and agreed by the relevant Professional Head.

NR/L2/MTC/MG0215	**Demarcation of Maintenance Boundaries** Issue 1; Mar 20	**Compliance** 05/12/20	**Replaces** New at Issue 115

The purpose of this document is to reduce the risk of maintenance activities not being undertaken on the railway network as a consequence of unclear responsibility for boundary areas between maintenance entities by providing a process for managing the demarcation of boundaries on the rail network between:
a) Network Rail and third parties;
b) areas controlled by different Section Managers;
c) areas controlled by different Maintenance Engineers;
d) routes; and
e) regions

NR/L2/MTC/PL0175	**Infrastructure Maintenance Planning Handbook** Issue 8; Dec 21	**Compliance** 05/03/22	**Replaces** NR/L2/MTC/PL0175 Iss 7; Sep 20

This manual with its modules comprises issue 5 of the Infrastructure Maintenance Planning Handbook The handbook establishes consistent national planning rules and guidance for Infrastructure Maintenance.

NR/L2/MTC/PL0175/	Document Title	Issue	Issue Date
01	Handbook – Planning Introduction and Guidance	3	Sep 2020
02	Maintenance Processes for Planning	3	Sep 2020
03	Weekly Section Planning Meeting	3	Sep 2020
04	Daily and Weekly Visualisation Control Room Meetings	2	Mar 2018
05	Planning Line Blockages	2	Mar 2018
06	Guidance on Safety Critical Roles in Possessions or Worksite	2	Mar 2018

NR/L2/MTC/SE0117	**Planned Assurance Inspections and Site Surveillance** Issue 4; Sep 18	**Compliance** 01/12/18	**Replaces** NR/L3/MTC/SE0117 Iss 3; Dec 11

This document defines the process for planning and reporting of planned assurance inspections and site surveillance which form part of the Level 1 assurance regime and are carried out to check that formal controls are being implemented correctly and unsafe acts or conditions are identified and corrected in order to deliver compliance and continual improvement for the business function.

Level 3

NR/L3/MTC/CP009	**COVID-19 Contingency Plan: Safe Working Practices** Issue 11; Feb 22	**Compliance** 28/02/22	**Replaces** NR/L3/MTC/CP009 Iss 10; Dec 21

The purpose of this document is to provide instruction for protecting our workforce and implementing consistent safety measures in line with the UK Government's guidelines on protection controls and social distancing measures following the outbreak of COVID-19.

NR/L3/MTC/EN0099	**Protected Sites and Species Management** Issue 2; Jun 08	**Compliance** 26/08/08	**Replaces** NR/PRC/MTC/EN0099 Iss 1; Jul 06

The purpose of this procedure is to define operational requirements to ensure compliance with legislation and to prevent damage to both protected sites and species. This document complements Network Rail's biodiversity action plan that provides practical guidance on good management practices that maintain biodiversity.

NR/L3/MTC/EN0105	**Pest Management** Issue 2; Jun 08	**Compliance** 26/08/08	**Replaces** NR/PRC/MTC/EN0105 Issue 1; Jul 06

The purpose of this procedure is to outline the management mechanisms for the types of pests commonly encountered on Network Rail land by the maintenance function.

NR/L3/MTC/EN0225	**Environment Management System for Infrastructure Maintenance** Issue 1; Jun 12	**Compliance** 01/09/12	**Replaces** NR/L3/MTC/EN0123 Issue 2; Jun 08

The purpose of this standard is to outline how to comply with Network Rail's Environment Management System as specified in NR/SP/ENV/001 Corporate Environment Manual and also meets the requirements of BS EN ISO 14001: 2004 Environmental Management Systems – Requirements with guidance for use.

Associated Document

NR/L3/MTC/EN0225/	Module	Issue	Issue Date
DEP	Environment Management System for Infrastructure Maintenance : Depot Environment Pack	1	Jun 2012

NR/L3/MTC/EP0036	**Preventive Maintenance of Operational Plant, 25kV Distribution, ETE and ETM Assets** Issue 2; Aug 08	**Compliance** 26/08/08	**Replaces** NR/PRC/MTC/EP0036 Iss 1; Dec 05

The purpose of this document is to define the roles and responsibilities in the planning of routine maintenance activities of operational plant, 25kV distribution, Electric Track Equipment (ETE) and Electric Track Maintenance (ETM) assets to fit in with the national planning process and timescales in accordance with NR/SP/MTC/0056 “Specification for: Work and possession planning for the railway infrastructure (meetings management pack)”.

NR/L3/MTC/EP0037	**Review and Commit Planned Work** Issue 2; Aug 08	**Compliance** 26/08/08	**Replaces** NR/PRC/MTC/EP0037 Iss 1; Dec 06

This procedure describes the process of obtaining the outline work plan from Ellipse, reviewing the outline plan and confirming what tasks are to be carried out during the week under review.

NR/L3/MTC/EP0038	**Do Maintenance Task** Issue 2; Aug 08	**Compliance** 26/08/08	**Replaces** NR/PRC/MTC/EP0038 Iss 1; Dec 06

The purpose of this document is to describe what must be done by any person carrying out a maintenance task on any of Network Rail’s operational electrification and plant assets.

NR/L3/MTC/EP0039	**Urgent Corrective Maintenance of E&P Assets** Issue 2; Aug 08	**Compliance** 26/08/08	**Replaces** NR/PRC/MTC/EP0039 Iss 1; Feb 07

The purpose of this document is to define the process for urgent corrective maintenance of Network Rail electrification & plant assets.

NR/L3/MTC/EP0140	**Procedure for Creating a Technical Query** Issue 2; Aug 08	**Compliance** 26/08/08	**Replaces** NR/PRC/MTC/EP0140 Iss 1; Jul 06

The purpose of this document is to describe the procedure for managing the creation and response of technical queries.

NR/L3/MTC/EP0141	**3 Phase High Voltage Outage Management** Issue 2; Aug 08	**Compliance** 26/08/08	**Replaces** NR/PRC/MTC/EP0141 Issue 1; Apr 07

The purpose of this document is to define the roles and responsibilities in the planning and execution of maintenance activities on 3 phase high voltage electrical equipment to ensure supplies are maintained to the operational railway whilst traction power equipment is removed from service, and to enable Network Rail’s contractual obligations to its electricity suppliers to be met.

NR/L3/MTC/EP0143	**Inspection and Maintenance of OLE** Issue 2; Jun 08	**Compliance** 26/08/08	**Replaces** NR/PRC/MTC/EP0143 Iss 1; Dec 05

The purpose of this document is to define the roles and responsibilities in the planning of routine inspection and maintenance activities of Overhead Line Equipment assets to fit in with the national planning process and timescales as described in NR/SP/MTC/0056 “Specification for: Work and possession planning for the railway infrastructure (meetings management pack).”

NR/L3/MTC/EP0152	**Working on or Adjacent to Conductor Rail** Issue 5; Dec 11	**Compliance** 01/03/14	**Replaces** NR/L3/MTC/EP0152 Iss 4; Mar 10

This standard details the process for planning safe access for Infrastructure Maintenance staff and / or contractors working on or adjacent to conductor rail(s).

NR/L3/MTC/EP0184	**The Removal and Reporting of OLE Defects by the OCR Team** Issue 1; Jun 08	**Compliance** 26/08/08	**Replaces** New at Issue 68

This document details the procedure to be followed to make sure that in any Overhead Conditions Renewals (OCR) work areas, the OCR team have full visibility of all associated high level OLE defects in the Ellipse maintenance job bank and where any defects are removed from the line, that these defects area recorded and formally closed out.

NR/L3/MTC/EP0185	**OCR Incident Support for LNW Route E&P Engineers** Issue 1; Jun 08	**Compliance** 26/08/08	**Replaces** New at issue 68

This document details London North Western Route’s strategy to deliver level 3 and 4 incident support by the OCR team to incidents involving OHL equipment

NR/L3/MTC/EP0187	**The Collection and Recording of E&P Condition Data** Issue 2; Jun 08	**Compliance** 26/08/08	**Replaces** NR/L3/MTC/EP0187 Iss 1; Sep 07

This document details the procedure to be followed to ensure that electrification and plant assets undergo condition assessments at the correct frequency and in accordance with the methodology specified in work instructions NR/L3/ELP/27237, NR/L3/ELP/27240 and NR/L3/ELP/27241.

NR/L3/MTC/EP0189	**Overhead Condition Renewals (OCR) - Allocation Design** Issue 1; Jun 08	**Compliance** 26/08/08	**Replaces** New at issue 68

The purpose of this document is to detail the extent of design activities undertaken by the OCR team and the design control procedures employed by the team in association with these activities.

NR/L3/MTC/EP0196	**Management and Control of Projects by the OCR Team** Issue 1; Jun 08	**Compliance** 26/08/08	**Replaces** New at Issue 68

The purpose of this procedure is to detail the systems and processes utilised for the management and control of renewal projects delivered by the Overhead Condition Renewals (OCR) team.

NR/L3/MTC/EP0232	**OCR Team Materials Process** Issue 1; Sep 10	**Compliance** 04/09/10	**Replaces** New at Issue 77

This document details the procedure to be followed to make sure that correct materials are made available for specific worksites

NR/L3/MTC/EP0235	**Maintenance of Lineside Wheel Impact Load Detector (WILD) and Radio Frequency Identification (RFID) Tag Reader Equipment** Issue 1; Mar 22	**Compliance** 04/06/22	**Replaces** New at Issue 123

The purpose of this document is to provide a procedure to support NR/L2/MTC/EP0234.
This document specifies the maintenance requirements for Wheel Impact Load Detector (WILD) and associated Radio Frequency Identification (RFID) tag reader equipment.

NR/L3/MTC/II0219	**Intelligent Infrastructure Remote Condition Monitoring Manual** Issue 3; Mar 20	**Compliance** 05/09/20	**Replaces** NR/L3/MTC/II0219 Iss 2; Dec 18

This document provides a process for installation, use and management of II RCM remote condition monitoring systems of infrastructure assets so they are used in a correct and consistent manner to:
a) enable proactive maintenance of Network Rail assets to be undertaken based on historic performance data so that the performance of the asset continues to meet its specified level; and
b) deliver improved fault finding on failed or failing assets through identifying in specific cases the system or component that has failed, thereby directing the fault staff to this component, resulting in reduced unavailability of the system or equipment.

NR/L3/MTC/II0219/	Module	Issue	Issue Date
01	Design, Configuration, Installation, Commissioning and Calibration of Intelligent Infrastructure Remote Condition Monitoring	3	Mar 2020
02	Management of Alerts and Alarms from Remote Condition Monitoring	3	Mar 2020
03	Maintenance of Assets Fitted with Remote Condition Monitoring	3	Mar 2020

NR/L3/MTC/ME0300	**Mobile Maintenance Train Operational Procedures** Issue 1; Mar 22	**Compliance** 04/06/22	**Replaces** New at Issue 123

The purpose of this manual is to provide a suite of consistent, safe and coherent working instructions to control the day to day risks of operating the fleet of Mobile Maintenance Trains (MMT) owned and operated by Network Rail Infrastructure Maintenance (IM).

NR/L3/MTC/ME0300/	Module	Issue	Issue Date
01	MMT Operational Safety	1	Mar 2022
03	MMT Planning Procedure for Possession Working	1	Mar 2022

NR/L3/MTC/MG0021	**Corrective Maintenance (Faulting) of Operational Telecoms Assets** Issue 2; Aug 08	**Compliance** 26/08/08	**Replaces** NR/PRC/MTC/MG0021 Iss 1; Oct 05

The purpose of this document is to define the process for corrective maintenance of Network Rail operational telecoms assets. It applies to all maintenance technical disciplines.

NR/L3/MTC/MG0043	**Audit Protocol Preparation Within Maintenance Organisation** Issue 3; Dec 08	**Compliance** 01/03/09	**Replaces** See below

Replaces: NR/L3/MTC/MG0043 Iss 2; Jun 08, NR/L3/MTC/MG0044 Iss 2; Jun 08, NR/L3/MTC/MG0045 Iss 2; Jun 08
The procedure establishes arrangements for managing the biennial audits of the Maintenance Delivery Units which are part of Network Rail's National Core Audit Programme.

NR/L3/MTC/MG0063	**Procedure for the Requisitioning of Railway Spares** Issue 2; Jun 08	**Compliance** 02/08/08	**Replaces** NR/PRC/MTC/MG0063 Iss 1; Apr 06

This procedure details the processes to be followed when requisitioning railway spares and consumables via the Exel Integrator system.

NR/L3/MTC/MG0082	**Managing Claims Within Maintenance Organisation** Issue 2; Jun 08	**Compliance** 02/08/08	**Replaces** NR/PRC/MTC/MG0082 Iss 1; Jun 06

To ensure when damage to the infrastructure is caused by a third party, the incurred cost of remedial work, plant and materials is recorded and collated so that claims can be processed by Network Rail for re-imbursement. Third party incidents are identified from the Integrated Fault Control (IFC) log.

NR/L3/MTC/MG0164 **Exploiting New Technology** Issue 2; Jun 08 | **Compliance** 02/08/08 | **Replaces** NR/PRC/MTC/MG0164 Iss 1; Jun 07

This procedure sets out the process and controls for the introduction of new technology into the Maintenance Function within Network Rail, including sponsorship, research and development.

NR/L3/MTC/MG0173 **Monitoring of Spoken Safety Communications** Issue 3; Jun 19 | **Compliance** 07/09/19 | **Replaces** NR/L3/MTC/MG0173 Iss 2; Mar 18

This document supports the delivery of NR/L2/OPS/037 and provides a process to mitigate risks to Network Rail caused by inadequate communication.

NR/L3/MTC/MG0176 **Ellipse Management Handbook** Issue 7; Sep 21 | **Compliance** 04/09/21 | **Replaces** NR/L3/MTC/MG0176 Iss 6; Sep 20

Ellipse is Network Rail's primary asset register and Maintenance Work Management system. It is used by the Maintenance function to record details of cyclic tasks, work arising and other work.

NR/L3/MTC/MG0176/	Title (*and any applicable Letters of Instruction*)	Issue	Issue Date
02	Business Rules for the use of Ellipse	5	Mar 2017
03	Ellipse Data Requirements for WAIFs	4	Mar 2017
05	Key Performance Indicator Reports	5	Sep 2021
06	Weekly Compliance Reporting	3	Sep 2010
07	KPI Reports - Examples	2	Sep 2010
08	Work Management Reporting Tools	3	Sep 2010
09	Work Management Reporting Tools – Report Examples	3	Sep 2010
10	Assets Out of Use Recording and Reporting	1	Mar 2017
11	Prioritisations, Reprioritisations and Cancellations	1	Mar 2017

NR/L3/MTC/MG0180 **Maintenance Compliance Indicator Reporting** Issue 3; Sep 18 | **Compliance** 01/12/18 | **Replaces** NR/L3/MTC/MG180 2; Jun 09

The purpose of this document is to provide a process for the reporting of the maintenance compliance indicators at all levels throughout the business. Maintenance compliance indicators are defined by each Professional Head [Discipline] to manage areas of significant risk to the business

NR/L3/MTC/MG0183 **Maintenance Timesheet process** Issue 2; Jun 08 | **Compliance** 26/08/08 | **Replaces** NR/L3/MTC/MG0183 Iss 1; Mar 08

The purpose of this procedure is to improve the quality and consistency in timesheet reporting provided by frontline Maintenance staff in support of the Productivity Framework. It does this by identifying who is responsible for the various stages during the submission and processing of timesheets and when they need to do this by

NR/L3/MTC/MG0194 **Management of Third Party Complaints** Issue 4; Dec 18 | **Compliance** 02/03/19 | **Replaces** NR/L3/MTC/MG0194 Iss 3; Mar 12

The purpose of this document is to provide a process for Infrastructure Maintenance (IM) to assist in delivering Network Rail's Contacts & Communities Key Performance Indicator relating to managing Service Requests arising from third party enquiries received by the National Helpline.

NR/L3/MTC/MG0197 **Power Supply Outage Management** Issue 2; Jun 12 | **Compliance** 02/06/12 | **Replaces** NR/L3/MTC/MG0197 Iss 1; Sep 11

The purpose of this Network Rail standard is to specify the key activities within the power outage management process.

NR/L3/MTC/MG0210 **Management of Maintenance Work Within a Worksite to Prevent a Possession Overrun** Issue 3; Jun 19 | **Compliance** 07/09/19 | **Replaces** NR/L3/MTC/MG0210 Iss 2; Sep 10

This document describes the procedure for identifying works which import a level of risk and how this risk is mitigated or controlled to prevent or reduce the impact of a possession overrun..

NR/L3/MTC/MG0213 **Index of Standard Maintenance Forms** Issue 18; Jun 21 | **Compliance** 04/09/21 | **Replaces** NR/L3/MTC/MG0213 Iss 17; Mar 21

This standard provides the index and version control to the Standard Maintenance Forms

NR/L3/MTC/MG0214 **Critical Asset – Repeat Failure Escalation Process** Issue 2; Dec 18 | **Compliance** 02/03/19 | **Replaces** NR/L3/MTC/MG0214 Iss 1; Dec 09

This procedure mandates the escalation process for managing the repeat failure of designated critical assets within a Route Delivery Unit.

NR/L3/MTC/MG0217	**Infrastructure Maintenance Engineering Management Plan for Projects** Issue 1; Dec 10	**Compliance** 05/03/11	**Replaces** New at Issue 78

This document specifies how Infrastructure Maintenance comply with NR/L2/INI/02009 Engineering Management for Projects. It shall be read in conjunction with NR/L2/INI/02009

NR/L3/MTC/MG0221	**Management Self Assurance Procedure** Issue 6; Sep 21	**Compliance** 04/12/21	**Replaces** NR/L3/MTC/MG0221 Iss 5; Sep 18

To mandate the arrangements and set out the framework of self-assurance in the Network Operations function for non-operations staff.

NR/L3/MTC/MG0224	**Infrastructure Maintenance Process for the Management of Fatigue and Control of Working Hours for Employees Undertaking Safety Critical Work** Issue 1; Jun 11	**Compliance** 03/09/11	**Replaces** NR/L3/ERG/004 Iss 1; Mar 09 NR/L3/ERG/07 Iss 1; Dec 10

This standard defines the requirements for managing fatigue and working hours for Infrastructure Maintenance employees, and those employed under contract by Infrastructure Maintenance, who undertake safety critical work. Its purpose is to reduce the risks to health and safety that are associated with working patterns, shift work and excessive working hours.

NR/L3/MTC/MG0229	**Infrastructure Maintenance Restructure - Cross Boundary Working for S&T Response** Issue 2; Sep 10	**Compliance** 05/03/11	**Replaces**

The Maintenance function restructure (Phase 2bc) has included a review and optimisation of the national signalling maintenance response organisation. Signalling maintenance response teams shall now be required to respond to failures on areas where they may not be currently familiar.
This standard is principally aimed at Infrastructure Maintenance Delivery Managers, Infrastructure Maintenance Engineers, Signalling & Telecoms Maintenance Engineers (S&TME), Route Control Managers, Incident Controllers, Section Manager [Signalling], Section Supervisor [Signalling], and Signalling Maintenance Response Team Leaders.

NR/L3/MTC/MG0230	**Infrastructure Maintenance Restructure – Competency Matrix** Issue 2; Dec 10	**Compliance** 05/03/11	**Replaces** NR/L3/MTC/TE0230 Iss 1*

The procedure requires Line Managers to review the master competency matrix and create a bespoke ‘section competency profile’ for each of the roles within their section. This shall be based on the requirements of master competency matrix, company standards and business needs. The section competency profile shall be used to denote the required competencies against which each post holder may be assessed.

NR/L3/MTC/MG0231	**Infrastructure Maintenance Restructure - Implementing Hosting** Issue 2; Sep 10	**Compliance** 05/03/11	**Replaces** NR/L3/MTC/TE0230 Iss 1*

This ‘How to’ guide gives details of the process to be followed to introduce a hosting arrangement between delivery units or specialist suppliers for maintenance and life extension/renewals activities.
*Not formally Issued

NR/L3/MTC/OTP0233	**Rail Grinding Through Obstacles and Lineside Furniture Areas (In Traffic)** Issue 1; Dec 20	**Compliance** 06/03/21	**Replaces** New at Issue 118

This document sets the process for rail grinding through rail mounted equipment to address compatibility issues between rail mounted equipment installed in accordance with GIRT/7073 Issue 2, figure A.2 and the required grinding envelope specified to achieve NR1 and NRHR1 rail profiles in order to control the risk of striking rail mounted equipment at the lower regions of grinding activity when grinding trains encroach the area available for all infrastructure.

NR/L3/MTC/PL0095	**Planning of Overhead Line Condition Renewals** Issue 2; Aug 08	**Compliance** 26/08/08	**Replaces** NR/L3/MTC/PL0095 Iss 1; Jun 08

The purpose of this document is to standardise the process, roles and responsibilities for the planning of Overhead Line Condition Renewals (OCR) activities on Network Rail Infrastructure.

NR/L3/MTC/PL0151	**Works Planning Using PossMan** Issue 3; Jun 09	**Compliance** 05/09/09	**Replaces** NR/L3/MTC/PL0151 Iss 2; Aug 08

This standard maintenance procedure describes the national process for planning of work requiring track access on the railway using the PossMan software tool. In this document, ‘track access’ refers to possessions that affect the running of booked services. PossMan allows Infrastructure Maintenance to plan the work within access and secure the required resources. PossMan gives users accurate possession-related data with the minimum of manual intervention.

NR/L3/MTC/PL0159	**Short-term Works Planning in Infrastructure Maintenance** Issue 3; Jun 09	**Compliance** 05/09/09	**Replaces** NR/L3/MTC/PL0159 Iss 2; Aug 08

This standard maintenance procedure describes the national process for short-term planning of maintenance work on the railway infrastructure and details individual responsibilities from the issuing of the Confirmed Period Possession Plan to the completion and closure of the work.

NR/L3/MTC/PL0160	**Medium-term Works Planning in Infrastructure Maintenance** Issue 3; Jun 09	**Compliance** 05/09/09	**Replaces** NR/L3/MTC/PL0160 Iss 2; Aug 08

This standard maintenance procedure describes the national process for medium-term planning of maintenance work on the railway infrastructure and details individual responsibilities from the briefing of the Annual Integrated Work Plan to the Infrastructure Maintenance Delivery Unit at QT-38 to the issue of the quarterly plan on or beforeT-26

NR/L3/MTC/PL0211	**Planning of Engineering Access & NDS-Supplied Resource for Infrastructure Maintenance Delivery Units** Issue 1; Jun 09	**Compliance** 05/09/09	**Replaces** NR/L3/TRK/3220 Iss 3; Aug 08

This standard defines how Infrastructure Maintenance Delivery Units apply, negotiate, confirm and change requests for the Planning of Engineering Access & NDS-Supplied Resource in accordance with NDS standard NR/L2/NDS/202.

NR/L3/MTC/PL0215	**Communicating with the Public** Issue 1; Mar 10	**Compliance** 05/06/10	**Replaces** New at Issue 75

This document details the process and requirements for public communication associated with infrastructure work that may cause public enquiries or complaints. Work that can cause a nuisance to the public in the immediate vicinity of the work or access points include:

- High Visual Impact e.g. fencing erection, structure erection, depot alterations, vegetation removal
- High Nuisance e.g. noise, light, heavy plant movement
- High Environmental Impact e.g. vegetation removal, permanent lighting

NR/L3/MTC/RCS0216	**Risk Control Manual** Issue 23; Dec 21	**Compliance** 05/03/22	**Replaces** NR/L3/MTC/RCS0216 Iss 22; Sep 21

This standard provides the index and version control of risk control sheets that mitigate risks associated with general activities, general hazards, small plant, mobile plant, live working and functional activities (track/signalling etc) within Maintenance.
Each risk control sheet provides a summary of the key hazards and controls identified within a standard work activity risk assessment. Risk control sheets standardise safe working arrangements across Network Rail's Maintenance function.

NR/L3/MTC/RCS0216/	Title (*and Sections, if applicable*)	Issue	Issue Date
DP01	Working on or Near High Voltage Non-Traction Distribution Equipment	4	Mar 2020
DP02	Working on Protection and SCADA Control Systems	3	Sep 2017
DP10	Working on Low Voltage Electrical equipment	5	Mar 2018
DP20	Working on Mechanical Equipment	2	Mar 2012
DP21	Lowering and Raising Hinged Columns	2	Mar 2012
DP30	Working on Gas Systems	2	Mar 2012
GA01	Work On Or Near The Line	4	Mar 2012
GA02	Incident Response	2	Mar 2012
GA03	LOWS - Use of the back pack aerial harness and ZPW or ZFH units. Use of Booster Aerial.	3	Jun 2014
GA04	Work In or Near Public Places	2	Mar 2012
GA05	Lone Working (IWA)	4	Sep 2017
GA06	Assisted Lifting	2	Mar 2012
GA07	Loading/Unloading Wagons and Vehicles	3	Jun 2014
GA08	Ground Penetration and Excavations	3	Jun 2013
GA09	Entry Into Confined Spaces	2	Mar 2012
GA10	Working Over or Near Water	2	Mar 2012
GA11	Working with and Mixing Concrete	2	Mar 2012
GA12	Working on or near Batteries	2	Mar 2012
GA13	Young Persons (aged 16-18), New Recruits & New & Expectant Mothers	2	Mar 2012
GA14	Attendant and Manual Operation of Level Crossings (Including Road Traffic Management)	2	Mar 2012
GA15	Operation of Manual/Powered Ground Frames and Manual/Powered Points	2	Mar 2012
GA16	Storage, transport and use of Detonators	2	Mar 2012
GA17	Decanting Fuel and Fuelling Small Plant	3	Jul 2013
GA18	Working with on Track Machines	2	Mar 2012
GA19	Working with or near Mobile Plant	2	Mar 2012
GA20	Working Adjacent to DC Electrified Rails Risk Level 1-3	3	Dec 2013
GA21	Working Near Electrical Overhead Line Equipment	3	Jun 2017
GA22	Removal of Discarded Needles and Syringes	2	Mar 2012
GA23	Jet washing of Level Crossings	2	Mar 2012
GA24	Installation of troughing	2	Mar 2012
GA25	Line Sde Materials and Equipment	5	Jun 2015
GA26	Working on Network Rail Infrastructure between Pelaw and South Hylton (All Disciplines)	1	Mar 2012
GA27	Use of Jafco Concrete Lid Tilter	1	Mar 2012
GH01	Manual Handling	3	Mar 2012
GH02	Underfoot Conditions	3	Mar 2012

NR/L3/MTC/RCS0216/	Title (*and Sections, if applicable*)	Issue	Issue Date
GH03	Biological & Chemical Hazards	3	Jun 2014
GH04	Working at Height	8	Jun 2020
GH05	Asbestos	2	Mar 2012
GH06	Working on or near HV/DC Cables/Cable Routes	1	Sep 2017
GHE01	Environmental – Invasive and Injurious Plants	2	Mar 2012
GHE02	Waste Storage and Segregation	3	Mar 2021
GHE03	Noise & Vibration - Working near Homes / Schools / Hospitals	3	Mar 2021
GHE04	Working in or near Protected Sites	2	Mar 2012
GHE05	Refuelling	3	Mar 2021
GHE06	Storage of Oil, Lubricants and Chemicals	3	Mar 2021
GHE07	Work that May Kill, Damage Animals and Plants	2	Mar 2012
GHE08	Pollution to Water	3	Mar 2021
LW01	Live Booster Transformer Oil Sampling	2	Mar 2012
LW02	Work on Signals Near Live OLE: CE45 & CE46	2	Mar 2012
LW03	Work on OLE Near to Live OLE	2	Mar 2012
LW04	Working Under Live OLE: Dumper Mounted RRV Cranes – Lifting Operations	3	Mar 2012
LW05	Working Under Live OLE: Mini Diggers changing Road crossing Panels	2	Mar 2012
LW06	Working Under Live OLE: 360 RRV Excavators	4	Jun 2017
MP01	Use and Control of On Track Plant	4	Jun 2017
MP02	Delivery, Collection and Safe Storage of OTP and Transit from storage Point to ON/OFF Tracking Point	3	Jun 2019
MP03	ON/OFF Cross Tracking Self Propelled OTP, RMMM, Trailers and Attachments	2	Mar 2012
MP04	Load / Unloading Materials and People onto OTP	2	Mar 2012
MP05	Transit of OTP With/Without Machine Controller Present	2	Mar 2012
MP06	Lifting and Thimbling Operations	2	Mar 2012
MP07	Use of OTP with Attachments	2	Mar 2012
MP08	Use of OTP for Excavation	2	Mar 2012
MP09	Use of Mobile Elevated Work Platform - Boom	4	Jun 2014
MP10	Use of Mobile Elevated Work Platform - Scissor	3	Mar 2012
MP11	Use of OTP with Drainage/Jetting Units	2	Mar 2012
MP12	Use of Motorised Trolleys	3	Mar 2012
MP13	Use of OTP for Flailing Operations	2	Mar 2012
MP14	Use of OTP Lorry	2	Mar 2012
MP15	Use of OTP for Piling	2	Mar 2012
MP16	Driving and Operating a Flash Butt Welding Road/Rail machine	3	Mar 2012
MP17	Use of Rastic MK3 Rail Staightener Machine	2	Mar 2012
MP18	Use of Mini Tamper	2	Mar 2012
MP19	Use of Mini Stoneblower	2	Mar 2012
MP20	Use of Rozzi R53/LE Pincer Grab to Lift rails and Sleepers	2	Mar 2012
MP21	Use of Quick Hitch	2	Mar 2012
MP22	Use of Harsco Technologies Rail mover	3	Jun 2014
MP23	Use of Vacuum Lifting Device	2	Mar 2012
MP24	Machine Operator acting as a Machine Controller whe operating OTP	2	Mar 2012
MP25	Use of Rail Croppers for Scrap Rail recovery	2	Mar 2012
MP26	Use of Road Rail Drainage Machine	2	Mar 2012
MP50	Delivery and working Non rail Mounted Mobile Plant and Vehicles at Site of work	2	Mar 2012
MP51	Delivery and Working Non rail Mounted Plant to Depots	2	Mar 2012
MP52	Working of Non Rail Mounted Dumpers	2	Mar 2012
MAT01	Unloading ballast from Sidetipper or Autoballaster	2	Jun 2021
MAT02	Switch and Crossing Panel Vehicles (SPVC Tilting Wagons)	2	Jun 2021
MAT03	Rail Milling and Grinding Truck	2	Jun 2021
MAT04	Continuous Welded Rail (CWR) Delivery by Rail Delivery Train (RDT)	3	Dec 2021
MAT05	Working with On Track Machines, Tamper, Ballast Regulator, Stoneblower	2	Jun 2021
MAT06	Working with On Track Machines, Rail Grinding and Support Teams	2	Jun 2021
MAT07	Working with On Track Machines, Rail Grinders	2	Jun 2021
MAT08	Continuous Welded Rail (CWR) delivery/recovery by Long Welded Rail Train (LWRT)	2	Jun 2021
OCR01	Recovery and Running Out of Catenary and Contact Wire, Preparation and Clipping In of Catenary and Contact Wire	3	Mar 2012
OCR02	Inspection of Catenary and Contact wire	2	Mar 2012
OCR03	Supporting of Balance Weights	2	Mar 2012

NR/L3/MTC/RCS0216/	Title (*and Sections, if applicable*)	Issue	Issue Date
OCR04	Autotransformer Bridge Drilling, Construction Tasks Using OTP	2	Mar 2012
OCR05	Construction work Within Tunnels using RRV/Wiring Train	2	Mar 2012
OCR06	Autotransformer Conductor Installation Tasks On OLE Using OFF TRACK PLANT	2	Mar 2012
OCR08	Construction Preparation work on OLE Using RRV	2	Mar 2012
OCR09	Construction Work On OLE Using RRV	2	Mar 2012
OCR10	Safe Access for Isolation of OLE	2	Mar 2012
OLE01	Ground Level Work with OLE Live, Replacement of APC Magnet, ground Level Bonding	2	Mar 2012
OLE02	Working on Red Bonds/Impedance Bonds	2	Mar 2012
OLE03	Isolation and Earthing of OLE	3	Jun 2017
OLE04	Removal of obstacles from Live OLE (including icicles)	2	Mar 2012
OLE05	Taking Heights and Staggers with OLE Live	2	Mar 2012
OLE06	High Level OLE Work	3	Mar 2012
OLE07	Dismantling of OLE and Work Under Tension	3	Mar 2012
OLE08	Running Out of OLE Conductors	2	Mar 2012
OLE09	Vegetation Clearance	3	Mar 2012
OLE10	Rapid Response to Damaged OLE	5	Jun 2020
OLE11	Temporary Bonding	2	Mar 2012
OLE12	OLE Insulator Replacement	2	Mar 2012
OLE13	OLE Balance weight Fault Rectification	2	Mar 2012
OLE14	Use of Pole Mounted Live Line Equipment	6	Jun 2019
OLE15	Use of Stranded Conductor Clamp	1	Mar 2012
OLE16	Use of Powered Tirfor & Dynafor	2	Jun 2014
OLE17	Work associated with the Sunderland Direct Metro System when there are impedance and/or continuity Bonds damaged, missing or disconnected	1	Mar 2012
OLE18	OLE Lifting Activities	2	Oct 2014
OLE19	On/Off Tracking, Travelling and Working under a LOAC	1	Jun 2017
OT01	Inspect Vegetation	2	Mar 2012
OT02	Inspect, Maintain , Repair, Renew Fencing and Other Boundary Measures	2	Mar 2012
OT03	Inspect, maintain Cess path, walking Route, Access Point	2	Mar 2012
OT04	Inspect, maintain, Repair Level crossing	2	Mar 2012
OT05	Inspect, Maintain Drainage Including Rodding and Jetting	2	Mar 2012
OT06	Maintain Vegetation – Mechanised Flailing, Mowing, Mulching, Cutting	3	Mar 2012
OT07	Maintain Vegetation – Mechanised Weedspraying	3	Mar 2012
OT08	Maintain Vegetation – Motor Manual Chipping	5	Jun 2018
OT09	Maintain Vegetation – Motor Manual – Brush Cutting/Scrub Clearance	4	Mar 2012
OT10	Maintain Vegetation – Manual Weed Spraying	2	Mar 2012
OT11	Maintain Vegetation – Manual Tree Climbing	3	Mar 2012
OT12	Maintain Vegetation – Motor Manual Stump Grinding	3	Mar 2012
OT13	Maintain Vegetation – Motor Manual Tree Felling	3	Mar 2012
OT14	Maintain Vegetation – Motor Manual Cutting/Pruning	5	Mar 2012
OT15	Maintain Painting, Clearing Graffiti	2	Mar 2012
OT16	Maintain Litter Clearance, Fly Tipping Collection Clearance	2	Mar 2012
OT17	Maintain Vermin Control	2	Mar 2012
OT18	Maintain/Renew Signage	2	Mar 2012
OT19	Scrap removal Manual and Mechanised	2	Mar 2012
OT20	Access Improvement using Tarmac	1	Mar 2012
OT21	Maintain Vegetation – Mechanised BRACKE 16A/ Cutting shredding/chipping	1	Mar 2012
OT22	Use of LUF Bushfighter	1	Mar 2012
PR01	Bitumen Boiler Usage	2	Mar 2012
PR02	Carpentry and Joinery	2	Mar 2012
PR03	Demolition of Structure	2	Mar 2012
PR04	Dry Lining	2	Mar 2012
PR05	Falsework	2	Mar 2012
PR06	Glazing	2	Mar 2012
PR07	Lead Work	2	Mar 2012
PR08	LPG/Gas Welding Use and Storage	2	Mar 2012
PR09	Painting	2	Mar 2012
PR10	Plumbing	2	Mar 2012
PR11	High Pressure/Steam Washing	2	Mar 2012

NR/L3/MTC/RCS0216/	Title (*and Sections, if applicable*)	Issue	Issue Date
PR12	Stonwork/Brickwork/Blockwork	2	Mar 2012
PR13	Drainage/Toilets/septic Tanks	2	Mar 2012
PR14	Access/Egress	2	Mar 2012
PR15	Fixed Scaffolding/Platform	2	Mar 2012
SIG01	Working on Signals (Semaphore & Coloured Light), includes working on Signal Post and Gantry	3	Jul 2013
SIG02	Working on Point Equipment(Powered and Mechanical)	4	Jul 2013
SIG03	Working on Train Detection, Track Circuits and Bonds	2	Mar 2012
SIG04	Working on Train Protection Equipment	2	Mar 2012
SIG05	Working on Electrical apparatus (relay Rooms, REBs, IECCs and location cases	2	Mar 2012
SIG06	Working in Signal boxes	2	Mar 2012
SIG07	Working on Oil Lamps	2	Mar 2012
SIG08	Working on Ground Frames	2	Mar 2012
SIG09	Working on Level Crossings	2	Mar 2012
SIG10	Working on Signal wire Runs, Rodding, Treadles and Plungers	3	Jul 2013
SIG11	Working on Control and Interface Systems	2	Mar 2012
SIG12	Working on Hot Axle Box Detectors	2	Mar 2012
SIG13	Repairing and Jointing Cables	2	Mar 2012
SIG14	Working on CCTV Equipment	2	Mar 2012
SIG15	Working on Lineside Services, Cable Routes and Troughing	3	Jul 2013
SIG16	Working on Miscellaneous Signalling Equipment	2	Mar 2012
SP01	Use of Abrasive Wheels and Angle Grinders	4	Sep 2021
SP02	Use of Chainsaws	3	Mar 2012
SP03	Use of Cartridge Tools	2	Mar 2012
SP04	Use of Hand Held Power Tools	2	Mar 2012
SP05	Use of Cable Avoidance Tool (CAT)	2	Mar 2012
SP06	Use of Cobra TT / Hilti TE905 Tamping Hammers	3	Mar 2012
SP07	Use of Iron Men	2	Mar 2012
SP08	Use of Manual Trolleys / Rail Skate / Scooter	3	Sep 2021
SP09	Use of Impact Wrench	2	Mar 2012
SP10	Use of Rail & Non-Rail Disc Cutters	4	Jun 2014
SP11	Use of Jacks	2	Mar 2012
SP12	Use of Portable and Welding Generators	2	Mar 2012
SP13	Use of Permaquip / Geismar THR542 Stressing Equipment	3	Mar 2012
SP14	Use of Rail Grinders	4	Sep 2021
SP15	Use of Rail / Sleeper Drill	2	Mar 2012
SP16	Use of Site Lights	3	Mar 2012
SP17	Use of Rail Mounted Coachscrewing Machines	2	Mar 2012
SP18	Use of Rail Mounted Clipping Machines	3	Mar 2012
SP19	Use of Hydraulic Crimping Equipment	2	Mar 2012
SP20	Use of Weld Trimmer	2	Mar 2012
SP21	Use of Brush Cutter / Strimmer / Hedge Trimmer / Mechanised Pole Saw	5	Sep 2020
SP22	Use of Electrode Ovens	2	Mar 2012
SP23	Use of Cold Bolt Expansion Equipment	2	Mar 2012
SP24	Use of Huck Gun	2	Mar 2012
SP25	Use of Hydraulic Power Packs	2	Mar 2012
SP27	Use of Trolley Mounted Gas Cylinder Frames	2	Mar 2012
SP28	Use of Weld Alignment Devices	2	Mar 2012
SP29	Use of Power Liner	1	Mar 2012
SP30	Use of Leaf Blower	1	Jun 2014
SP31	Safe Use of Bitumen Boilers when Working on Longitudinal Timbers	1	Dec 2020
TA01	Working On or Near Electrical Overhead Line Equipment under NR/L3/ELP/25000 for Trial Areas	1	Sep 2019
TEL01	Cable Routes	3	Jul 2013
TEL02	Copper, Fibre Optical Cables	2	Mar 2012
TEL03	PETS	2	Mar 2012
TEL04	Radio Systems	2	Mar 2012
TEL05	Concentrators/Power Systems	2	Mar 2012
TEL06	Cable Distribution Frames and Location cases	2	Mar 2012
TEL07	Earth and Screening Systems	2	Mar 2012

NR/L3/MTC/RCS0216/	Title (*and Sections, if applicable*)	Issue	Issue Date
TEL08	Control Systems	2	Mar 2012
TEL09	Lineside, non linesidephones, Plug Points and Tunnel Emergency Communication Systems (Pinch Wires)	2	Mar 2012
TEL10	Digital Transmission systems	2	Mar 2012
TEL11	Equipment Rooms, REBs and FTN Sites	2	Mar 2012
TEL12	Station Information & Security Systems (SISS) and DOO Systems	2	Mar 2012
TEL13	Working in Attics and Roof Spaces	2	Mar 2012
TEL14	Climbing/Working up masts, Aerials or Poles	2	Mar 2012
TEL15	Staple gun	2	Mar 2012
TEL16	Water pumps	2	Mar 2012
TEL17	Grease Filled Joints	2	Mar 2012
TK00	Generic Track Risks	2	Mar 2012
TK01	Track Patrol – Foot and Mechanical	2	Mar 2012
TK02	Track Inspections – Includes Longitudinal Timber and Flood	2	Mar 2012
TK10	Unloading Ballast – Manually, from Train or OTP	2	Mar 2012
TK11	Working with Ballast – Regulate, Glue, Shoulder Clean, Contaminate, & Wet Beds	3	Mar 2012
TK12	Use of Automatic Ballast Sampler	1	Mar 2012
TK20	Fix/Fit/Remove Guage Stop Ends, restraint Plates and Tie and Stretcher Bars	3	Jun 2014
TK30	Ultrasonic Testing	3	Jun 2014
TK31	Magnetic Particle/Liquid Penetrant Testing	2	Mar 2012
TK40	Working with Rail- Jointed, Check and CWR	4	Mar 2021
TK41	Adjust Rail Expansion Gap and Switch	2	Mar 2012
TK42	Stressing CWR and stress monitoring (Not CWR)	2	Mar 2012
TK43	Pull Through and Plug Timber	2	Mar 2012
TK44	Stone Blowing Hand Held	2	Mar 2012
TK45	Rail Mounted Lubricators and Cold Bolt hole Expansion	2	Mar 2012
TK46	Track Geometry marking - Paint	2	Mar 2012
TK48	Cold Bolt Hole Expansion	1	Mar 2012
TK49	Remove Frozen Pandrol Clips	4	Sep 2020
TK50	Working with Switches and Crossings	4	Jun 2014
TK51	S&C Cast Crossing Crack Monitoring	2	Mar 2012
TK52	Renew Crossing, Half Set of Switches and Check Rails	2	Mar 2012
TK53	Change Bearers Timber and Concrete	2	Mar 2012
TK54	Change Sleepers Timber and Concrete	3	Mar 2012
TK55	Switch Diamond – White Paint	3	Jun 2014
TK61	Alumino Thermic Welding	5	Sep 2021
TK62	Electric Arc Welding	4	Sep 2021
TK63	Erection, Dismantling and Use of Welding Tents/Umbrella and Support clamp	2	Mar 2012
TK64	Oxygen Fuel Gas Cutting and Heating	4	Sep 2021
TK65	Unkeying Rails Using a Hammer	1	Sep 2020

NR/L3/MTC/SE0089 **New Starters Mentoring (Passport Scheme)** Issue 2; Jun 08 | **Compliance** 26/08/08 | **Replaces** NR/PRC/MTC/SE0089 Iss 1; May 06

The purpose of this procedure is to ensure that the Maintenance function:

- fully understands the implications of new employees' perception of risk.
- understands and manages the needs of new employees.
- correctly incorporates new employees into the workforce, allowing them the time and variety of work to increase their experience levels.
- identifies inability within a new or transferred member of staff to comply with the requirements of company and Railway Group requirements in an environment which exposes them to the minimum of risk.

NR/L3/MTC/SE0090 **Health & Safety Notice Boards** Issue 3; Jun 10 | **Compliance** 04/09/10 | **Replaces** NR/L3/MTC/SE0090 Iss 2; Jun 08

This document details the minimum requirements for Health & Safety Notice Boards and offers a standardised approach to the content of Health and Safety Notice Boards. The document aims to provide a consistency of approach to the presentation of Health and Safety information to Network Rail Maintenance staff

NR/L3/MTC/SE0091 **Worksafe Review Procedure** Issue 2; Jun 08 | **Compliance** 26/08/08 | **Replaces** NR/PRC/MTC/SE0091 Iss 1; Jun 06

This document is to provide maintenance staff, either directly employed by Network Rail or via a third party, with a mechanism to deal with the review of situations where staff had felt that they or others may have been in serious or imminent danger and have used the Network Rail worksafe procedure NR/SP/OHS/00112.

NR/L3/MTC/SE0115	**Confined Spaces – Working and Entry Procedure** Issue 2; Jun 08	**Compliance** 26/08/08	**Replaces** NR/PRC/MTC/SE0115 Iss 1; Feb 06

This procedure defines the actions and controls to be applied before entering any Confined Space, to ensure the work can be carried out safely and without risk of injury or death.

NR/L3/MTC/SE0116	**Work Activity Risk Management** Issue 2; Jun 08	**Compliance** 26/08/08	**Replaces** NR/L3/MTC/SE0116 Iss 1; Dec 07

This procedure describes the process by which the Maintenance function will:
- assess new risks for routine and non-routine work activities carried out in Maintenance
- document and make available the findings from those risk assessments to Maintenance employees
- ensure the principles described in NR/SP/OHS/00102 are applied when carrying out Risk Assessments for new tasks in Maintenance

NR/L3/MTC/SE0120	**Supply and Maintenance of Personal Protective Equipment** Issue 2; Jun 08	**Compliance** 26/08/08	**Replaces** NR/PRC/MTC/SE0120 Iss 1; Dec 06

The purpose of this document is to describe how Network Rail complies with the Personal Protective Equipment (PPE) at Work Regulations, 1992. The procedure enables managers to ensure that suitable PPE is provided where staff may be exposed to a risk to their health or safety while at work.

NR/L3/MTC/SE0195	**Hand Arm Vibration Management** Issue 3; Mar 10	**Compliance** 01/12/08	**Replaces** NR/L3/MTC/SE0195 Iss 2; Dec 08

This standards details the process by which Infrastructure Maintenance:
- Assess the risks to Infrastructure Maintenance function employees performing tasks with hand held tools and machines which have the potential to cause Hand Arm Vibration Syndrome (HAVS) or carpal tunnel syndrome;
- Identify Infrastructure Maintenance employees affected into the prescribed level of necessary health surveillance;
- Comply with the requirements described in NR/L2/OHS/00113 are applied when carrying out health surveillance with Infrastructure Maintenance.

NR/L3/MTC/SE0212	**Management of Contractors** Issue 2; Mar 12	**Compliance** 02/06/12	**Replaces** NR/L3/MTC/SE0212 Iss 1; Sep 09

The purpose of this standard is to describe the controls to be applied in the safety management of Contractors undertaking work for the Network Operations (Maintenance) function in order to manage the imported safety risk.

NR/L3/MTC/SE0220	**Planning and Delivering Safe Working at Height** Issue 2; Sep 20	**Compliance** 06/03/21	**Replaces** NR/L3/MTC/SE0220 Iss 1; Dec 10

This standard provides a process for how to plan and risk assess maintenance and works delivery activities which require work at height to comply with The Work at Height Regulations 2005 and control the risk of a person or object falling.

NR/L3/MTC/TE0066	**Inspection and Surveillance of Telecoms Activities** Issue 2; Aug 08	**Compliance** 26/08/08	**Replaces** NR/PRC/MTC/TE0066 Iss 1; Oct 06

The purpose of this document is to define the process, roles and responsibilities for the inspection and surveillance of operational telecoms activities as laid out in company standard NR/SP/TEL/30033.

Guidance Notes

NR/GN/MTC/00011	**Stock Rail Bolt Torque Application** Issue 1; Aug 05	**Replaces**

This guidance note concentrates primarily on stock rail bolts specifically. The principles for effective torque application can also however be adopted for some other switch and crossing bolts.

NR/GN/MTC/089	**Guidance for the Exchange of Asset Data and the Continuing Maintenance of Assets Undergoing Change** Issue 1; Sep 20	**Replaces** New at Issue 117

This guidance document provides support to the process for introducing new assets or affecting existing assets on Network Rail infrastructure through the development and implementation of NR/L2/MTC/089 asset management plan (AMP).

NR/GN/MTC/MG0226	**Infrastructure Maintenance Restructure - Guidance on the Track and Off Track Organisation** Issue 2; Sep 10	**Replaces**

This guidance note is principally aimed at Track Maintenance Engineers, Section Managers and the Section Supervisors who assist them. However, it should also be a useful reference document for Planners, Administrators, and other front line employees and contractors.
The purpose of this document is to:
1. Explain how the new organisation (Maintenance Restructure Phase 2bc) is designed to operate.
2. Communicate how productivity is measured and detail ways in which it can be maximised

NR/GN/MTC/MG0227	**Infrastructure Maintenance Restructure - Guidance on the Electrification & Plant Organisation** Issue 2; Sep 10	**Replaces**

This guidance note is principally aimed at Electrification and Plant Engineers, Section Managers and the Section Supervisors who assist them. However, it should also be a useful reference document for Planners, Administrators, and other front line employees and contractors.
The purpose of this document is to:
1. Explain how the new organisation (Maintenance Restructure Phase 2bc) is designed to operate.
2. Communicate how productivity is measured and detail ways in which it can be maximised

NR/GN/MTC/MG0228	**Infrastructure Maintenance Restructure - Guidance on the Signalling Organisation** Issue 2; Sep 10	**Replaces**

This guidance note is principally aimed at Signalling & Telecommunication Maintenance Engineers, Section Managers and the Section Supervisors who assist them. However, it should also be a useful reference document for Planners, Planner/Administrators, Administrators, and other front line employees and contractors.
The purpose of this document is to:
1. Explain how the new organisation (Maintenance Restructure Phase 2bc) is designed to operate.
2. Communicate how productivity is measured and detail ways in which it can be maximised

Special Inspection Notices

NR/SIN/199	**Safety of Machinery in Network Rail Owned and Operated Depots and Facilities** Issue 1; Jan 21	**Compliance** 21/01/21	**Replaces** New at Issue 118

This Special Instruction Notice has been produced in response to a recent incident at Eastleigh Long Welded Rail Depot, where a member of staff received fatal injuries whilst undertaking machinery maintenance activities.

4.13 INTEGRATED RISK

Level 1

NR/L1/RSK/001	**Network Rail Risk Policy** Issue 3; Sep 19	**Compliance** 07/12/19	**Replaces** NR/L1/RSK/001 Iss 2; Mar 18

This document outlines the mandated requirements for the management of risk (threat and opportunity) within Network Rail. It provides an overview of the risk management processes and procedures in place and what is required to satisfy corporate governance requirements. This policy is in place as part of the Enterprise Risk Management Framework (ERMF).
The ERMF has been developed to support the successful delivery of Network Rail's business objectives and regulatory obligations.

Level 2

NR/L2/RSK/001	**Enterprise Risk Management** Issue 3; Sep 19	**Compliance** 07/12/19	**Replaces** NR/L2/RSK/001 Iss 2; Sep 18

This standard sets out a principle-based approach for the management of Enterprise Risks in Network Rail to enable:
a) the effective and consistent management of all risks to strategic objectives;
b) risks to be managed in accordance with NR/L1/RSK/001 and Board approved corporate risk appetite statements;
c) the identification, prioritisation and management of interrelated enterprise risks to support successful delivery of the Company's strategic objectives;
d) strategic objectives to be managed in accordance with the UK Corporate Governance Code and governance requirements under licence condition 15 of the Network Licence; and
e) clarity on risks which Network Rail have responsibility to manage as part of a wider set of industry risk mitigation activity.

NR/L2/RSK/290	**Business Continuity Management (BCM)** Issue 2; Sep 21	**Compliance** 06/03/22	**Replaces** NR/L2/OPS/290 Iss 1; Mar 18 NR/L1/OPS/290 Iss 1; Jun 17

This standard sets out how Network Rail proactively plans and recovers business and time critical services after a disruptive event has occurred by implementing Business Continuity.

4.14 INVESTMENT PROJECTS

Standard Functional Procedures

NR/PRC/MPI/CP0037	**Use of Work Activity Risk Assessment in a Safe System of Work (P&E).** Issue 1; Jul 06	**Compliance** 09/06	**Replaces** New; Issue 1 not released.

This Standard Project Procedure describes how work activities are assessed in line with NR/SP/OHS/00102 “Work Activity Risk Assessment” and how the resulting control measures from Work Activity Risk Assessments (WARA) are to be used when setting up a Safe System of Work.

NR/PRC/MPI/TK0022	**Critical Rail Temperature (CRT) Management Plan** Issue 1; Dec 05	**Compliance**	**Replaces**

The purpose of this document is to define procedures that are to be followed for the identification, recording and management of sites requiring CRT management by MP&I track Renewals. This procedure does not have precedence over the requirements of RT/CE/S/011.

Level 2

NR/L2/INI/0300	**Integrated Engineering Lifecycle for Projects (IELCP)** Issue 1; Mar 19	**Compliance** 07/09/19	**Replaces** New at Issue 111

The Integrated Engineering Lifecycle for Projects (IELCP) ties together the projects engineering activities, and acts as the integration, assurance and control layer between GRIP and the individual engineering discipline activities.

NR/L2/INI/CP0061	**Access Through Land Belonging to an Outside Party** Issue 1; Mar 09	**Compliance** 06/06/09	**Replaces** New at Issue 71

This Standard is applicable to all Infrastructure Investment disciplines and should be adhered to when an outside party has been identified as having an interest in the delivery of any project. The standard identifies how the delivery team will manage outside interests, what is required from the delivery team during the life cycle of the project and finally where and when the standard must be used.

NR/L2/INI/CP0070	**Principal Contractor Licensing Scheme** Issue 5; Jun 17	**Compliance** 02/09/17	**Replaces** NR/L2/INI/CP0070 Iss 4; Jun 14

The implementation of this standard enables Network Rail to:
- verify that organisations/internal duty holders have the capability to discharge Principal Contractor (PC) duties when undertaking construction work where Network Rail is the client; and
- provide ongoing assurance that the organisations/internal duty holders capabilities are maintained or improved.

NR/L2/INI/CP0075	**Entry into Operational Service** Issue 2; Dec 19	**Compliance** 07/03/2020	**Replaces** NR/L2/INI/CP0075 Iss 1; Mar 11

This purpose of this standard is to describe how Network Rail, as Infrastructure Manager, undertakes Entry Into Operational Service (EIS) of new or altered Railway Infrastructure. This is achieved by the demonstration that the assets provided, whether new, temporary or legacy assets, are suitable, sufficient and correctly configured to provide for the safe functional operational requirements of the Railway Infrastructure. This mitigates risks associated with the EIS of new or changed assets.

NR/L2/INI/EDT/CP0091	**Specification for Computer Aided Design** Issue 4; Dec 18	**Compliance** 02/03/19	**Replaces** NR/L2/INI/EDT/CP0091 Iss 3; Dec 17

The purpose of this standard is to specify requirements relating to the production of Computer Aided Design (CAD) files for models and drawings representing railway infrastructure and property.

NR/L2/INI/P3M/102	**Investment Decision Framework and Programme Delivery Lifecycle** Issue 3; Mar 19	**Compliance** 07/12/19	**Replaces** NR/L1/INI/PM/GRIP/102 Iss 2

This standard refers to 2 key process frameworks:
- Investment Decision Framework, and
- Programme Delivery Lifecycle, which replaces the previous GRIP for Programmes lifecycle for the development and delivery of infrastructure programmes.

NR/L2/P3M/107	**Contingency Management for Capital Delivery Projects, Programmes, and Portfolios** Issue 1; Dec 20	**Compliance** 06/03/21	**Replaces** New at Issue 118

This standard describes the contingency management process for Capital Delivery projects, programmes, and portfolios. Its purpose is to enable:
a) the effective and consistent management of contingency across Capital Delivery;
b) a continuous link between risk and contingency throughout the delivery lifecycle; and
c) the learning of lessons from significant instances of contingency utilisation.

NR/L2/P3M/201	**Project Acceleration in a Controlled Environment (PACE)** Issue 1; Mar 21	**Compliance** 05/06/21	**Replaces** New at Issue 119

Project Acceleration in a Controlled Environment (PACE) describes how Network Rail manages and controls investment projects on the rail network.Network Rail has developed this approach to managing projects in order to minimise and mitigate the risks associated with project development and delivery. The approach is based on best practice within comparable industries that undertake major investment projects. Implementation of this standard will reduce the reputational and financial risk related to the delivery of complex projects.

NR/L2/P3M/220	**Project Acceleration in a Controlled Environment (PACE) - Manage Integration** Issue 1; Jun 21	**Compliance** 04/09/21	**Replaces** New at Issue 120

This standard brings together the seven core PACE processes undertaken during project development and delivery:
a) manage integration;
b) manage scope;
c) manage time;
d) manage cost and commercial;
e) manage risk;
f) manage assurance;
and manage stakeholders.

NR/L2/P3M/221	**Project Acceleration in a Controlled Environment (PACE) – Manage Scope** Issue 1; Jun 21	**Compliance** 04/09/21	**Replaces** New at Issue 120

This standard enables the business to manage and reduce the risks associated with: a) developing, designing and delivering solutions based on incomplete, unverifiable, erroneous or missing scope; b) the inability to demonstrate /assure project requirement sets for completeness, and c) the inability to demonstrate the benefits enablement or realisation.

NR/L2/P3M/222	**Project Acceleration in a Controlled Environment (PACE) - Manage Time** Issue 1; Jun 21	**Compliance** 04/09/21	**Replaces** New at Issue 120

This standard sets out the requirements for project time management. This includes the processes required to manage the timely completion of the project.

NR/L2/P3M/223	**Project Acceleration in a Controlled Environment (PACE) - Manage Cost and Commercial** Issue 1; Jun 21	**Compliance** 04/09/21	**Replaces** New at Issue 120

Application of this standard during investment projects on the rail network can reduce the reputational and financial risk related to poor stakeholder engagement practices.

NR/L2/P3M/223/	Title	Issue	Issue Date
01	Manage Cost Planning	1	Jun 2021
02	Commercial Process and Cost Management	1	Jun 2021

NR/L2/P3M/224	**Project Acceleration in a Controlled Environment (PACE) - Manage Risk** Issue 1; Jun 21	**Compliance** 04/09/21	**Replaces** New at Issue 120

This standard sets out a principle-based approach for the management of project risks in Network Rail to enable:
a) the effective and consistent management of P3M Risk;
b) an understanding of delivery confidence; and
P3M risks to be managed in accordance with NR/L1/RSK/001.

NR/L2/P3M/224/	Title	Issue	Issue Date
01	Quantitative Risk Assessment (QRA)	1	Jun 2021

NR/L2/P3M/225	**Project Acceleration in a Controlled Environment (PACE) - Manage Assurance** Issue 1; Jun 21	**Compliance** 04/09/21	**Replaces** New at Issue 120

This standard describes the Network Rail assurance activities undertaken in relation to the project, programme and portfolio management of the capital delivery portfolio. The assurance activities provide Network Rail with oversight and confidence in the progress of its portfolio (renewals and enhancements). It creates a common set of working practices to assure Network Rail's portfolio, projects and programmes.

NR/L2/P3M/226	**Project Acceleration in a Controlled Environment (PACE) - Manage Stakeholders** Issue 1; Jun 21	**Compliance** 04/09/21	**Replaces** New at Issue 120

This standard describes the key steps required to help engage stakeholders in P3M context; from identifying and understanding stakeholders, to creating and managing the appropriate engagement with them. Good stakeholder engagement and management is essential to agreeing requirements, finding the best solution and delivering output that enables the desired outcome in a way which is acceptable to the majority of stakeholders.

Level 3

NR/L3/INI/CI0029	**Project Procedure for Land Negotiations (Temporary and Permanent)** Issue 2; Jun 08	**Compliance** 26/08/08	**Replaces** NR/PRC/MPI/CI0029 Iss 1; Sep 05

This standard enables the business to manage and reduce the risks associated with:
a) developing, designing and delivering solutions based on incomplete, unverifiable, erroneous or missing scope;
b) the inability to demonstrate /assure project requirement sets for completeness, and
c) the inability to demonstrate the benefits enablement or realisation.

NR/L3/INI/CP0036	**The Provision of Welfare Facilities** Issue 4; Aug 08	**Compliance** 26/08/08	**Replaces** NR/L3/INI/CP0036 Iss 3; Mar 08

The purpose and intent of this document is to ensure all personnel working on P&E sites are provided with welfare facilities that are clean, comprehensively maintained and fit for purpose.

NR/L3/INI/CP0074	**Project Advice Note (PAN) Process** Issue 1; Sep 10	**Compliance** 04/12/10	**Replaces** New at Issue 77

The purpose of this standard is to provide a mechanism by which formal advice and instructions may be communicated rapidly in a consistent way within a Programme, an engineering discipline or an engineering team within a Programme.

Associated Document

NR/L3/INI/CP0074/F0030	**PAN (Project Advice Note) Register** Issue 30; Jun 20	**Replaces** NR/L3/INI/CP0074/F0030 Iss 29

NR/L3/INI/P3M/106	**Risk Management for Project, Programme and Portfolio Delivery** Issue 1; Dec 19	**Compliance** 31/03/18	**Replaces** New at Issue 114

This standard sets out a principle-based approach for the management of project, programme and portfolio (P3M) risks in Network Rail to enable:
a) the effective and consistent management of P3M Risk;
b) an understanding of delivery confidence; and
c) P3M risks to be managed in accordance with NR/L1/RSK/001.

NR/L3/INI/TK0040	**Reporting of Track Unit Rates (part of the Network Rail Cost Analysis Framework)** Issue 2; Jun 08	**Compliance** 26/08/08	**Replaces** NR/PRC/MPI/TK0040 Iss 1; May 06

Unit costs and output measurements are required for:
- Monitoring and reviewing efficiency
- Providing cost data for developing the Business Plan.
- Measuring contractor performance
- Benchmarking contractors and Business Units

NR/L3/P3M/131	**Document Management Manual** Issue 3; Jun 21	**Compliance** 04/09/21	**Replaces** NR/L3/INI/P3M/131 Iss 2; Dec 18

This manual specifies the Document management procedures. It defines how documentation of all kinds should be managed from conception to close out.
This manual, through its modules, mitigates and will reduce the reputational and financial risk related to the delivery of complex projects.
This manual supports the progressive adoption of the BS1192 document referencing system on all projects and is a fundamental requirement of applying Building Information Modelling (BIM) on projects.

NR/L3/P3M/131/	Module	Issue	Issue Date
01	Document Management Procedure	2	Jun 21
02	Document Referencing	2	Jun 21

NR/L3/P3M/132	**Consolidated Planning of Key Resources for Delivery of Planned Works** Issue 2; Mar 22	**Compliance** 04/06/22	**Replaces** NR/L3/INI/P3M/132 Iss 1; Mar 18

The purpose of this standard is to provide visibility of planned resources and plant requirements to inform the future resourcing needs of the business. The process supports the avoidance of key resource clashes as early in the project lifecycle as possible.

Guidance Notes

NR/GN/INI/001	**Guidance on the Management of Door to Door Work and Travel Time** Issue 1; Dec 08	**Compliance** n/a	**Replaces** New at Issue 70

Excessive work and travel time can import risk to the infrastructure and the workforce. This Guidance Note identifies Network Rail's minimum expectations with regards to employers discharging their duty of care under the Health & Safety at Work Act 1974 relating to the management of work and travel time.

NR/GN/INI/0301	**Integrated Engineering Lifecycle for Projects Guidance Manual** Issue 1; Mar 19	**Compliance** n/a	**Replaces** New at Issue 111

The Integrated Engineering Lifecycle for Projects (IELCP) ties together the projects engineering activities, and acts as the integration, assurance and control layer between GRIP and the individual engineering discipline activities.
It applies an integrated systems approach for project engineering activities and processes to:

- help increase consistency across all engineering projects;
- check the right engineering activities are completed at the right time; and
- manage and reduce the associated

NR/GN/INI/0301/	Module	Issue	Issue Date
01	Integrated Engineering Lifecycle for Projects Phase A Supporting Information	1	Mar 19
02	Integrated Engineering Lifecycle for Projects Phase B Supporting Information	1	Mar 19
03	Integrated Engineering Lifecycle for Projects Phase C Supporting Information	1	Mar 19
04	Integrated Engineering Lifecycle for Projects Phase D Supporting Information	1	Mar 19
05	Integrated Engineering Lifecycle for Projects Phase E Supporting Information	1	Mar 19
06	Integrated Engineering Lifecycle for Projects Phase F Supporting Information	1	Mar 19
07	Integrated Engineering Lifecycle for Projects Phase A-F Diagrams	1	Mar 19
08	Integrated Engineering Lifecycle for Projects Phase Gate Guidance	1	Mar 19

NR/GN/INI/P3M/150	**Sponsor's Handbook** Issue 1; Mar 18	**Compliance** n/a	**Replaces** New at Issue 107

This guidance note describes how Network Rail sponsors capital investment in the railway infrastructure across all lifecycle stages. It should be read in conjunction with NR/L3/INI/P3M/122.
This guidance note has been developed to mitigate the risk of investment being made or used inappropriately at any stage in the lifecycle. The aim is to protect tax payers or other party's capital investment which is being managed by Network Rail.

4.15 LEVEL CROSSINGS

Level 1

NR/L1/XNG/100 **Level Crossing Asset Policy** Issue 3; Sep 21 | **Compliance** 04/12/21 | **Replaces** NR/L1/XNG/100 Iss 2; Mar 20

The purpose of this document is to specify the asset management policy for the whole of the Network Rail Level Crossing estate.
The Level Crossing asset management policy seeks to optimise the performance, risk and cost of ownership of the Level Crossing estate across all of its life cycle stages from concept to disposal to deliver minimum whole life cost.

NR/L1/XNG/100	Module	Issue	Issue Date
01	Workbank Planning	1	Sep 2017
02	Level Crossing Technology Strategy	3	Sep 2021
06	Level Crossing Asset Data and Information	2	Mar 2020

Level 2

NR/L2/XNG/001 **Provision and Risk Management of Level Crossings** Issue 3; Dec 20 | **Compliance** 06/03/21 | **Replaces** NR/L2/OPS/100 Iss 2; Jun 08

This procedure sets out the process requirements that enable Network Rail to manage the safety and convenience of its level crossings and fulfil its legal duties under health & safety legislation.

NR/L2/XNG/200 **Supplementary Audible Warning Device (SAWD) for Footpath and Bridleway Level Crossing Systems Protected by a Whistle Board** Issue 1; Dec 16 | **Compliance** 04/03/17 | **Replaces** New at Issue 102

The purpose of this product specification is to define the requirements of a supplementary Audible Warning Device (SAWD) for footpath and bridleway level crossing systems protected by a whistle board.

NR/L2/XNG/202 **Prioritisation of Level Crossing Defects** Issue 1; Sep 21 | **Compliance** 04/09/21 | **Replaces** New at Issue 121

This business process enables consistent defect prioritisation which is aligned to the risk of the defect.

NR/L2/XNG/300 **Supplementary Audible Warning Device (SAWD) Route Business Process** Issue 1; Jun 17 | **Compliance** 02/09/17 | **Replaces** New at Issue 104

The purpose of this standard is to support the wider roll out and installation of Supplementary Audible Warning Devices (SAWDs) by setting out the maintenance arrangements that have been agreed for this product.
This supports management of the risk associated with footpath and bridleway level crossings that are protected by whistle boards.

NR/L2/XNG/310 **Product Specification for an Obstacle Detection System at Level Crossings** Issue 1; Sep 18 | **Compliance** 01/12/18 | **Replaces** New at Issue 109

This specification defines the requirements of an Obstacle Detection System for use at Manually Controlled Barriers with Obstacle Detection (MCB-OD) level crossings and any similar crossing type that might be introduced later. It allows the procurement of an Obstacle Detection System that can be used at level crossings, in particular MCB-OD with minimum changes and at other level crossings where reduction in risk or automation is required.

NR/L2/XNG/19608 **Inspection of Level Crossing Systems** Issue 8; Sep 21 | **Compliance** 04/09/22 | **Replaces** NR/L2/SIG/19608 Iss 7; May 14

This business process forms part of the Level Crossing Inspection and Maintenance Control for managing the high-level risks:
a) vehicle, person or animal on the line at risk of collision;
b) incident on or near Level Crossing not involving a railway vehicle.

NR/L2/XNG/19608	Module	Issue	Issue Date
MOD01	Inspection of Level Crossings Systems - Assurance	1	Sep 2021

NR/L2/XNG/30020 **Level Crossings Design Handbook** Issue 1; Jun 19 | **Compliance** 07/09/19 | **Replaces** New at Issue 112

This manual sets out requirements to enable design of level crossing systems and supports:
a) safe development and design of new and altered level crossing systems impacting on Network Rail controlled infrastructure;
b) safe interfaces between the level crossing and its users (both on the railway and those wishing to cross it);
c) client's specified requirements being met by systems and designs that are fit for purpose.

NR/L2/XNG/30020	Module	Issue	Issue Date
G22	Efficient Delivery Guidance for Overlay Miniature Stop Light Level Crossings *	1	Jun 2019

Level 3

NR/L3/XNG/207	**Level Crossing Manager Competence Framework** Issue 1; Sep 20	**Compliance** 05/09/20	**Replaces** New at Issue 117 NR/L3/OPS/045/2.07 Iss 1

This standard details the competency assessment process used to assess the competencies required by Level Crossing Managers (LCMs) to undertake safety critical risk assessments of level crossings.

NR/L3/XNG/308	**Risk Assessing Level Crossings** Issue 1; Sep 20	**Compliance** 05/09/20	**Replaces** New at Issue 117 NR/L3/OPS/045/3.08 Iss 1

This standard provides a process for risk assessing level crossing assets. It contributes to the control of the following high-level risks:
a) Level Crossings: vehicle, person or animal on the line at risk of collision; and
b) Level Crossings – non-collision (with train) incident.

NR/L3/XNG/309	**Level Crossing Administration** Issue 1; Sep 20	**Compliance** 05/09/20	**Replaces** New at Issue 117 NR/L3/OPS/045/3.09 Iss 1

This standard provides a framework to allow Network Rail to respond to planning consultations and provides a process for maintenance of level crossing files as required by NR/L2/OPS/100. This procedure also provides a remit for Road Rail Partnership Groups (RRPGs).

Guidance Notes

NR/GN/XNG/30048	**Index of Level Crossing Bowties** Issue 1; Sep 19	**Compliance** NA	**Replaces** New at Issue 113

This document provides the index and version control to the Level Crossings Bowties. Bowties are diagrams that are used to visualise how risks are managed.

NR/GN/XNG/30048	Module	Issue	Issue Date
01	Level Crossing Bow Tie – Animal, vehicle, object or person on the line at risk of collision	1	Sep 2019
02	Level Crossing Bow Tie – Incident on or near Level Crossing not involving a railway vehicle	1	Sep 2019

Special Inspection Notices

NR/SIN/158	**Level Crossing Pedestal Trunion Bolts** Issue 1; Nov 16	**Compliance** 09/12/17	**Replaces** New at Issue 102

The purpose of this Special Inspection Notice (SIN) is to inspect and replace all pedestal trunnion bolts fitted to BR985 hydraulic barrier packs.

NR/SIN/160	**Covtec Supplementary Audible Warning Device (SAWD)** Issue 1; Dec 16	**Compliance** 30/04/17	**Replaces** New at Issue 103

This Special Inspection Notice (SIN) is issued to obtain confirmation that all Supplementary Audible Warning Devices (SAWDs) installed at level crossings meet the site selection criteria set out in NR/L2/SIG/30038 and have faulting and maintenance contracts in place with the manufacturer.

NR/SIN/165	**Special Inspection of AOCL/AOCL+B and ABCL Level Crossings Including Power Supplies** Issue 1; Sep 17	**Compliance** 16/03/18	**Replaces** New at Issue 105

The purpose of this Special Inspection Notice (SIN) is to:
a) Review the power supply arrangements in place at all types of automatic locally monitored level crossings.
b) Evaluate the practicality of remote condition monitoring of the power supply system, and key sub-systems whose failure can have the same effect as loss of power supply, at all locally monitored level crossings, so that prompt action can be taken to manage the failure.

NR/SIN/166	**Inspection of Howells Re-Engineered Level Crossing Power Packs** Issue 1; May 17	**Compliance** 22/10/17	**Replaces** New at Issue 104

The purpose of this Special Inspection Notice (SIN) is to:
- Inspect all top trunnion coupling arrangements on Howells Re-Engineered BR985 level crossing power packs; and
- to take action to eliminate the risk of binding on the external damping assembly.

NR/SIN/170	**Manage Risk of Extended Closure Times at Automatic Level Crossings** Issue 2; Feb 19	**Compliance** 30/06/19	**Replaces** NR/SIN/170 Iss 1; Mar 18

This Special Inspection Notice (SIN) mandates the process to:
- assess the risk of automatic level crossings which present with excessive warning time, thus manifesting as extended level crossing closure times for the user; and
- develop a plan of action to manage these risks.

NR/SIN/173	**Management of Risk at User Worked Level Crossings Equipped with Power Gate Openers (POGOs) or with Barriers and Miniature Stop Lights (MSLs)** Issue 1; Apr 18	**Compliance** 31/7/18	**Replaces** New at Issue 108

This Special Inspection Notice (SIN) has been issued to confirm:

- there are no further installations of POGO or commissioning into service of any previously installed POGOs until reliability issues with the product have been addressed;
- POGOs are only operational at sites where users fully understand how to operate crossing equipment and can safely traverse the crossing, until known issues with signage and site layout are rectified;
- the signage and instructions at crossings where POGO remains operational are clear and give no cause for confusion.;

NR/SIN/173/	Title	Issue	Issue Date
Appendix C	RAIB Urgent Safety Advice 03/2017 Signs at Level Crossings	1	Apr 2018
Appendix D	Network Rail's Response to the RAIB's POGO USA	1	Apr 2018
Appendix E	POGO Certificate of Acceptance Suspension PA05/05508	1	Apr 2018
Appendix F	POGO Update February 2018 FAQ	1	Apr 2018

NR/SIN/180	**Level Crossing Train Detection Configuration** Issue 1; Mar 18	**Compliance** 31/03/19	**Replaces** New at Issue 108

The purpose of this Special Inspection Notice (SIN) is to identify and assess the configuration of train detection at level crossings to manage the risk of conflict between road and rail vehicles.

NR/SIN/188	**Removal of Howells BR985 (Mk2) Re-Engineered Hydraulic Level Crossing Barrier Packs** Issue 1; Mar 19	**Compliance** 27/09/19	**Replaces** New at Issue 112

The purpose of this Special Inspection Notice (SIN) is to instruct the removal of Howells BR985 (Mk2) re-engineered hydraulic level crossing barrier packs (Cat No. R086/027184) from Network Rail managed infrastructure and install a replacement using SPX BR985 (Mk2) hydraulic level crossing barrier packs (Cat No. 086/027218 or R086/027218)

4.16.1 NATIONAL DELIVERY SERVICE

Level 2

NR/L2/NDS/205	**Rail Delivery and Recovery Systems Overview** Issue 2; Dec 10	**Compliance** 04/12/10	**Replaces** NR/L2/NDS/205 Iss 2; Sep 10

The purpose of this Company Standard is to detail to Network Rail staff and applicable support service contractors the responsibilities of delivery and collection requirements associated with Network Rail rail delivery systems planning timescales.
This Company Standard will also standardise the methodology associated with planning delivery and collection of rail by Network Rail rail delivery systems. It will mandate planning time scales and responsibilities in the process for the planning of delivery and collection of rail with the Network Rail rail delivery systems.

Level 3

NR/L3/NDS/006	**NDS Process for the Management of Fatigue and Working Hours for Employees Undertaking Safety Critical Work** Issue 1; Sep 11	**Compliance** 03/12/11	**Replaces** NR/L2/ERG/006 Iss 1; Jun 10

This standard defines the requirements for managing fatigue and working hours for National Delivery Service (NDS) employees, and those employed under contract by NDS, who undertake safety critical work. Its purpose is to reduce the risks to health and safety that are associated with working patterns, shift work and excessive working hours.

NR/L3/NDS/305	**Rail Delivery and Recovery** Issue 2; Dec 10	**Compliance** 04/12/10	**Replaces** NR/L3/NDS/305 Iss 1; Sep 10

The purpose of this Company Standard is to detail to Network Rail staff and applicable support service contractors the responsibilities of delivery and collection requirements associated with Network Rail rail delivery systems planning timescales.
This Company Standard will also standardise the methodology associated with planning the delivery and collection of rail by Network Rail rail delivery systems. It will mandate planning time scales and responsibilities in the process for the planning of delivery and collection of rail with the Network Rail rail delivery systems.

NR/L3/NDS/306	**Planned General Safety Inspections** Issue 1; Jun 10	**Compliance** 04/09/10	**Replaces** New at Issue 76

This procedure defines the process for planning, conducting and reporting planned health, safety and environmental general inspections in the National Delivery Service (NDS) department to check that formal controls are being implemented and unsafe acts or conditions are identified. The aim is also to check the management system is effective and to identify changes to be made that will improve and develop the business

4.16.2 SUPPLY CHAIN OPERATIONS

Level 2

NR/L2/SCO/203 **Loading and Securing of Infrastructure Traffic** Issue 4; Mar 19 | **Compliance** 01/06/19 | **Replaces** NR/L2/NDS/203 Iss 3; Mar 12

Network Rail produce loading patterns for infrastructure traffic loaded by Network Rail contractors, suppliers and their sub-contractors and carried by any freight operating company with a relevant Railway Safety Certificate, contracted to Network Rail for that purpose.
These are published in the Loading Manual for Infrastructure Traffic Employees.
Loading patterns for the safe loading and securing of infrastructure traffic are one aspect of the overall requirements for safe train operation.

NR/L2/SCO/302 **Supplier Qualification Requirements** Issue 1; Jun 20 | **Compliance** 05/09/20 | **Replaces** New at Issue 116

This document seeks to mitigate the risks that Supplier Assurance Providers import when assuring suppliers who wish to work on Network Rail Managed Infrastructure by setting out the management system and processes required for Supplier Assurance Providers who assure suppliers of products and services.

NR/L2/SCO/302/	Title	Issue	Issue Date
01	Core Requirements	1	Jun 2020
02	CDM Requirements	1	Jun 2020
03	Sentinel Scheme Requirements	1	Jun 2020
04	Rail Interface (Safe Work) Planning Requirements	1	Jun 2020
05	On Track Plant (OTP) Requirements	1	Jun 2020

NR/L2/SCO/306 **Disposal of Redundant Assets** Issue 5; Mar 22 | **Compliance** 04/06/22 | **Replaces** NR/L2/SCO/306 Iss 4; Sep 19

This document process sets out the rules governing the Disposal of Redundant Assets. It enables Network Rail to do this efficiently and effectively to meet its safety, regulatory, financial and HM Treasury obligations.

Level 3

NR/L3/SCO/204 **Switches and Crossings Recycling Process** Issue 1; Dec 20 | **Compliance** 05/12/20 | **Replaces** New at Issue 118

This standard provides the requirements for the processing of serviceable switches, crossings and other ancillaries.
This standard provides the controls that reduce the risk associated by recycling S&C units, this creates serviceable S&C units from recovered items that would have otherwise been scrapped.
This standard controls the recycling methods and processes used at a Network Rail Switch and Crossing (S&C) Recycling Facility.

NR/L3/SCO/204/	Title	Issue	Issue Date
01	Serviceable S&C Operations Process	1	Dec 2020
02	Sale Order Process	1	Dec 2020
03	S&C Rail Adjustment Pressing Process	1	Dec 2020

NR/L3/SCO/306 **Disposal of Redundant Assets** Issue 2; Mar 22 | **Compliance** 04/06/22 | **Replaces** NR/L3/SCO/306 Iss1; Sep 19

This document sets out the rules which Route Services apply when undertaking the Disposal of Redundant Assets. It enables Network Rail to do this efficiently and effectively to meet its safety, regulatory, financial and HM Treasury obligations.

NR/L3/SCO/308 **Loading Manual for Infrastructure Traffic** Issue 3; Mar 19 | **Compliance** 01/06/19 | **Replaces** NR/L3/SCO/308 Iss 2; Dec 17

This standard enables Network Rail to meet the requirements of GO/RT3056, by detailing the minimum requirements for the safe loading and load examination of Network Rail Infrastructure Traffic's on rail vehicles. This standard mitigates the following high-level safety risks:

- Risk to Network Rail managed infrastructure from incorrectly loaded infrastructure traffic.
- Risk to staff undertaking loading activities from inadequately defined safe systems of work.

NR/L3/SCO/311 **Supply Chain Operations, T&RS and OTM Engineering and Management Manual** Issue 5; Mar 22 | **Compliance** 05/03/22 | **Replaces** NR/L3/SCO/311 Iss 4; Mar 19

This manual provides requirements and procedures to enable Supply Chain Operations (SCO) to comply with ROGS, with the requirements of NR/L1/RMVP/0001 and NR/L2/RMVP/0090 (where specified) and enables the implementation of an ISO 55001 compliant Asset Management System (AMS) within SCO.

NR/L3/SCO/311/	Title	Issue	Issue Date
Management Function			
01	Entity in Charge of Maintenance	3	Mar 2022
02	Risk, Competence and Asset Management System	3	Mar 2022

NR/L3/SCO/311/	Title	Issue	Issue Date
03	Technical Asset Management Meeting	3	Mar 2022
04	Engineering Change	3	Mar 2022
05	Contractual Arrangements	3	Mar 2022
06	Safety Performance Monitoring	3	Mar 2022
21	Asset Data Management	1	Mar 2022
Maintenance Development			
07	Maintenance Document Control, Review and Revision	2	Mar 2022
Maintenance Management			
08	Removal and Release of Trains to Traffic	3	Mar 2022
09	Deferral of Maintenance or Repair	3	Mar 2022
10	Post-Accident and Incident	3	Mar 2022
11	Level 1 Inspections	2	Mar 2022
12	Maintenance Programme	2	Mar 2022
20	Handover and Handback of Rail Vehicles	1	Mar 2022
Maintenance Delivery			
13	Maintenance Facilities, Planning and Supervision	3	Mar 2022
14	Maintenance Recording	2	Mar 2022
15	Tools and Equipment	2	Mar 2022
16	Management of Safety Related Components	3	Mar 2022
17	Asset Configuration Management	2	Mar 2022
18	Reporting of Corrective Maintenance and Repairs	2	Mar 2022
Operations			
19	Driving and Operational Requirements	2	Mar 2022

NR/L3/SCO/313 **On-Track Machines (OTMs) Driver and Operations Standards Manual** Issue 11 Dec 21 | **Compliance** 05/03/22 | **Replaces** NR/L3/SCO/313 Iss 10 Jun 21

This standard provides a central reference point of:
a) Safety Management System (Transport Undertaking) and the supporting safety procedures to support the Mainline Certificate; and
b) information, operational and procedural requirements for the operation of OTMs.

NR/L3/SCO/313/	Title	Issue	Issue Date
SP-1.01	Professional OTM driver policy	2	June 2019
SP-1.02	Recruitment and selection of OTM driver operators	3	June 2021
SP-1.03	Medical standards for OTM driver operators	3	Dec 2021
SP-1.03/AA	Employee list of visual correction measures	2	June 2018
SP-1.04	Training needs analysis for OTM driver operators	2	Dec 2019
SP-1.04/AA	Training needs analysis flowchart	2	Dec 2019
SP-1.06	Initial OTM driver training	3	June 2021
SP-1.07	Transfer of OTM drivers	3	June 2021
SP-1.08	OTM driver competence standards	5	June 2021
SP-1.09	OTM driver development plan	2	Mar 2019
SP-1.10	OTM driver route knowledge	3	Dec 2021
SP-1.10/FA1	Route Risk Assessment	2	Dec 2018
SP-1.11	OTM type knowledge (traction)	2	Sept 2020
SP-1.12	OTM driver licence certificate	3	June 2021
SP-2.01	Cab access	2	June 2019
SP-2.01/AA	Cab access: Cab Pass Types	2	June 2019
SP-2.01/AC	Cab access: information to driving compartment visitors	2	June 2019
SP-2.01/AD	Cab access: information brief for other FOC/OTM drivers	2	June 2019
SP-2.02	Urgent safety related operating advice	2	June 2021
SP-2.04	OTM driver personal electronic devices protocol	2	Dec 2018
SP-2.04/AA	OTM driver mobile communications and personal electronic devices brief	2	Dec 2018
SP-2.04/AB	OTM driver mobile communications and personal electronic devices brief acknowledgement form	2	Dec 2018
SP-2.04/AC	Non-OTM crew / safety critical staff or manager mobile communications and personal electronic devices brief	2	Dec 2018
SP-2.05	Defective OTM equipment	5	Sept 2020
SP-2.05/AA	Defective OTM equipment – list of OTM equipment and action to be taken	7	June 2021
SP-2.05/AB	Defective High Output Core Vehicles: On-train equipment - list of equipment and actions to be taken	1	Sept 2020
SP-2.06	Safety of the line investigations	2	Dec 2020
SP-3.02	On Train Data Recorder (OTDR) operating requirements	2	Mar 2019
SP-3.03	Managing fatigue in safety critical workers	2	Sept 2020
SP-3.04	Managing OTM incidents	2	Sept 2020

NR/L3/SCO/313/	Title	Issue	Issue Date
SP-3.04/AA	Managing OTM incidents: NR guidance table	2	Sept 2020
SP-3.05	Chain of care	3	Dec 2021
SP-3.06	General OTM Driver Operators Management Instructions	3	June 2019
SP-4.05	Operation of vehicles fitted with wheel skates	2	Sept 2020
SP-4.11	Protection arrangements for working on OTMs	2	Sept 2020

NR/L3/SCO/314 **Engineering Assurance for T&RS, OTM and OTP Projects** Issue 1; Dec 18 | **Compliance** 02/03/19 | **Replaces** New at Issue 110

This standard defines the minimum project engineering assurance arrangements for all Supply Chain Operations (SCO) capital programmes for the enhancement and renewal of Traction & Rolling Stock (T&RS), On-Track Machines (OTMs) and On Track Plant (OTP). This standard defines the best practices and processes that should be used so that project engineering assurance is correctly managed.

Associated Documents

NR/L3/SCO/314	Title	Issue	Issue Date
T01	Technical Review	1	Dec 2018
T02	Technical Change Proposal	1	Dec 2018

NR/L3/SCO/320 **Supplier Quality Assurance (SQA)** Issue 2; Sep 20 | **Compliance** 05/12/20 | **Replaces** NR/L3/SCO/320 Iss 1; Sep 18

This document describes the framework for completion of Supplier Quality Assurance (SQA) activities to reduce the risk and likelihood of product failure potentially attributed to safety incidents or train delay posed by the introduction of poor quality material and product lines, provided from External Suppliers/Manufactures managed by Supply Chain Operations (SCO), Route Service (RS), into the Network Rail managed infrastructure.

4.17.1 OPERATIONS & CUSTOMER SERVICES

Level 2

NR/L2/OCS/009	**Network Capability Management Procedure** Issue 1; Mar 10	**Compliance** 06/03/10	**Replaces** New at Issue 75

This standard sets out requirements for the management of Network Capability, so as to meet the company's regulatory and commercial obligations to its stakeholders. It defines procedures for making changes to the capability of the network and highlights that physical changes to the network shall not be made unless the correct procedure(s), including Network Change, where applicable, have been followed and completed. It also requires that the published capability of the network is amended concurrently with the completion of any physical change.

NR/L2/OCS/042	**Railway Operational Code Implementation, Variation and Review Process** Issue 3; Mar 11	**Compliance** 05/03/11	**Replaces** NR/L2/OCS/042 Iss 2; Dec 08

This specification describes the sections of the Railway Operational Code, how reviews will be conducted and the arrangements and processes for dealing with variations.

NR/L2/OCS/060	**Customer requirements for the Provision of Train Running Information on Stations** Issue 1; Dec 08	**Compliance** 01/12/08	**Replaces** New at Issue 70

This standard provides customers at the railway station with a consistency as to the provision of information screens. The standard describes the type of screen (in terms of the content shown) and the location of each type of screen. This is provided for each type of station based on the station size standard A - F classification and applies to new and enhancement systems, as well as renewals where sufficient funding is available.

NR/L2/OCS/070	**Major Infrastructure Changes – the Provision of Staff Briefing Material to Train Operators** Issue 4; Mar 11	**Compliance** 05/03/11	**Replaces** NR/SP/OPS/070 Iss 3; Jun 06

To define the process by which Network Rail ensures that suitable and sufficient briefing materials are supplied to Train Operators to ensure a safe transition following significant infrastructure changes. Infrastructure Projects shall have adequate procedures in place to ensure compliance with the requirements of this procedure. This will normally be covered by the 'Guide to Railway Investment Projects'.

NR/L2/OCS/098	**Management of Short-term Network Change** Issue 2; Jun 09	**Compliance** 06/06/09	**Replaces** NR/L2/OCS/098 Iss 1; Dec 07

This document advises local managers of a change in procedure covering network capability whereby a reduced level of maintenance can be applied to sections of route commensurate with a reduced capability or temporary cessation of traffic. This arrangement shall be formalised through a revised Maintenance Regime Agreement and shall be conditional upon the satisfactory conclusion of Network Change consultation, including the arrangements for re-instatement.

4.17.2 OPERATIONS PRINCIPLES & STANDARDS

Level 1

NR/L1/OPS/010	**Signals Passed at Danger (SPAD) and Signal Reversions Affecting Trains** Issue 13; Sep 19	**Compliance** 07/12/19	**Replaces** NR/L1/OPS/010 Iss 12; Mar 10

The purpose of this standard is, in accordance with the requirements applicable to an Infrastructure Manager, to provide a consistent and structured process for the immediate actions required in dealing with SPADs or Movement Authority's passed without authority, gathering evidence following a SPAD incident and subsequent management of SPAD issues within Network Rail and in conjunction with Railway Undertakings.

Level 2

NR/L2/OPS/015	**Working of Passenger Trains Over Non-Passenger Lines** Issue 2; Sep 19	**Compliance** 07/12/19	**Replaces** NR/L2/OPS/015 Iss 1; Dec 08

The purpose of this Company Standard is to detail the arrangements to be put in place by Network Rail Routes for safe working of passenger trains over non-passenger lines.

NR/L2/OPS/021	**Weather – Managing the Operational Risks** Issue 8; Jun 19	**Compliance** 07/09/19	**Replaces** NR/L2/OCS/021 Iss 7; Sep 17

This document together with NR/L3/OPS/021 mandates how Network Rail:

- prepares, manages and responds to operational risks arising from adverse and extreme weather events;
- prepares for, mitigates and manages seasonal weather related activities.

NR/L2/OPS/031	**Assessing and Assuring the Impact of Operational Risks Relating to Changes to the Train Plan** Issue 10; Sep 19	**Compliance** 07/03/20	**Replaces** NR/L2/OCS/031 Iss 9; Sep 14

This standard provides a framework whereby Network Rail can identify, assess, evaluate and assure operational risks associated with prospective changes to the train service, prior to the publication of the Working Timetable (WTT).

NR/L2/OPS/033	**Recording Spoken Safety Critical Communications between Possession Management and Engineering Trains / On-Track Plant Drivers when Working in Possessions and Worksites** Issue 3; Jun 19	**Compliance** 07/03/20	**Replaces** NR/L2/OPS/033 Iss 2; Mar 09

The purpose of this business process is to implement a procedure which mitigates the risks associated with verbally controlling the movement of engineering trains and on track plant.

NR/L2/OPS/034	**Management of Rule Book Change** Issue 2; Jun 17	**Compliance** 02/09/17	**Replaces** NR/L2/OPS/034 Iss 1; Dec 09

This business process provides a framework for Network Rail to review proposed changes and additions to the GE/RT8000 Rule Book prior to validation at the RSSB Traffic Operations Management Standards Committee.

NR/L2/OPS/035	**Dissemination of Urgent Operating Advice** Issue 4; Aug 08	**Compliance** 26/08/08	**Replaces** NR/L2/OPS/035 Iss 3; Apr 07

This documents how Network Rail shall initiate or receive urgent operating advices and how these shall be distributed.

NR/L2/OPS/037	**Management of Spoken Safety Communication** Issue 2; Dec 07	**Compliance** 01/12/07	**Replaces** RT/LS/P/037 Iss 1; Oct 01

This document details Network Rail's arrangements for the management of spoken safety communications.

NR/L2/OPS/060	**The Management of Heat Related Emergency Restrictions of Speed Resulting from High Air Temperatures** Issue 3; Mar 10	**Compliance** 06/03/10	**Replaces** NR/L2/OPS/060 Iss 2; Aug 08

The purpose of this document is to set the procedure for the management of heat related Emergency Speed Restrictions (ESR) resulting from a forecast of Hot Weather. The purpose of the standard is to maintain operational safety yet reduce the performance impact of unnecessary heat related blanket ESR. the procedure supports NR/CS/OPS/021.

NR/L2/OPS/095	**High Risk Sites for Wrong Side Track Circuit Failures in Leaf Areas and for Low Rail Adhesion** Issue 6; Jun 19	**Compliance** 07/09/19	**Replaces** NR/L2/OCS/095 Iss 5; Sep 15

To establish a process to identify, risk rank and create a removal plan for any location which may be classified as a high risk site in respect of likely occurrences of wrong side track circuit failures (WSTCFs) under leaf fall contamination conditions.

NR/L2/OPS/101	**Temporary Vehicular Level Crossings and Temporary Increased use of Existing Level Crossings** Issue 3; Mar 10	**Compliance** 06/03/10	**Replaces** NR/L2/OPS/101 Iss 2; Jun 08

The purpose of this standard is to set out the protection requirements and safety precautions applicable to the provision of temporary vehicular level crossings and temporary special use of existing private vehicular crossings. It sets out the process for authorisation of the temporary use and of the protection arrangements.

NR/L2/OPS/104	**Planning and Control of Steam Locomotive Operation** Issue 1; Oct 07	**Compliance** 06/10/07	**Replaces** RT/D/S/009 Iss 3 RT/D/C/087 Iss 1

This standard has been created to enable Network Rail functions to correctly plan for steam locomotive/train operation on Network Rail Managed Infrastructure.

NR/L2/OPS/110	**Requirements for the Weekly Operating Notice, Periodical Operating Notice and Local Operating Instructions (incl. Sectional Appendix)** Issue 3; Dec 16	**Compliance** 04/03/17	**Replaces** NR/L2/OPS/110 Iss 2; Jun 08

This document mandates requirements for the production of information related to engineering work, alterations to track and signalling arrangements, and Local Operating Instructions.

NR/L2/OPS/202	**Principles, Timescales and Functional Responsibilities for Engineering Work, Access and Heavy Resource Planning** Issue 7; Jun 17	**Compliance** 02/09/17	**Replaces** NR/L2/NDS/202 Iss 6; Mar 12

This business process defines the business planning process that enables engineering access to Network Rail Managed Infrastructure to undertake inspection, maintenance, renewal and enhancement of the network in compliance with the Network Code and with the objective of controlling the safety and business risks associated with arrangements for engineering access.

NR/L2/OPS/250	**Network Rail National Emergency Plan** Issue 8; Jun 21	**Compliance** 04/09/21	**Replaces** NR/L2/OPS/250 Iss 7; Mar 19

This standard sets out the arrangements in place to provide an effective response to accidents, incidents, emergencies or crises on or affecting Network Rail controlled assets across Great Britain. It sets out the responsibilities of Network Rail, and it also outlines the responsibilities of passenger / freight operating companies and other interfacing organisations in relation to this plan. It enables Network Rail to comply with the requirements of the Civil Contingencies Act (2004) as a Category 2 responder.

NR/L2/OPS/253	**Specification for Rail Operating Centres** Issue 1; Mar 20	**Compliance** 06/06/20	**Replaces** New at Issue 115

The purpose of the specification is to bring together the technical requirements of the building, with the operational requirements of the Route and the personal needs of the individuals, which allow the ROC to operate effectively. So that the ROC can respond to different levels of occupation by signalling, control and electrical control teams, and to the introduction of new technology.

NR/L2/OPS/254	**Manual for the Principles of Operational Simulation** Issue 1; Dec 17	**Compliance** 03/03/18	**Replaces** New at issue 106

This business process states the principal requirements for operational simulation to test the operability of systems, deliver training and manage ongoing competence. The document provides a framework that matches levels of simulation to the delivery of operational competence outcomes. The document provides clarity on the level of simulation required to provide competent staff and reduce the risk of operational errors in safety critical roles.

NR/L2/OPS/254/	Title	Issue	Issue Date
01	Signalling Simulation Operational Specification	1	Dec 2017

NR/L2/OPS/292	**Station Capacity and Crowd Management Business Process** Issue 1; Jun 21	**Compliance** 04/09/21	**Replaces** New at Issue 120

The purpose of this standard is to:
a) Clearly outline how the subject of passenger crowding in stations and associated risks are managed across Network Rail;
b) Define roles and responsibilities of core operational teams, support functions and subject matter experts in the organisation;
c) Set out requirements and processes that enable organisational best practice, achieve compliance with Network Rail's licence obligations and in doing so lead the industry in this subject matter;
d) Strengthen the governance in the area setting out clear accountabilities and placing passenger experience and safety at the heart of our operational and planning procedures; and
e) Confirm crowd management plans are based on data driven insights, thorough planning, subject matter expertise and consideration of passenger experience.

Level 3

NR/L3/OPS/002 **Driving Cab Passes** Issue 8; Mar 19 | **Compliance** 02/03/19 | **Replaces** NR/L3/OPS/002 Iss 7; Sep 18

This document allows Network Rail employees and its contract employees to conduct safe and efficient inspections of Network Rail managed infrastructure from the driving cab of a train.
It also enables Network Rail to meet its cab access control obligations under Department for Transport security instructions and the obligations towards train operator duty holders who are responsible for the safety critical driving cab environment.

NR/L3/OPS/009 **Track Circuit Operating Device (TCOD) Identification of Locations for Use** Issue 4; Dec 19 | **Compliance** 07/03/2020 | **Replaces** NR/L3/OPS/009 Iss 3; Aug 08

This standard specifies requirements to determine where a Track Operating Device -T-COD) may be used in order to comply with the Rule Book. It contains instructions for the use and application of Remote-Controlled Tracker Circuit Operating Devices (RC T-COD).
(Contains NR/BS/LI/485)

NR/L3/OPS/021 **Weather Management Index** Issue 5; Sep 20 | **Compliance** 05/12/2020 | **Replaces** NR/L3/OPS/021 Iss 4; Mar 20

This manual is an index of the weather management modules which manage the risk associated with adverse, extreme and seasonal weather conditions and forecasts.
(Contains NR/BS/LI/482, NR/BS/LI/483)

NR/L3/OPS/021/	Title	Issue	Issue Date
01	Autumn Management	1	Jun 2019
02	Summer Management	1	Sep 2020
03	Winter Management	1	Dec 2019
05	High Winds	1	Dec 2019
07	Tree Management for Adverse and Extreme Weather	1	Mar 2020
08	Earthworks *(Contains NR/BS/LI/483)*	1	Jun 2019
09	Management of Structures During Adverse and Extreme Weather	1	Jun 2019
10	Joint Seasons Management Groups	1	Sep 2019
11	Seasonal Calendars	1	Sep 2020
12	Flooding - Management of Drainage	1	Sep 2020
13	Extreme Weather Response Process *(Contains NR/BS/LI/482)*	1	Dec 2019

NR/L3/OPS/045 **National Operating Procedures Index** Issue 22; Mar 22 | **Compliance** 04/06/22 | **Replaces** NR/L3/OPS/045 Iss 21; Jan 21

This standard provides an index of the National Operating Procedures (NOPs) manual which contains a mandatory and unified suite of procedures for all Network Rail with operational responsibilities.

NR/L3/OPS/045	Title	Issue	Issue Date
Section 1	**Location Management & Self-Assurance**		
1.01	Quarterly Health, Safety & Welfare Inspections of Staffed Operational Locations	1	Sep 2017
1.02	Self-Assurance	2	Jun 2018
1.03	Personal Use of Technology, IT and Domestic Radios in Operational Locations	1	Sep 2019
1.04	Checks of Train Register / Occurrence Books	1	Dec 2019
1.06	National Operations Quality Assurance Review (Assistance for Regions)	1	Oct 2020
Section 2	**People, Training & Competence**		
2.01	Quality Assurance in Occupational Competence	4	Jan 2022
2.02	Controller Competence Assessment Process	3	Dec 2019
2.03	Electrical Control Operator Competence and Assessment Framework	3	Jun 2018
2.04	Operational Competence Management	2	Apr 2021
2.05	Train Dispatch Competence – Assessment Process	2	Jun 2018
2.06	Competence Standard and Assessment Framework for Operating Signalling Equipment	4	Nov 2021
2.08	Competency Framework to Carry Out the Role of Level Crossing Keeper	1	Dec 2019
2.10	Incident Management Competence Framework	1	Apr 2021
2.11	Safety Critical Work	2	Dec 2020
2.12	Operational Development Day and Safety Briefings	2	Sep 2020
2.13	Control of Excessive Working Hours for Persons Undertaking Safety Critical Work	3	Oct 2020
2.14	Additional Monitoring of Employees and Support Procedure	1	Sep 2017
2.15	Mandatory and Additional Visits to Employees at Operating Locations	3	Nov 2021
2.16	Monitoring the Quality of Spoken Communications	3	Nov 2020
2.17	Signalling Location Training Plans	1	Sep 2017
2.18	Manual Signalling Level Force Management	2	Sep 2018
2.19	Customer Service Assistance Competence Assessment Process	1	Jun 2018
2.20	Station Management Training and Competence	1	Feb 2021

NR/L3/OPS/045	Title	Issue	Issue Date
2.25	Rest Break Management Process	1	Jan 2021
Section 3	**System Operations**		
3.01	Level Crossings – Keeping a Record of Telephone Calls	1	Sep 2017
3.02	Preparation and Distribution of Local Instructions	2	Jun 2018
3.03	Preparation and Distribution of Blocked to Electric Trains (BTET) Instructions	1	Sep 2017
3.04	Signalling and Permanent Way Alterations Preparation of Supplementary Signalling Notices	1	Sep 2017
3.05	Radio Communication Failures	2	Oct 2020
3.06	Dynamic Risk Assessment Process	2	Nov 2020
3.07	Signalling System Failures, Lineside Safety Equipment Failures, Track Defects and Receiving and Responding to RT3185 Forms	2	Jun 2018
3.10	Isolations, Loss of Power or Damage to Third Rail Equipment	1	Sep 2017
3.11	Electrical Isolations AC (OLE)	2	Jun 2018
3.12	Wrong Routing Incidents	1	Sep 2017
3.13	Assistance for Disabled, Stranded and Failed Trains (Railway Operational Code)	1	Sep 2017
3.14	Station Stopping Incidents	1	Sep 2017
3.15	Defective On-Train Equipment	2	Sep 2019
3.16	Train Door Incidents	1	Sep 2017
3.17	Weather Arrangements	3	Jun 2020
3.18	Operation and Control of Heritage Trains	1	Sep 2017
3.19	Speed Restrictions	2	Jun 2018
3.20	New / Late Change To Planned Possessions & Communications Protocol	1	Sep 2017
3.21	Asset Monitoring Systems Wheel Impact Load Detector (WILD) and Hot Axle Box Detector (HABD)	1	Sep 2017
3.22	Response to Remote Condition Monitoring Alarms	1	Sep 2017
3.23	Train Service Management	1	Sep 2017
3.24	RIS-3350-TOM – Urgent Operating Advice and RIS-8250-RST – Safety Related Defect Reports	1	Sep 2017
3.25	Additional Track Access (VSTP)	2	Jun 2018
3.26	Management of Freight Services During Disruption	1	Sep 2017
3.27	Briefing of Immediately Transferable Lessons From Serious Operational Incidents	2	Apr 2021
3.28	Monitoring of Radio Electronic Token Block (RETB)	1	Sep 2017
3.29	Ground Frame Local Instructions	1	Sep 2017
3.30	Detailed Assessment for Determining Suitability of Single Lines for Modified Working and Authorising the Use of Modified Working	2	Jun 2018
3.31	Permissive Platform Working	2	Sep 2021
3.32	Temporary Block Working (TBW) & Emergency Special Working (ESW)	2	Dec 2019
3.33	Authorising Trains to Coast with Pantographs Lowered	1	Sep 2017
3.34	Bridge Strikes from Road Vehicles and Waterborne Vessels	1	Sep 2017
3.35	Managing the Files and Investigation of Signals Passed at Danger (SPAD) Events	1	Sep 2017
3.36	Signals Passed at Danger (SPAD) or Signals Passed at RED (SPAR)	1	Sep 2017
3.37	Operational Workload Assessment	1	Jun 2019
3.39	Risk Assessing Of Workstation / Signalling Panels for Dual Operation	1	Apr 2021
3.40	Emergency Operation of Signalling Locations	1	Jan 2021
Section 4	**Incident Management & Security**		
4.01	Evacuation and Security Management of Signalling Locations, Controls, Stations and Trains	3	Mar 2019
4.02	Preparation and Distribution of Emergency Plans	2	Jun 2018
4.03	Emergency Arrangements	1	Sep 2017
4.04	Incident Management – Initial Advice and Guidance	2	Nov 2021
4.05	Management of Infrastructure Incidents	1	Sep 2017
4.06	Station Overcrowding and Special Events	1	Sep 2017
4.07	Taking Samples of Railhead Contamination	2	Dec 2019
4.08	Reporting of Dangerous Goods Events	1	Sep 2017
4.09	Fires	1	Sep 2017
4.10	Emergency Services Personnel On or Near the Line	2	Jun 2018
4.11	Reporting and Risk Assessing Railway Crime	2	Dec 2019
4.12	Gas Escapes and Gas Emergencies	1	Sep 2017
4.13	Air Traffic Incidents	1	Sep 2017
4.14	Control of Environmental Incident Procedures	2	Dec 2017
4.15	Managing Stranded Passengers and Train Evacuation	3	Dec 2020
4.16	Person Struck by Train and Fatality Management	4	Mar 2022
4.17	Security and Storage of Detonators	1	Sep 2017
4.18	Management of Station Security and Crime	3	Jun 2021
4.19	Station Security and Event Plans	4	Jun 2021
Section 5	**Station Operations**		

NR/L3/OPS/045	Title	Issue	Issue Date
5.01	Planned General Inspections and Management of Faults and Defects	1	Sep 2017
5.02	Management of Escalators, Lifts and Other Station Equipment	1	Sep 2017
5.03	Management of Station Vehicles and Other Plant	1	Sep 2017
5.04	Management of Station Works	1	Sep 2017
5.05	Management of Access and Restricted Areas	1	Sep 2017
5.06	Management of the Operational Railway Interface	2	Mar 2022
5.07	Management of Filming, Photography, Exhibition Sites, Promotions and Charities	1	Sep 2017
5.08	Management of Retail Activities	1	Sep 2017
5.09	Management of Station Safety Briefing	1	Sep 2017
5.10	Management of Environmental Arrangements	1	Sep 2017
5.11	Management of Adverse Weather at Stations	1	Sep 2017
5.12	Management of Risk and Change	1	Sep 2017

NR/L3/OPS/0064 **Delivering Works Within Possessions** Issue 6; Jun 21 **Compliance** 04/09/21 **Replaces** NR/L3/INI/CP0064 Iss 5; Jun 17

This document provides Network Rail with the operational readiness framework aimed at reducing and mitigating the risk of possession overruns for projects delivering works on the rail infrastructure. It enables Network Rail to maximise productive use of possession time whilst balancing the risks associated with this objective.

NR/L3/OPS/084 **Line Clear Arrangements Following Engineering Works in Axle Counter Areas - Line Clear Verification Process** Issue 6; Dec 21 **Compliance** 04/12/21 **Replaces** NR/L3/OPS/084 Iss 5; Mar 20

The purpose of this work instruction is to manage the risk of vehicles being left on track following engineering possession subject to the Line Clear Verification (LCV) process being completed.

NR/L3/OPS/111 **Weekly Operating Notice - Format and Content** Issue 4; Dec 16 **Compliance** 04/03/17 **Replaces** NR/L3/OCS/111 Iss 3; Mar 11

To mandate how Network Rail shall manage the format, content and production of the Weekly Operating Notice (WON) to give consistency.

NR/L3/OPS/250 **National Emergency Plan Index** Issue 1; Jun 21 **Compliance** 04/09/21 **Replaces** NR/LS/P/250 Iss 1

This document provides an index of the National Emergency Plan modules which manage the risk associated with incidents and emergencies on or impacting the railway network.

NR/L3/OPS/250/	Title	Issue	Issue Date
01	Incident Response Framework	01	Jun 2021
02	Escalation Stages	01	Jun 2021
03	Incident Roles and Responsibilities	01	Jun 2021
04	Strategic Commander Role	01	Jun 2021
05	Tactical Commander Role	01	Jun 2021
06	Other Railway Incident Roles	01	Jun 2021
07	Communications and Situation Reporting	01	Jun 2021
08	Site Recovery and Restoration	01	Jun 2021
09	Specialist Incident Response	01	Jun 2021
10	Strategic Crisis Management	01	Jun 2021
11	Post Incident Review and Feedback	01	Jun 2021

NR/L3/OPS/251 **Unmanned Aircraft System (Drone / UAS) Operations** Issue 4; Sep 21 **Compliance** 04/09/21 **Replaces** NR/L2/OPS/251 Iss 3; Sep 19

This work instruction sets out:the operating arrangements for the preparation and execution of Unmanned Aircraft System (UAS/drones) flights near, on or over Network Rail infrastructure.
Complies with the Air Navigation Order (ANO); and Civil Aviation Authority (CAA) Guidance Publication CAP 722

NR/L3/OPS/255 **Mitigation of Point Run Throughs Within Engineering Worksites – Points Stop Equipment (PSE) Process** Issue 1; Mar 21 **Compliance** 05/06/21 **Replaces** New at Issue 119

The purpose of this standard is to contribute to the safe management and control of engineering train / On-track machines (OTM) / On-track plant (OTP) movements over or near trailing points within the worksite to mitigate point run throughs.

NR/L3/OPS/303	**Possession of the Line for Engineering Work Delivery Requirements** Issue 4; Jun 17	**Compliance** 02/09/17	**Replaces** NR/L3/NDS/303 Iss 3; Jun 10

The purpose of this work instruction is (in conjunction with GE/RT8000/T3 Possession of the line for engineering work and associated Handbooks), to inform Network Rail staff and applicable support services contractors the responsibilities and delivery requirements associated with taking a possession of the line for engineering work. The work instruction reduces the potential for conflict between possessions and the operational railway during engineering work.

Guidance Notes

NR/OPS/DEV/009	**COVID-19 Network Rail: Good Practice Guide for Working at Operational Locations (Signal Boxes, Electrical Control Rooms, Controls) during COVID 19** Issue 1; Jun 20	**Replaces** New at Issue 116

COVID 19 guidance document for Network Rail Staff

NR/GN/OPS/005	**Control and Testing with Rolling Stock Using Special Operating Instructions** Issue 2; Jun 09	**Replaces** RT/LS/C/005 Iss 1; Aug 02

This document provides guidance for controlling, so far as is reasonably practicable, the hazards and risks arising from the testing using rolling stock without taking an absolute possession of the line in accordance with the Rule Book Module T3.

4.18 RAIL MOUNTED VEHICLE & PLANT

Specifications (including Procedures)

RT/E/S/40017	**Core Maintenance Specification for Powered Scrubber/ Sweeper** Issue 1; Feb 1996	**Replaces**

This is a generalised maintenance specification for powered scrubbers/sweepers.

Level 1

NR/L1/RMVP/0001	**Plant and Traction and Rolling Stock Policy** Issue 5; Jun 19	**Compliance** 07/09/19	**Replaces** NR/L1/RMVP/0001 Iss 4; Sep 17

The implementation of this policy supports the management of Network Rail Plant and Traction and Rolling Stock (T&RS) assets to mitigate the following:

- non-compliance with legislation and regulatory requirements;
- operational safety risks on Network Rail managed infrastructure; and
- operational commercial risks caused by non-availability or failure.

Level 2

NR/L2/RMVP/0001	**Acquisition of Railbound Vehicles and On Track Plant** Issue 4; Sep 19	**Compliance** 07/12/19	**Replaces** NR/L2/RMVP/0001 Iss 3; Jun 17

This Standard defines the minimum requirements for all technical and engineering activities related to the safe acquisition of Railbound Vehicles and On Track Plant assets within the Plant and Traction and Rolling Stock (T&RS) portfolio.
The implementation of this standard helps to mitigate the following risks:

- ordering of vehicles, supply of safety critical products and services as defined in NR/L1/RMVP/0001 that are not fit for purpose;
- inability to get NoBo/DeBo/AB/PAB approval of new vehicles or vehicle upgrades; and
- that vehicles do not meet end user's requirements.

NR/L2/RMVP/0002	**Operation and Use of Railbound Vehicles and On-track Plant** Issue 3; Sep 19	**Compliance** 07/12/19	**Replaces** NR/L2/RMVP/0002 Iss 2; Jun 17

This Standard defines the minimum requirements for all technical and engineering activities related to the operation and use of Railbound Vehicles and On Track Plant (OTP) assets within the Plant and Traction and Rolling Stock (T&RS) portfolio.
The implementation of this standard helps to mitigate the following risks:
a) dangerous use of Network Rail (NR) owned or hired in vehicles due to

- incorrect work planning;
- operation by non-competent staff;
- poor asset condition;
- misuse of equipment

b) operation of rail vehicles without the correct documentation in place; and
c) lack of accident management process in place for rail vehicle accidents.

NR/L2/RMVP/0003	**Assurance, Performance & Monitoring of Railbound Vehicles and On Track Plant** Issue 2; Sep 19	**Compliance** 07/12/19	**Replaces** NR/L2/RVE/0003 Iss 1; Dec 10

This Standard defines the minimum requirements for all technical and engineering activities related to the provision of Assurance and Performance Monitoring for Railbound Vehicles and On Track Plant (OTP) assets within the Plant and Traction and Rolling Stock (T&RS) portfolio.
The implementation of this standard will control risk associated with the use of vehicles, supply of safety critical products and provision of services as defined in NR/L1/RMVP/0001 that are not fit for purpose.

Note: NR/L2/RMVP/00022 Issue 2, (aka NR/PS/ELP/00022) is no longer mandatory, as of July 2012

NR/L2/RMVP/0090	**Management of Maintenance and Change for Railbound Vehicles and On Track Plant** Issue 4; Sep 19	**Compliance** 07/12/19	**Replaces** NR/L2/RMVP/0090 Iss 3; Jun 12

This Standard defines the minimum requirements for all technical and engineering activities related to the management of maintenance and associated changes to assets or processes for Railbound Vehicles and On Track Plant (OTP) assets within the Plant and Traction and Rolling Stock (T&RS) portfolio.
The implementation of this Standard will mitigate the following:
a) The deployment of vehicles, safety critical products and services that are not fit for use; and
b) The risk to Network Rail (NR) staff, including agents acting on their behalf, contractors and the public through poorly controlled changes to assets or associated processes.

NR/L2/RMVP/0131	**Design and Installation of Fuelling, Lubrication Oil and Coolant Storage and Delivery Systems** Issue 1; Dec 09	**Compliance** 06/03/10	**Replaces** New at Issue 74

This standard defines the technical requirement for the Design and Installation of Fuelling, Lub oil and Coolant Storage and Delivery Systems to ensure the equipment achieves its intended design life and maintains the required levels of availability and reliability.

NR/L2/RMVP/0139 **Design and Installation of Traversers** Issue 1; Dec 09 | **Compliance** 06/03/10 | **Replaces** New at Issue 74

This standard defines the technical requirements for the Design and Installation of Traversers to ensure the equipment achieves its intended design life and maintains the required levels of availability and reliability.

NR/L2/RMVP/0140 **Design and Installation of Turntables** Issue 1; Dec 09 | **Compliance** 06/03/10 | **Replaces** New at Issue 74

This standard defines the technical requirements for the Design and installation of Turntables to ensure the equipment achieves its intended design life and maintains the required levels of availability and reliability.

NR/L2/RMVP/0142 **Refurbishment of Underfloor Wheel Lathes** Issue 1; Dec 09 | **Compliance** 06/03/10 | **Replaces** New at Issue 74

This standard defines the technical requirements for undertaking refurbishment of fixed underfloor wheel lathes to ensure the equipment achieves its intended design life and maintains the required levels of availability and reliability.

NR/L2/RMVP/0172 **Management of the Control and Calibration of Inspection, Measuring and Test Equipment** Issue 3; Jun 21 | **Compliance** 04/09/21 | **Replaces** NR/L2/RMVP/0172 Iss 2; Sep 11

The purpose of this standard is to detail the requirements for the Management, Control and Calibration of Inspection, Measuring and Test Equipment.

NR/L2/RMVP/0200 **Infrastructure Plant Manual** Issue 10; Dec 18 | **Compliance** 02/03/19 | **Replaces** NR/PLANT/0200 Iss 9; Jun 17

This manual details requirements and guidance when using plant for the installation, renewal and maintenance of Network Rail's Managed Infrastructure.

NR/L2/RMVP/0200/	Module Title	Issue	Issue Date
P100	Reporting and Investigation of Plant Related Events	3	Dec 2018
P101	Monitoring Plant Activities	3	Dec 2018
P102	Hand Arm Vibration Management	3	Dec 2018
P300	Plant Approval and Design	4	Dec 2018
P301	Road Rail Access Points	3	Dec 2018
P500	Competence and Fitness	3	Dec 2018
P501	Systems of Work	4	Dec 2018
P503	Lifting Operations	4	Dec 2018
P505	Safe Working With Plant	3	Dec 2018
P506	On-Track Machines	3	Dec 2018
P508	Mobile Elevating Work Platforms (MEWPS)	3	Dec 2018
P509	Trailers and Attachments	3	Dec 2018
P511	Vegetation Management	3	Dec 2018
P513	Mobile Plant (Non-Rail Mounted) and Road Vehicles	3	Dec 2018
P514	Hand-Controlled Trolleys	4	Dec 2018
P515	Portable and Transportable Plant	3	Dec 2018
P521	On-Track Plant Operations Scheme	3	Dec 2018
P700	Plant Maintenance	3	Dec 2018

NR/L2/RMVP/1332 **Wheelsets and Axle Bearings Manual** Issue 5; Sep 19 | **Compliance** 07/12/19 | **Replaces** NR/L2/RMVP/1332 Iss 4; Jun 17

The implementation of this standard helps to mitigate the following risks:
a) non-compliance with current legislation and regulatory requirements; and
b) operational safety risks on Network Rail managed infrastructure:
- The dangerous use of Network Rail owned or hired in equipment containing wheelsets due to:
    - o incorrect work planning
    - o operation by non-competent staff
    - o poor asset condition
    - o misuse of equipment
- operation of rail equipment containing wheelsets without the correct documentation in place; and
- lack of accident management process in place for Equipment containing wheelsets accidents.

NR/L2/RMVP/01327 **Maintenance Facilities for Rail Vehicles** Issue 2; Dec 20 | **Compliance** 06/03/21 | **Replaces** NR/L2/RVE/01327 Iss 1: Jun 08

This standard defines the minimum requirements for facilities owned, hired or leased by Network Rail, used for the servicing and maintenance of rail vehicles where Network Rail has engineering responsibility.

NR/L2/RMVP/27035	**Depot Protection Systems** Issue 2; Sep 20	**Compliance** 05/12/20	**Replaces** RT/E/C/27035 Iss 1; Dec 04

The purpose of this standard is to set out the minimum requirements for the design and installation of Depot Protection Systems (DPS). DPS is designed to protect staff and equipment by the safe and controlled movement of rail vehicles within a rail vehicle depot. The correct implementation of this standard provides a framework for compliance with legislation and industry standards.

NR/L2/RMVP/27176	**Controlled Emission Toilet Servicing Installation** Issue 3; Sep 20	**Compliance** 05/12/20	**Replaces** NR/SP/ELP/27176 Iss 2; Feb 06

This Standard defines the minimum requirements for technical and engineering activities related to the installation and use of Controlled Emission Toilet (CET) servicing facility.

NR/L2/RMVP/27178	**Examination of Pressure Vessels** Issue 3; Sep 19	**Compliance** 07/12/19	**Replaces** NR/SP/ELP/27178 Iss 2; Dec 05

This standard describes the minimum requirements for the maintenance of pressure vessels fitted within mobile and installed pressure systems and to meet the obligations of NR/L1/RMVP/0001.
The management of pressure vessels and associated works, including maintenance, must be in accordance with the latest Pressure Systems Safety Regulations (PSSR).
By the implementation of this standard, it will assist to mitigate the following risks:
• dangerous use of Network Rail owned or hired in equipment containing pressure vessels due to:
  o incorrect work planning
  o operation by non-competent staff
  o poor asset condition
  o misuse of equipment
• operation of rail equipment containing pressure vessels without the correct documentation in place; and
• lack of accident management process in place for equipment containing pressure vessels.

NR/L2/RMVP/27701	**Management of Industrial Rail Vehicles** Issue 1; Jun 17	**Compliance** 31/01/18	**Replaces** New at Issue 104

The implementation of this standard helps to mitigate the following risks:
- non-compliance with current legislation and regulatory requirements; and
- operational safety risks on Network Rail managed infrastructure.

NR/L2/RVE/0130	**Design and Installation of Carriage Washing Machines** Issue 1; Dec 08	**Compliance** 01/03/09	**Replaces** RT/E/C/27031 Iss 1; Dec 04

This standard defines the technical requirements for carriage washing machines and shall be referenced when compiling project remits and technical workscopes for renewal and enhancement schemes.

NR/L2/RVE/0132	**Design and Installation of Cranes** Issue 1; Dec 08	**Compliance** 01/03/09	**Replaces** New at Issue 70

This specification defines the technical requirements to be considered when procuring new fixed cranes. This document shall be referenced when producing project remits and technical workscopes for the installation of cranes. It all also defines the information to be supplied to crane manufacturers when undertaking the procurement.

NR/L2/RVE/0133	**Design and Installation of Underfloor Wheel Lathes** Issue 1; Dec 08	**Compliance** 01/03/09	**Replaces** New at Issue 70

This specification lays down the technical requirements for the design and installation of underfloor wheel lathes used for the reprofiling of wheelsets whether attached to the rolling stock or individually. The standard shall be referenced whilst compiling project remits and technical workscopes for underfloor wheel lathe projects

NR/L2/RVE/0134	**Shunting Vehicles for use with Underfloor Wheel Lathe Facilities** Issue 1; Dec 08	**Compliance** 01/03/09	**Replaces** New at Issue 70

This standard defines the technical requirements for battery operated shunting vehicles whether they be permanently mounted on the rail or road/rail vehicles. The shunting vehicles are to be used solely for the haulage of rolling stock over fixed underfloor wheel lathes and are a replacement for capstan winch systems that have been used historically.

NR/L2/RVE/0135	**Mobile Wheel Reprofiling Machines** Issue 1; Dec 08	**Compliance** 01/03/09	**Replaces** New at Issue 70

This standard details the technical requirements for mobile wheel reprofiling machines and shall be referenced when compiling project remits and technical workscopes for the procurement of mobile wheel lathes. Mobile wheel lathes will be used as an alternative resource for tyre turning at Light Maintenance Depots whilst fixed underfloor wheel lathes are undergoing major overhaul or renewal.

NR/L2/RVE/0136	**Vehicle Lifting Jacks** Issue 1; Dec 08	**Compliance** 01/03/09	**Replaces** New at Issue 70

To define the technical requirements for electrically operated screw driven lifting jacks used to lift rail vehicles. This standard shall be referenced whilst compiling project remits and technical workscopes for the procurement of new rail vehicle lifting jacks.

NR/L2/RVE/1350 **Control of Rail Vehicle Testing** Issue 1; Dec 08 | **Compliance** 01/09/08 | **Replaces** New at Issue 70

This standard defines the requirement for the planning and control of risks during on-track testing involving any vehicle from Network Rail fleet of rail vehicles, or any rail vehicle on behalf of other Railway Undertakings excluding routine testing which does not require a physical change to the vehicle, or is deemed part of the normal operational or maintenance regime of the vehicle.

Level 3

NR/L3/RMVP/0201 **Calibration Work Instruction Manual** Issue 2; Sep 11 | **Compliance** 03/12/11 | **Replaces** NR/L3/MTC/ME0201 Iss 1; Mar 11

This standard provides the index and version control of Calibration Work Instructions for the internal calibration and comparison checking of Inspection, Measuring and Test Equipment (IMTE).

NR/L3/MTC/ME201/	Title	Issue	Issue Date
CAL087	Calibration of Statimeter Dynamometers	1	Jun 08
CAL090	Calibration of Magnetic Strength & Polarity Meter Co/Man/130	1	Jun 08
CAL210	Calibration and Test Section of Calibration of Optical Height and Stagger Gauges	1	Jun 08
CAL223	Calibration of Megger BM8/2 Insulation Tester	1	Jun 08
CAL224	Calibration of Metrohm 9A Insulation and Continuity Testers	1	Jun 08
CAL225	Calibration of Megger CBT2 RCD Tester	1	Jun 08
CAL226	Calibration of Torque Wrench	1	Jun 08
CAL227	Calibration of OHLE Structure to Rail Bond Tester	1	Jun 08
CAL228	Calibration of Megger Pat 2 Portable Appliance Tester	1	Jun 08
CAL230	Calibration of Edgcumbe 11kv Live Conductor Tester	1	Jun 08
CAL231	Calibration of Robin Digital RCD Tester	1	Jun 08
CAL232	Calibration of Clare High Current Ohmmeter	1	Jun 08
CAL233	Calibration of Megger WM4/3 and Series 3 Insulation and Continuity Tester	1	Jun 08
CAL234	Calibration of Megger ET3 and ET3/2 Earth Testers	1	Jun 08
CAL235	Calibration of W&G Digital Level Meter Type Pmp20	1	Jun 08
CAL236	Calibration of DC Ammeter/Mv Range 0 – 3000A / 75mv	1	Jun 08
CAL237	Calibration on Megger Circuit Testing OHM Meter 0 – 3/30 OHMS	1	Jun 08
CAL238	Calibration of Edgcumbe 33kv Live Conductor Tester	1	Jun 08
CAL239	Calibration of Secondary Current Injection Test Set - Instruments Only	1	Jun 08
CAL241	Calibration of Megger BM14 - 2.5kv/5kv Insulation Tester	1	Jun 08
CAL242	Calibration of Beckman Digital Capacitance Meter	1	Jun 08
CAL243	Calibration of Eurotherm Millivolt Source	1	Jun 08
CAL244	Calibration of Comark Digital Thermometers	1	Jun 08
CAL245	Calibration of Kane-May Digital Thermometers	1	Jun 08
CAL246	Calibration of Metrohm Digital Insulation and Continuity Tester	1	Jun 08
CAL247	Calibration of Biccotest 40KV D.C. Test Set	1	Jun 08
CAL248	Calibration of Temperature Test Sets	1	Jun 08
CAL249	Calibration of GEC Precision D.C. Voltmeter 0 – 1500V	1	Jun 08
CAL250	Calibration of Megger BM7 – 500 Insulation and Continuity Tester	1	Jun 08
CAL251	Calibration of Megger BM6 Insulation and Continuity Tester	1	Jun 08
CAL252	Calibration of Kane-May 3003 Digital Thermometers	1	Jun 08
CAL253	Calibration of Weir 6 Inch D.C. Voltmeter 0 – 50V	1	Jun 08
CAL254	Calibration of Weir 6 Inch D.C. Ammeter - Mv Meter Range 200A - 150mv	1	Jun 08
CAL255	Calibration of Weir 6 Inch D.C. Ammeter with Internal Shunt 0 –150A -100mv Movement	1	Jun 08
CAL256	Calibration of Elliott D.C. Portable Ammeter 1000A-75mv and Shunt	1	Jun 08
CAL257	Calibration of Hatfield L.M.S. Type 1008A	1	Jun 08
CAL258	Calibration of Megger MJ4-2 Insulation and Continuity Tester	1	Jun 08
CAL259	Calibration of Megger Series 4 Insulation and Continuity Tester	1	Jun 08
CAL260	Calibration of Kane-May 451 Digital Thermometers	1	Jun 08
CAL261	Calibration of Kent Moore Four Probe Digital Thermometer	1	Jun 08
CAL262	Calibration of Norbar Torque Wrench	1	Jun 08
CAL263	Calibration of GTRM 25kv Overhead Live Line Tester	1	Jun 08
CAL264	Calibration of Ferranti Rail Type Multirange Clip-On Ammeter 0 to 500 A.A.C.	1	Jun 08
CAL265	Calibration of Optical Height and Stagger Gauge	1	Jun 08
CAL266	Calibration of Amprobe A.C. Clampmeter	1	Jun 08
CAL267	Calibration of D.C. Ammeter - Mv Range 0–5000A - 83–3mv	1	Jun 08
CAL268	Calibration of Megger D201 Ducter Digital Ohm Meter (20 Ohm)	1	Jun 08
CAL269	Calibration of Kane-May Dependatherm Analogue Thermometer Type MRC - 2	1	Jun 08
CAL270	Calibration of B.E.H.A. Digital Thermometer	1	Jun 08
CAL271	Calibration of Metertech Digital Capacitance Meter	1	Jun 08

NR/L3/MTC/ME201/	Title	Issue	Issue Date
CAL272	Calibration of Weir 6 Inch Analogue D.C. Ammeter 0 – 10 Amp	1	Jun 08
CAL273	Calibration of Shunts	1	Jun 08
CAL274	Calibration of Megger D007 Analogue Ducter Ohm Mete	1	Jun 08
CAL275	Calibration of Kane-May 3000 Digital Thermometer	1	Jun 08
CAL276	Calibration of Ferranti Panel Mounted Meter 0 – 100ma - 50Hz	1	Jun 08
CAL277	Calibration of Ferranti Panel Mounted Meter 0 – 10 - 40kv 50 Hz - Fitted to Glove Test Set	1	Jun 08
CAL278	Calibration of R.S. Digital Thermometers	1	Jun 08
CAL279	Calibration of Megger D201 Ducter Digital OHM Meter - 0 – 60 Ohms	1	Jun 08
CAL281	Calibration of Kane-May 450S Digital Thermometers	1	Jun 08
CAL282	Calibration of Vixen Digital Thermometers	1	Jun 08
CAL283	Calibration of BM100 Series Insulation and Continuity Testers	1	Jun 08
CAL284	Calibration of Levell TM3A - TM3B A.C. Microvoltmeter	1	Jun 08
CAL285	Calibration of Megger PAT 2-2 Portable Appliance Tester	1	Jun 08
CAL286	Calibration of Megger BM200 Series Insulation and Continuity Tester.d	1	Jun 08
CAL287	Calibration of Megger PAT 101 Portable Appliance Tester	1	Jun 08
CAL288	Calibration of Metrohm 16D Series Digital Insulation and Continuity Testers	1	Jun 08
CAL289	Calibration of Megger WM5-WM6 Insulation and Continuity Tester	1	Jun 08
CAL290	Calibration of Robin 3131 Insulation and Continuity Tester	1	Jun 08
CAL291	Calibration of Megger PAT 32 Portable Appliance Tester	1	Jun 08
CAL292	Calibration of Metrohm PAT D210 - 2 or Metrotest mpAT - 30 Portable Appliance Tester	1	Jun 08
CAL293	Calibration of Megger BM400 Series Insulation and Continuity Tester	1	Jun 08
CAL294	Calibration of Robin 3228K Digital Thermometer	1	Jun 08
CAL295	Calibration of Megger DET5 - 2D Earth Tester	1	Jun 08
CAL297	Calibration of Rhopoint Milliohmmeter Model M210	1	Jun 08
CAL298	Calibration of Megger BMD3 Insulation and Continuity Tester	1	Jun 08
CAL299	Calibration of Megger BM80 Series Digital Insulation and Continuity Testers	1	Jun 08
CAL300	Calibration of Megger MJ10 Insulation and Continuity Tester	1	Jun 08
CAL301	Calibration of 0 – 1 Inch and 0 – 25mm External Micrometers	1	Jun 08
CAL302	Calibration of Robin Kmp Series Digital PSC Loop Tester	1	Jun 08
CAL304	Calibration of Metrohm Digital P-E Loop Testers	1	Jun 08
CAL305	Calibration of Metrohm Analogue P-E Loop Tester	1	Jun 08
CAL306	Calibration of RS Digital Pocket Thermometer	1	Jun 08
CAL307	Calibration of Robin 3131 Insulation & Continuity Tester	1	Jun 08
CAL308	Calibration of Megger LT7 Digital Loop Tester	1	Jun 08
CAL309	Calibration of Track Circuit Shunt Resistor Box 0 – 11 Ohm	1	Jun 08
CAL311	Calibration of a Conductor Rail Test Lamp	1	Jun 08

NR/L3/RMVP/0201/	Title	Issue	Issue Date
CAL211	Calibration of Laser Height and Stagger Gauges	1	Sep 11
CAL400	Calibration of Track Welder Nibbed Straight Edges	1	Mar 11
CAL401	Calibration of Electrode Drying Ovens	1	Mar 11
CAL402	Calibration of AC Electromagnets and Permanent Magnets	1	Mar 11
CAL403	Calibration of Engineers Squares	1	Mar 11
CAL404	Calibration of Metric Feeler Gauges	1	Mar 11
CAL405	Calibration of Rail Depth Gauges	1	Mar 11
CAL406	Calibration of Starrett Taper Gauges	1	Mar 11
CAL407	Calibration of Lawton Tools Combination Gauge and TW(GB) Ltd Cut-Out/200mm Edges	1	Mar 11
CAL408	Calibration of Weld Inspection Gauges	1	Mar 11
CAL409	Calibration of Rail Depth Gauge Validation Blocks	1	Mar 11
CAL410	Calibration of Rail Head Repair Depth Gauges	1	Mar 11
CAL411	Calibration of Thermit Preheaters (Propane, Acetylene)	1	Sep 11
CAL501	Calibration of Oxy-Fuel Gas Equipment	2	Sep 11
CAL601	Calibration of CB87 Ultrasonic Calibration Block	1	Sep 11
CAL602	Calibration of CB91 Ultrasonic Calibration Block	1	Sep 11
CAL603	Calibration of STD2 Ultrasonic Reference Rail	1	Sep 11
CAL604	Calibration of STD3 Ultrasonic Calibration Block	1	Sep 11
CAL605	Calibration of Ultrasonic Flaw Detectors	1	Sep 11
CAL606	Calibration of Ultrasonic Transducers	1	Sep 11
CAL608	Calibration of Sperry RSU-RTS Pump Gauge	1	Sep 11
CAL609	Visual Inspection of Ultrasonic Calibration Blocks	1	Sep 11

NR/L3/RMVP/0201/	Title	Issue	Issue Date
CAL610	Functional Check of Hand Held GPS Receiver	1	Sep 11
CAL611	Calibration of Ultrasonic Thickness Meters	1	Sep 11

NR/L3/RMVP/1006 **Technical Audit Procedure for Plant and Traction and Rolling Stock** Issue 2; Jun 18 | **Compliance** 01/09/18 | **Replaces** NR/L3/RVE/1006 Iss 1; Dec 07

This procedure supports the Network Rail corporate assurance framework requirements specified in NR/L2/ASR/036 and NR/L2/RVE/0003. It is based on the guidance and principles of BS EN ISO 19011.

NR/L3/RMVP/40028 **Core Maintenance for Traversers** Issue 2; Sep 18 | **Compliance** 01/12/18 | **Replaces** RT/E/S/40028 Iss 1; Feb 1996

This work instruction describes the minimum requirements for quarterly, twice yearly and annual maintenance routines for traversers. It supports the control; planned, preventative and reactive maintenance – inspect equipment in line with the maintenance plan and repair/replace defective parts or renew equipment. It helps to mitigate the risk; failure of fixed depot plant.

NR/L3/RMVP/40031 **Core Maintenance for Wheel/Bogie Drops** Issue 2; Sep 18 | **Compliance** 01/12/18 | **Replaces** RT/E/S/40031 Iss 1; Feb 1996

This work instruction describes minimum requirements for the quarterly, twice yearly and annual maintenance routines for wheel/bogie drops. It supports the control: planned, preventative and reactive maintenance – inspect equipment in line with the maintenance plan and repair/replace defective parts or renew equipment. It helps to mitigate the risk of failure of fixed depot plant.

NR/L3/RMVP/40035 **Rail Vehicle Welding** Issue 1; Mar 19 | **Compliance** 01/06/19 | **Replaces** New at Issue 111

This document defines the minimum requirements to manage and conduct welding activities on rail vehicles to maintain the required safety, quality and suitability of the weld. Also, through these controls the required certifications are set out so that welding on rail vehicles is carried out with the correct competency level. With this document, the associated risks to weld failures on rail vehicles are reduced.

Guidance Notes (including Codes of Practice)

NR/GN/RMVP/0200 **Infrastructure Plant Manual Guidance** Issue 1; Dec 18 | **Compliance** NA | **Replaces** New at Issue 110

This guidance note supports the NR/L2/RMVP/0200 modules when using plant for the installation, renewal and maintenance of Network Rail's managed infrastructure.

NR/GN/RMVP/27078 **Routine Inspection and Maintenance of Diesel and Electrically Driven Air Compressor Installations** Issue 4; Sep 19 | **Compliance** NA | **Replaces** NR/L3/ELP/27078 Iss 3; Aug 08

It is intended that the application of this Guidance Note by a technically competent individual will enable them to author appropriate Level 3 maintenance documentation to allow the on-going routine maintenance of diesel or electrically driven compressed air installations associated with signalling supplies.

NR/GN/RMVP/27235 **Guidance for the Specification, Design and Maintenance of Hydraulic Fluid Power Systems** Issue 2; Sep 19 | **Compliance** NA | **Replaces** NR/GN/ELP/27235 Iss 1; Dec 05 NR/SP/ELP/27234 Iss 1; Dec 05

This guidance note provides guidance in relation to the specification, design and maintenance of hydraulic fluid power systems. It will provide a consistent approach and defines requirements of a hydraulic system over and above the requirements of BS EN ISO 4413

NR/GN/RMVP/27700 **Plant Product Introduction Process** Issue 1; Jun 17 | **Compliance** NA | **Replaces** New at Issue 104

The purpose of this guidance note is to:
a) provide best practice for capturing and delivering the required function and purpose of plant products;
b) indicate where to find the relevant standards, controls and processes required for compliant and effective introduction of plant products; and
c) provide reference to additional information sources that might support the development of further best practice.

NR/GN/RMVP/27702 **Plant Product Acceptance Process** Issue 3; Mar 22 | **Compliance** NA | **Replaces** NR/GN/RMVP/27702 Iss 2; Mar 18

The implementation of this standard helps to:
a) provide a systematic, structured and robust assessment of risks associated with hazards during product acceptance of rail borne plant in line with the common safety method (CSM-RA) on risk evaluation and assessment. Where an alternative risk assessment approach is employed, this should adopt the principles of CSM-RA;
b) confirm the safety requirements necessary to mitigate risks to an acceptable level i.e. as low as reasonably practicable (ALARP) or so far as is reasonably practicable (SFAIRP), have been determined, complied with and safety measures put in place; place, thereby reducing the risk of in-service incidents/accidents.

Special Inspection Notices (SINs)

NR/SIN/202	**Safety of DTS CCTV Polecat System** Issue 1; Sep 21	**Compliance** 01/12/22	**Replaces** New at Issue 121

This Special Instruction Notice has been produced in response to a recent incident at Rigton CCTV Tower, North & East Route, where a member of staff received minor injuries whilst undertaking machinery maintenance activities.

4.19 SAFETY & COMPLIANCE

4.19.1 Accident Investigation

Level 3

NR/L3/INV/3001	**Reporting and Investigation Manual** Issue 7; Sep 21	**Compliance** 04/12/21	**Replaces** NR/L3/INV/3001 Iss 6; Dec 20

This manual provides a structured, comprehensive and consistent process for deciding the level of investigation for all Network Rail led investigations.

NR/L3/INV/3001/	Title	Issue	Issue Date
900	Leading an Investigation	1	Dec 2020
901	Management of Recommendations and Local Actions	2	Sep 2021
902	Reporting of Accidents, Incidents and Occupational Health	1	Dec 2020
903	Risk Ranking Events Including Operational Close Calls, Their Reporting and Level 1 Investigations	2	Sep 2021
904	Reporting of and Responding to Enforcement Actions	1	Dec 2020
905	Actions in Response to CIRAS Reports Procedure	1	Dec 2020

4.19.2 Assurance

Level 2

NR/L2/ASR/036	**Assurance Framework** Issue 6; Dec 21	**Compliance** 05/03/22	**Replaces** NR/L2/ASR/036 Iss 5; Dec 17

This business process:
a) defines the framework that assures the design and implementation of the risk controls defined in company standards and control documents;
b) mandates analysis and review of the outputs from these assurance activities to deliver continuous improvement; identification of emerging risk and reporting of outcomes/ KPIs;
c) improves risk controls and assurance activities through mandating corrective action.

4.19.3 Health & Safety Systems

Company Standards

RT/LS/P/034	**Safety Procedure Manuals** Issue 3; Jun 05	**Replaces** RT/LS/P/034 Iss 2; Nov 05

This standard establishes the framework and control processes for, and mandates the use of, safety procedure manuals.

Level 1

NR/L1/HSS/00126	**Prevention Through Engineering and Design (PtED) Policy** Issue 1; Dec 16	**Compliance** 04/12/17	**Replaces** New at Issue 102

This policy commits Network Rail to establish and continually improve the means of engineering or designing, the elimination or reduction of hazards and risks in areas of:
a) safety; b) health and wellbeing; c) sustainability d) environmental protection e) security; and f) inclusion.

Level 2

NR/L2/HSS/020	**Safety Validation of Organisational Change** Issue 10; Sep 15	**Compliance** 05/12/15	**Replaces** NR/L2/HSS/020 Iss 9; Mar 09

This document is to provide assurance that proposals for organisational change and any consequential changes to Network Rail's Health & Safety Management System are reviewed.

4.19.4 Occupational Health & Safety

Company Standards

NR/CS/OHS/002 **Policy on Working Safely** Issue 1; Feb 07 | **Compliance** 07/04/07 | **Replaces**

The purpose of this standard is to set out Network Rail's policy and related implementation arrangements to ensure that employees and contractors work safely.

NR/CS/OHS/005 **Personal Security** Issue 1; Aug 06 | **Replaces**

The purpose of this standard is to set out Network Rail's policy and related implementation arrangements to control risks to the personal security of employees whilst at work.

Specifications (including Procedures)

NR/SP/OHS/00114 **Specialist Risk Assessment - Hand Arm Vibration** Issue 1; Aug 06 | **Compliance** 07/04/07 | **Replaces**

This document details the process by which Network Rail will undertake specialist risk assessments for hand-arm vibration in support of NR/SP/OHS/00102, "Work activity risk assessment"; and ensure risk assessment is undertaken in compliance with the Control of vibration at work regulations 05 for hand-arm vibration.

NR/SP/OHS/00122 **Specialist Risk Assessment - Workplace Noise** Issue 1; Aug 06 | **Compliance** 07/04/07 | **Replaces**

This document details the process by which Network Rail will:-
- undertake specialist risk assessments for workplace noise in support of NR/SP/OHS/00102, "Work activity risk assessment"; and
- ensure risk assessment is undertaken in compliance with the Control of noise at work regulations 05.

Level 1

NR/L1/OHS/051 **Drugs and Alcohol Policy** Issue 6; Dec 15 | **Compliance** 05/03/16 | **Replaces** NR/L1/OHS/051 Iss 5; Sep 11

Drugs and alcohol affect people's ability to work safely, which is a risk to individuals as well as to the organisation.
Implementation of this policy contributes to controlling the risk of Network Rail employees and contractors working while under the influence of drugs and alcohol.
It also helps achieve compliance with the requirements of the Transport and Works Act 1992, Network Rail's Health and Safety Management System, and Railway Group Standard GE/RT8070, Drugs and Alcohol.

Level 2

NR/L2/OHS/003 **Fatigue Risk Management** Issue 9; Dec 19 | **Compliance** 29/10/2022 | **Replaces** NR/L2/OHS/003 Iss 8; Jun 19

The purpose of this manual is to reduce the risk of fatigue related incidents and ill health within Network Rail and its supply chain to as low as reasonably practicable (ALARP). This process also demonstrates the means by which Network Rail complies with UK Health and Safety legislation in relation to fatigue risk.

NR/L2/OHS/003/	Title	Issue	Issue Date
01	Fatigue Risk Index Principles	1	Jun 2018
02	Roster Design and Working Patterns	1	Mar 2019
03	Exceedance Management	1	June 2019
04	Fatigue Assessment and Fatigue Management Plans	1	Dec 2019
05	Working Hours and On Call	1	Dec 2019

NR/L2/OHS/019 **Safety of People Working on or Near the Line** Issue 10; Dec 20 | **Compliance** 06/03/21 | **Replaces** NR/L2/OHS/019 Iss 9; Mar 17

The purpose of the standard is to control the risks to personnel from site risks, activity risks and train movements by requiring effective planning of work activities "on or near the line", or which could affect the area termed "on or near the line".

NR/L2/OHS/019/	Title	Issue	Issue Date
01	Planning and Working During Incident Response	1	Mar 2017
02	Planning and Working in a Possession	1	Mar 2017
03	Planning and Working Using Protection Arrangements	1	Mar 2017
04	Planning and Working Using Warning Arrangements	1	Mar 2017
05	Management of Runaway Risk	1	Dec 2020

NR/L2/OHS/020	**Track Visitor Permits** Issue 5; Aug 08	**Compliance** 01/12/08	**Replaces** RT/LS/S/020 Iss 4; Feb 05

To set out the revised arrangements for the issue and control of Track Visitor Permits (TVPs) issued in accordance with Network Rail Company Specification NR/SP/CTM/021 for people without Personal Track Safety (PTS) certification.

NR/L2/OHS/021	**Personal Protective Equipment and Workwear** Issue 3; Jun 09	**Compliance** 06/06/09	**Replaces** NR/L2/OHS/021 Iss 2; Jun 08

The Standard specifies the minimum levels of requirement for Personal Protective Equipment and work wear that is to be worn when working on Network Rail Controlled Infrastructure

NR/L2/OHS/022	**Working Safely at Height** Issue 2; Mar 20	**Compliance** 06/06/20	**Replaces** NR/L2/OHS/022 Iss 1; Sep 10

This business process enables employees who design, plan, manage and carry out work at heights to do so safely, and within the requirements of legislation.
It adopts a risk-based approach to working at height activities in line with the principles of the legislation and industry best practice. Under this approach measures taken to protect the safety of persons are proportionate to the risks involved.

NR/L2/OHS/032	**Training, Competence and Assessment in Accident and Incident Investigation** Issue 3; Sep 21	**Compliance** 04/12/21	**Replaces** NR/L2/OHS/032 Iss 2; Dec 20

This business process confirms that personnel who undertake accident and incident investigations and / or act as a Designated Competent Person (DCP) are competent to perform the work.

NR/L2/OHS/0044	**Planning and Managing Construction Work** Issue 5; Dec 16	**Compliance** 26/01/17	**Replaces** NR/L3/INI/CP0044 Iss 4; Jun 10

The implementation of this standard:
a) allows for the right information to reach the right people at the right time for them to do their job safely;
b) contributes to the safe management and control of work and tasks at a site of work;
c) provides a consistent layout, content and information headings for Construction Phase Plans, Work Package Plans and Task Briefing Sheets

NR/L2/OHS/0047	**Managing Health and Safety in Construction (Application of the Construction (Design and Management) Regulations to Network Rail)** Issue 7; Jun 19	**Compliance** 07/09/19	**Replaces** NR/L2/INI/CP0047 Iss 6; Jun 15

This business process sets out the requirements and principles to be implemented by Network Rail to enable compliance with the legal requirements of the Construction (Design and Management) Regulations 2015 (CDM Regulations).

NR/L2/OHS/050	**Sentinel Scheme Rules** Issue 4; Mar 11	**Compliance** 04/06/11	**Replaces** RT/LS/P/050 Iss 3; Jun 05

To specify the rules and procedures for the management of the Sentinel Scheme.
To specify the roles and responsibilities of the companies and individuals who manage the Scheme, work within the Scheme or hold competences within the scope of the Scheme
(Contains NR/BS/LI/326)

NR/L2/OHS/052	**Traumatic Incident Management** Issue 1; Jun 16	**Compliance** 03/09/16	**Replaces** New at Issue 100

This standard is designed to:
a. provide an effective and consistent process for how Network Rail supports employees following traumatic incidents in the workplace;
b. manage the risk of trauma related mental ill health in the workplace; and
c. reduce the effect of traumatic incidents at work on the mental wellbeing of employees.

NR/L2/OHS/053	**Assessing the Risk of Stress in the Workplace** Issue 3; Mar 22	**Compliance** 05/03/22	**Replaces** NR/L2/OHS/053 Iss 2; Jun 21

This business process is designed to:
a) provide an effective and consistent process for how line managers can assess, control and manage the risk of work factors adversely affecting the mental wellbeing of employees;
b) outline how line managers and employees can discuss and identify support required for any non-work factors that may adversely affect the mental wellbeing of employees.

NR/L2/OHS/069	**Lineside Facilities For Personnel Safety** Issue 3; Dec 20	**Compliance** 05/06/21	**Replaces** RT/CE/S/069 Iss 2; Feb 05

This specification sets the safety requirements for the provision of facilities providing safe access onto, along and across the track for persons whose duties require them to be on or near the line or lineside.

NR/L2/OHS/00102	**Work Activity Risk Assessments** Issue 5; Jun 17	**Compliance** 02/09/17	**Replaces** NR/SP/OHS/00102 Iss 4; Aug 06

The standard describes the process by which Network Rail:
- conducts suitable and sufficient assessments of risk as required by Management of Health and Safety at Work Regulations 1999;
- assesses risks associated with the work activities carried out by Network Rail employees; and
- document and makes available the findings of work activity risk assessments.

NR/L2/OHS/00103	**Specialist Risk Assessment COSHH** Issue 3; Mar 09	**Compliance** 06/06/09	**Replaces** NR/SP/OHS/00103 Iss 2; Jun 05

This Level 2 standard specifies requirements for Network Rail employees working with or exposed to Substances Hazardous to Health.

NR/L2/OHS/00106	**Management of Manual Handling Risk** Issue 3; Jun 18	**Compliance** 01/09/2018	**Replaces** NR/SP/OHS/00106 Iss 2; Jun 05

This Business Process allows Network Rail to:
- meet the requirements of the Manual Handling Operations Regulations 1992 (as amended); and
- eliminate or reduce the risk of injury from manual handling operations across its range of activities; from heavy engineering

NR/L2/OHS/00107	**Management Procedure - Display Screen Equipment** Issue 3; Jun 10	**Compliance** 05/06/10	**Replaces** NR/SP/OHS/00107 Iss 2; Jun 05

This management procedure describes the process for implementing the requirements of the Health & Safety (Display Screen Equipment) Regulations 1992 as amended by the Health & Safety (Miscellaneous Amendments) Regulations 2002, and reducing the risk to the health of our employees.

NR/L2/OHS/00110	**First Aid at Work** Issue 6; Sep 17	**Compliance** 03/03/18	**Replaces** NR/L2/OHS/00110 Iss 5; Mar 10

The Health and Safety (First Aid) Regulations requires employers to provide employees with access to suitable and sufficient first aid equipment and facilities while they are at work.

NR/L2/OHS/00112	**Worksafe Procedure** Issue 3; Sep 20	**Compliance** 05/09/20	**Replaces** NR/L2/OHS/00112 Iss 2; Dec 09

This business process:
a) enables work groups / employees to feel confident that if they have genuine concerns about the safety of a task or a system of work, their concerns will be given serious consideration and they will not face recriminations.
b) allows for work to stop if there is a potential or imminent risk of an accident or incident arising;
c) can be applied for example, by a work group / employee if they are asked to undertake a task without the required training, equipment or personal protective equipment, or if there are no adequate risk controls

NR/L2/OHS/00113	**Health Surveillance and Management of Diagnoses for Hand-Arm Vibration Syndrome** Issue 5; Mar 16	**Compliance** 04/06/16	**Replaces** NR/L2/OHS/00113 Iss 4; Mar 10

The implementation of this standard will help to mitigate the risk of hand-arm vibration (HAV) to employees who use hand-held vibrating tools in the workplace.
This standard complies with the requirements of the Control of Vibration at Work Regulations 2005 ('the Regulations'). Implementation of the process will enable Network Rail to comply with its legal obligations under the Regulations.

NR/L2/OHS/00117	**Specialist Risk Assessment – New and Expectant Mothers** Issue 2; Mar 10	**Compliance** 05/06/10	**Replaces** NR/SP/OHS/00117 Iss 1; Jun 06

This procedure defines the process for identifying hazards and assessing risks at work that may affect the health and safety of new and expectant mothers and their child (ren). Working conditions normally considered acceptable may no longer be so during pregnancy and while breastfeeding. This procedure is in response to the requirements of Regulation 16 of the Management of Health and Safety at Work Regulations 1999. Implementation of the standard will enable Network Rail to comply with its legal obligations under the regulations and meet its duty of care for new and expectant mothers.

NR/L2/OHS/00120	**Testing for Drugs and Alcohol** Issue 5; Dec 15	**Compliance** 05/03/16	**Replaces** See below

Replaces: NR/L2/OHS/00118 Iss 4; Sep 11, NR/L2/OHS/00119 Iss 4; Sep 11, NR/L2/OHS/00120 Iss 4; Sep 11
Drugs and alcohol affect people's ability to work safely, which is a risk to individuals and to Network Rail.
The implementation of this standard contributes to controlling the risk of individuals being unfit for duty due to drugs and alcohol.

NR/L2/OHS/00123	**Health Screening and Health Surveillance for Noise Induced Hearing Loss** Issue 1; Mar 08	**Compliance** 01/03/09	**Replaces**

The document describes the system of health screening and health surveillance for employees and prospective employees of Network Rail whose health may be at risk due to exposure to noise at work.

NR/L2/OHS/00124	**Competence Specific Medical Fitness Requirements and Occupational Health Provider Requirements for Medical Assessments** Issue 3; Dec 16	**Compliance** 04/03/17	**Replaces** See below

Replaces: NR/L2/OHS/018 Iss 5; Sep 11, NR/L2/OHS/00124 Iss 2; Dec 09
The implementation of this standard contributes to:
- Controlling the risk of employees being appointed to roles they are not medically fit for;
- Reducing the risk of employees' health impacting on their work; and
- Supporting suppliers in providing safe, appropriate and effective services.

NR/L2/OHS/00127	**Road Fleet Compliance** Issue 1; Jun 21	**Compliance** 04/09/21	**Replaces** NR/L1/OHS/210 Iss 1; Mar 17

The Standard allows Network Rail to: •reduce road risk to as low as is reasonably practical(ALARP) and the business vision of 'Everyone Home Safe Every Day.' The processes and procedures are aligned to that cause;
- deliver a high standard of safety and compliance forthe management of occupational road risk;
- deliver a positive cultural change in relation to ourcurrent and historic performance.

NR/L2/OHS/00130	**Creating a Site of Work Segregated from the Railway** Issue 1; Mar 22	**Compliance** 04/06/22	**Replaces** NR/L2/OHS/005 Issue 7

This manual allows site-based work to take place without the necessity to apply the specific control measures associated with the operational railway as defined within NR/L2/OHS/019, but in doing so requires other controls and a controlled environment.
It improves efficiency and safety by defining safe methods of work that, once in place, will eliminate, or reduce risk to as low as reasonably practical, to or from the operational railway.

NR/L2/OHS/00130/	Title	Issue	Issue Date
01	Creating a Site of Work Segregated from the Railway: On a Platform within a Station Environment	1	Mar 2022
02	Creating a Site of Work Segregated from the Railway: At Lineside Locations	1	Mar 2022
03	Creating a Site of Work Segregated from the Railway: On or Near the Line, Within a Possession and Lineside	1	Mar 2022

NR/L2/OHS/157	**Health Surveillance for Silica and Asbestos and the Management of Diagnosed Occupational Respiratory Conditions** Issue 1; Mar 17	**Compliance** 03/06/17	**Replaces** New at Issue 103

The purpose of this standard is to mitigate the health risks associated with exposure to respiratory hazards through inhalation; specifically those health risks associated with silica and asbestos.
It can be applied to other respiratory hazards, such as, but not limited to, welding fumes.

NR/L2/OHS/501	**Trackworker Protection and Warning Systems** Issue 4; Mar 22	**Compliance** 05/03/22	**Replaces** NR/L2/OHS/501 Iss 3; Dec 21

The purpose of this manual is to provide a framework within which the minimum standards for track worker protection and warning systems are contained.

NR/L2/OHS/501	Title	Issue	Issue Date
Mod P1	Track Circuit Operating Device (TCOD)	1	Dec 2020
Mod W1	Semi-Automatic Track Warning System (SATWS)	3	Mar 2022
Mod W2	Automatic Track Warning System (ATWS)	2	Dec 2021
Mod W3	Lookout Operated Warning System (LOWS)	2	Dec 2021

Level 3

NR/L3/OHS/005	**Design and Construction Management in a High Street Environment** Issue 2; Mar 22	**Compliance** 05/03/22	**Replaces** NR/L3/OHS/005 Iss 1; Sep 21

This work instruction provides appropriate governance and assurance measures to mitigate risks during both the design and construction phases of works undertaken in a High Street Environment. The risks mitigated include those which impact safety, environment, performance, financial and reputational.

NR/L3/OHS/005/	Title	Issue	Issue Date
01	High Street Project Standards Catalogue	1	Mar 2022
02	System Definition for Car Park Near Track & Servicing Station	1	Mar 2022
03	System Definition for Car Park Near Non-Operational Track and/or Station	1	Mar 2022
04	System Definition for Car Park Near Track not Servicing Station	1	Mar 2022
05	System Definition for Car Park Away from Track	1	Mar 2022
06	System Definition for Building Near to Track	1	Mar 2022
07	System Definition for Building Away From Track	1	Mar 2022
08	System Definition for Electric Vehicle Charging Point	1	Mar 2022
09	System Definition for Solar Panel Array	1	Mar 2022
10	System Definition for Electricity Meter Installed in Office Building	1	Mar 2022
11	System Definition for Arch Unit Refit	1	Mar 2022

NR/L3/OHS/005/	Title	Issue	Issue Date
12	System Definition for Roof or Canopy Away From Track	1	Mar 2022
13	System Definition for Station Retail Unit Refit	1	Mar 2022

NR/L3/OHS/019-IP **Planning and Delivering Safe Work - Implementation Principles for Infrastructure Projects** Issue 1; Jun 18 | **Compliance** 24/09/18 | **Replaces** New at Issue 108

This work instruction sets out the arrangements for all Infrastructure Projects functions and its supply chain to implement the Planning and Delivering Safe Work process. It reduces the risk of incidents and accidents by:

- increasing clarity associated with responsibilities;
- enhancing the planning process by involving those delivering the work;
- reducing the number of uncontrolled or late changes to the plan.

NR/L3/OHS/0046 **The Reporting, Investigation and Recording of Safety and Sustainable Development Events and Close Calls within Infrastructure Projects** Issue 3; Jun 18 | **Compliance** 01/09/18 | **Replaces** NR/L3/INI/CP0046 Iss 2; Jun 11

This work instruction outlines the process to be followed to achieve compliance with NR/L2/INV/002, the reporting and investigation manual and associated modules by Contractors delivering projects on behalf of Network Rail Infrastructure Projects. This work instruction further explains the place of Life Savings Rules and Fair Culture investigation within the overarching process and clarifies the expectations Network Rail has of its Contractors in their management and close out of Close Calls.

NR/L3/OHS/00125 **Specialist Risk Assessment - COSHH for Functions other than Maintenance, Operations and Customer Services and the National Delivery Service (NDS)** Issue 1; Mar 09 | **Compliance** 06/06/09 | **Replaces** New at Issue 71

This Network Rail standard facilitates a consistent approach to the requirements contained within the Control of Substances Hazardous to Health Regulations 2002 (COSHH) and NR/L2/OHS/00103 Occupational Health and Safety Manual – Specialist Risk Assessment – Hazardous Substances/products, across all Network Rail sites.

NR/L3/OHS/MTC/0150 **Specialist Risk Assessment - COSHH for Infrastructure Maintenance** Issue 3; Mar 09 | **Compliance** 07/03/09 | **Replaces** NR/L2/MTC/SE0150 Iss 2; Jun 08

This procedure defines the process for the management of hazardous substances/products within Network Rail Maintenance using the sypol COSHH management system. The use of this COSHH compliance software helps ensure compliance with the Control of Substances Hazardous to Health (COSHH) Regulations 2002.

NR/L3/OHS/NDS/301 **Specialist Risk Assessment - COSHH For NDS** Issue 1; Mar 09 | **Compliance** 06/06/09 | **Replaces** New at Issue 71

This company standard defines the process for the management of hazardous substances and products within the National Delivery Service (NDS) utilising the Sypol COSHH Management System.

Guidance Notes

NR/GN/OHS/00150 **Infection Control Guidance** Issue 3; Mar 09 | **Replaces** NR/GN/OHS/00150 Iss 2; Aug 06

This guidance provides information on the identification, assessment and control of potential risk of infections at work and those that employees may bring into the workplace. In addition, it details the support available to staff who are accidentally exposed to blood borne infections through needle stick injury or body splash incidents. The application of this guidance assists Network Rail to meet its legal compliance, as well as demonstrating its commitment to the health, safety and welfare of its employees.

4.20 SIGNAL ENGINEERING

Specifications (including Procedures)

NR/SP/SIG/02023	**Requirements for TASS Infrastructure – System Design** Issue 2; Dec 05		**Replaces** RT/E/S/02023 Iss 1; Dec 03

This specification defines the design requirements for the Tilt Authorisation and Speed Supervision (TASS) system developed to deliver the principal requirements of Railway Group standards GE/RT8012 “Controlling the speed of tilting trains through curves” and GE/RT8019 “Tilting trains: controlling tilt systems to maintain clearances’.

NR/SP/SIG/02024	**Requirements for TASS Infrastructure – Installation, Test and Maintenance** Issue 2; Dec 05		**Replaces** RT/E/S/0204 Iss 1; Dec 03

This specification defines the installation, test and maintenance requirements for the track-based equipment associated with the Tilt Authorisation and Speed Supervision (TASS) system developed to deliver the principal requirements of Railway Group standards GE/RT8012 “Controlling the speed of tilting trains through curves” and GE/RT8019 “Tilting trains: controlling tilt systems to maintain clearances”.

NR/SP/SIG/10040	**IECC Applications Manual Contents** Issue 8; Dec 06		**Replaces** RT/E/S/10040 Iss 7; Dec 04

This specification authorises the use of the Integrated Electronic Control Centre (IECC) applications manual for the design and maintenance of signalling schemes employing IECC equipment on Network Rail infrastructure. It lists all the documents contained within the IECC Applications Manual which are current and approved for use. It also provides a history of the upgrades to the IECC since April 94.

NR/SP/SIG/11130	**Requirements for the Provision of SPAD Alarms at Signalling Control Centres** Issue 2; Oct 06		**Replaces** RT/E/S/11130 Iss 1; Dec 02

This specification defines the operational and technical requirements for the provision of SPAD alarms at signalling control centres. The objective is to present a consistent approach that reflects best practice and to ensure that human factors considerations are properly addressed.

NR/SP/SIG/19253	**Westinghouse Signals Style 63 Point Machine (Sigwen 002)** Issue 3; Jun 07	**Compliance** 02/06/07	**Replaces** RT/E/C/19253 Iss 2; Feb 99

This standard advises Network Rail’s suppliers who manufacture, repair or service Westinghouse Signals style 63 point machines of processes that need to be adopted/amended before the equipment is released for re-use on Network Rail’s infrastructure. This information is supplementary to manufacture, repair or servicing standards.

NR/SP/SIG/50002	**Methodology for the Demonstration of Compliance with Single Rail Reed Track Circuits on the AC Railway** Issue 2; Feb 07		**Replaces** NR/GN/SIG/5002 Iss 1; Feb 03

The purpose of this document is to provide a methodology to demonstrate compatibility with “RT” type single rail track circuits on the ac railway on Network Rail controlled infrastructure.
(Contains NR/BS/LI/424 Issue 2)

NR/SP/SIG/50003	**Methodology for the Demonstration of Electrical Compatibility with Double Rail Reed Track Circuits on the DC Railway** Issue 2; Feb 07		**Replaces** NR/GN/SIG/5003 Iss 1; Feb 03

The purpose of this document is to provide a methodology to demonstrate electrical compatibility with “RT” type double rail reed track circuits on the dc electrified railway on Network Rail controlled infrastructure.

NR/SP/SIG/50004	**Methodology for the Demonstration of Electrical Compatibility with DC (AC-immune) Track Circuits** Issue 2; Apr 06		**Replaces** RT/E/C/5004 Iss 1; Apr 03

The purpose of this document is to provide a methodology to demonstrate compatibility with ac immune dc track circuits on the ac railway on Network Rail controlled infrastructure.

NR/SP/SIG/50006	**Methodology for the Demonstration of Compatibility with 50Hz Double Rail Track Circuits** Issue 1; Apr 06		**Replaces**

The purpose of this document is to provide a methodology for the demonstration of electromagnetic compatibility of rolling stock with 50 Hz double rail track circuits installed on Network Rail controlled infrastructure.

NR/SP/SIG/50012	**Methodology for the Demonstration of Compatibility with TPWS Trackside Equipment** Issue 2; Apr 06		**Replaces** RT/E/C/50012 Iss 1; Feb 03

The purpose of this document is to provide a methodology to demonstrate compatibility with Train Protection and Warning System (TPWS) trackside equipment on the AC and DC railways on Network Rail controlled infrastructure.

RT/D/S/006	**Retro-reflective Temporary Speed Equipment** Issue 1; Mar 96		**Replaces**

This specification defines the appearance of temporary speed restriction retro-reflective equipment, the minimum technical requirements to achieve safety and safe interworking, and positioning of equipment clear of trains.

RT/E/P/10024	**Signaller's Operating Guide for the use of the IECC Signalling Workstation** Issue 4; Aug 04	**Replaces** RT/E/P/10024 Iss 3; Aug 03

This document is the signaller's operating guide for the Integrated Electronic Control Centre (IECC).

RT/E/P/10025	**IECC Timetable Processor Edit Facilities User Guide** Issue 3; Dec 01	**Replaces** RT/E/P/10025 Iss 2; Feb 99

This procedure provides instructions for the use of the IECC Timetable Processor User Edit Facilities.

RT/E/S/02026	**Requirements for the Provision and Management of TASS Infrastructure Data** Issue 1; Jun 05	**Replaces**

This specification gives information to those engaged in preparing, maintaining and managing TASS infrastructure data. The details provided set out the method by which TASS infrastructure data needs to be structured in order to meet the requirements of RT/E/S/02023. TASS system requirements are detailed in the three documents referenced in section 3.

RT/E/S/10029	**Operation and Maintenance of Non-intrusive Earth Leakage Test Adapter for Reed FDM Systems Produced to Specification EDS 01/96 MOD State 3** Issue 1; Aug 98	**Replaces**

This standard specifies the user and maintenance requirements for the non-intrusive FDM earth leakage adapter. The adapter allows a standard multimeter to be adapted to allow it to measure the cable resistance to earth of the FDM system. Existing instruments for measuring the resistance pose the hazard of generating an interfering signal through its power supply and can therefore not be used on a live system.

RT/E/S/10060	**Vital Signalling Timer** Issue 1; Feb 99	**Replaces**

This document has been prepared to define the performance requirements for a "Vital signalling timer" unit for use in signalling circuitry.

RT/E/S/10062	**Requirement Specification for Performance of Long Range Colour Light Signals** Issue 1; Aug 99	**Replaces**

This specification is for the performance requirements of long range colour light signals.

RT/E/S/10067	**VDU Based Signalling Control System** Issue 2; Aug 03	**Replaces** RT/E/S/10067 Iss 1; May 97

The purpose of this requirement specification is to define the essential and desirable requirements for a VDU based signalling control system for signalling applications.

Contains TI 176, TI 177

RT/E/S/10073	**Barrier Boom Light Units for Level Crossings** Issue 1; Feb 98	**Replaces**

This performance specification states the requirements for light units used on level crossing barrier booms.

RT/E/S/10081	**Preventative and Corrective Maintenance of Lever Frames** Issue 1; Dec 97	**Replaces**

This specification identifies the requirements for those managing and undertaking signalling maintenance activities on Network Rail infrastructure. It is particularly concerned with the preventative and corrective maintenance activities applicable to mechanical signalling lever frames in order that they remain available to perform their intended functions.

RT/E/S/10083	**Preventative and Corrective Maintenance of Mechanical Signalling Wire Runs and Rodding** Issue 1; Dec 97	**Replaces**

This specification identifies the requirements for those managing and undertaking signalling maintenance activities on Network Rail infrastructure. It is particularly concerned with the preventative and corrective maintenance activities applicable to mechanical signalling wire runs and rodding in order that they remain available to perform their intended functions.

RT/E/S/10110	**Requirement Specification for Performance of Position Light Signals** Issue 1; Aug 99	**Replaces**

This specification is for the performance requirements of position light signals.

RT/E/S/10127	**Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal** Issue 1; Apr 99	**Replaces**

This document specifies the requirements for SL35 filament lamps used with the Long Range Colour Light Signals.

RT/E/S/10131	**Requirement Specification for "Signals On" Controls for SSI Schemes** Issue 2; Aug 03	**Replaces** RT/E/S/10131 Iss 1; Apr 99

The purpose of this specification is to define the requirements for "Signals On" controls for use with Railtrack infrastructure equipped with Solid State Interlocking (SSI).

RT/E/S/10133	**TPWS Signalling Interface Design Requirements** Issue 3; Apr 04	**Replaces** RT/E/S/10133 Iss 2; Oct 00

This specification details the requirements for the design of the signalling interface associated with the fitment of the Train Protection and Warning System (TPWS) to Network Rail infrastructure.

RT/E/S/10134	**TPWS – Track Sub-system Equipment** Issue 3; Apr 04	**Replaces** RT/E/S/10134 Iss 2; Oct 00

This specification defines the detailed requirements for the track sub-system equipment associated with TPWS.

RT/E/S/10137	**TPWS – Selection of Signals and Other Locations for Provision of Track Sub-system** Issue 3; Apr 04	**Replaces** RT/E/S/10137 Iss 2; Oct 00

This Specification describes the process for assessing the requirement to provide Train Protection & Warning System (TPWS) equipment at signals, speed restrictions and buffer stops as defined in the Railway Safety Regulations 99.
(Contains TI 022)

RT/E/S/10138	**TPWS – Transmitter Loop Requirements and Positioning** Issue 3; Apr 04	**Replaces** RT/E/S/10138 Iss 2; Oct 00

This Specification defines the criteria for the positioning of Train Protection and Warning System (TPWS) transmitter loops and determination of the need for Overspeed Sensor Systems (OSS).
(Contains TI 022)

RT/E/S/10178	**TPWS in Areas Where the Control of Train Movements is by RETB Signalling** Issue 1; Apr 04	**Replaces**

This specification mandates the requirements for installing Train Protection and Warning System (TPWS) in areas where the control of movement of trains is by Radio Electronic Token Block (RETB).

RT/E/S/17004	**Requirement Specification for a SSI Technician's Terminal** Issue 1; Feb 99	**Replaces**

This document specifies a Technician's Terminal (TT) for the Solid State Interlocking system. The system specified may be used as a replacement terminal for existing SSI schemes (currently using a TT built to the specification BR1960A) or for installation in new schemes.

RT/E/S/17005	**SSI Long Line Link Telecommunications** Issue 1; Aug 99	**Replaces**

This specification states Network Rail's functional requirements for telecommunications systems for use with solid state interlocking long line link incorporating long distance terminal modules.

RT/E/S/17503	**IECC Internal Subsystems Communications Requirements** Issue 1; Jun 99	**Replaces**

This specification mandates the internal subsystems communications requirements for all new and existing IECC schemes.

RT/E/S/17504	**IECC Operating Specification for Signalling Control and Indications Purposes** Issue 3; Dec 03	**Replaces** RT/E/S/17504 Iss 2; Dec 01

This operating specification defines the mandatory requirements for signalling control and indications equipment based on the use of colour visual display units (VDUs), and which forms a subsystem of the Integrated Electronic Control Centre (IECC). It does not define the requirements for the PC SPAD Monitor (PSM), which are defined elsewhere.

RT/SRS/2001	**Requirement for Powered Point Operating Equipment** Issue 2; Dec 01	**Replaces** RT/SRS/01 Iss 1; Aug 00

This company specification details the functional, physical, interface, performance and safety requirements for point operating equipment.

Product Specifications

NR/PS/SIG/00018 **ERSE Mk.4 Product Specification** Issue 1; Oct 06 **Replaces**

This product specification gives the requirements for a device that detects electrical noise from a train whilst it occupies a specific section of track, and then applies a shunt or disconnection to the track circuit containing that section of track.

NR/PS/SIG/19802 **Train Actuated Disconnector (TAD)** Issue 1; Aug 06 **Replaces**

This product specification gives the requirements for a device that detects electrical noise from a train whilst it occupies a specific section of track, and then applies a shunt or disconnection to the track circuit containing that section of track.

RT/E/PS/00002 **Adjustable Tie Bar for Rail Clamp Point Lock** Issue 1; Dec 99 **Replaces**

This line specification details the design, functional, physical, interface, performance and safety requirements for an adjustable tie bar used on rail clamp point locks.

RT/E/PS/00005 **Railway Signalling Cable** Issue 1; Apr 00 **Replaces** GS/ES0872 Iss 2; Sep 93

This document specifies the manufacturing requirements for railway signalling cables detailed in the scope of this Specification.

RT/E/PS/00009 **Message Handling and Data Transmission Requirements Between Processor Based Systems** Issue 2; May 04 **Replaces** RT/E/PS/00009 Iss 1; May 01

To ensure that Network Rail's electronic signalling and telecommunications systems can be expected to communicate and interact with each other, a common protocol and message classification needs to be specified. This document builds on past experience and best practice to ensure future compatibility.

RT/E/PS/00011 **Train Protection and Warning System (TPWS) – Failure Indication Unit** Issue 1; Apr 01 **Replaces**

This specification has been prepared to define the requirements for a Train Protection and Warning System (TPWS) failure indication unit that is to be provided for the reporting of failed TPWS trackside sub-systems within mechanically signalled areas.

RT/E/PS/00012 **Specification for the Preparation and Implementation of Train Describer System Parameter Tables** Issue 1; Aug 01 **Replaces**

This product specification defines the necessary features and information required by a train describer database to ensure a standard format throughout Network Rail's infrastructure.

RT/E/PS/00032 **TPWS Self Powered Overspeed Sensor (SPOSS) Battery Procurement Specification** Issue 1; Dec 03 **Replaces**

This product specification states the requirements for the design, manufacture and testing of a battery suitable for use in a Train Protection and Warning System (TPWS) Self Powered Overspeed Sensor System (SPOSS).

RT/E/PS/00801 **Requirement Specification for TDM Systems** Issue 3; Apr 05 **Replaces** RT/E/PS/00801 Iss 2; Feb 05

The aim of this specification is to define the requirements for a basic bit to bit Time Division Multiplex (TDM) transmission system suitable for use in a variety of signalling applications on Network Rail.

RT/E/PS/11755 **DC Track Circuits** Issue 1; Dec 00 **Replaces**

This line specification states the minimum requirements for DC track circuits. It includes life-cycle requirements from design, safety and environmental through to installation, testing and maintenance.

RT/E/PS/11756 **HVI Track Circuits** Issue 2; Aug 01 **Replaces** RT/E/PS/11756 Iss 1; Dec 00

This company specification states the minimum requirements for Alstom High Voltage Impulse (HVI) track circuits. It includes lifecycle requirements from design, safety and environmental through to installation, testing and maintenance.

RT/E/PS/11757 **AC Phase-sensitive Track Circuits** Issue 1; Dec 00 **Replaces**

This line specification states the minimum requirements for AC phase sensitive track circuits. It includes lifecycle requirements from design, safety and environmental to installation, testing and maintenance.

RT/E/PS/11760 **Westinghouse Signals FS2600 Track Circuits** Issue 1; Dec 00 **Replaces**

This Product Specification gives details of best practice in respect of Westinghouse Signals FS2600 track circuits in order to achieve the requirements of RT/E/S/11752.

RT/E/PS/11762 **Track Circuit Assister Interference Detectors** Issue 1; Dec 00 **Replaces**

This line specification states the minimum requirements for track circuit assister interference detectors. It includes lifecycle requirements from design, safety and environmental to installation, testing and maintenance.

RT/E/PS/11763 **Reed Type RT Track Circuits** Issue 1; Dec 00 **Replaces**

This line specification states the minimum requirements for Alstom Reed Type RT track circuits. It includes lifecycle requirements from design, safety and environmental to installation, testing and maintenance.

RT/E/PS/11765 **Impedance Bonds** Issue 1; Dec 00 **Replaces**

This line specification states the minimum requirements for impedance bonds. It includes lifecycle requirements from design, safety and environmental to installation, testing and maintenance.

RT/E/S/10015 **Rail Clamp Point Lock Performance Specification for the Microswitch with Independent Contacts** Issue 1; Feb 98 **Replaces**

This standard defines the performance requirements for microswitches with independent contacts used in rail point clamp lock detection circuitry.

RT/E/S/10031 **Miniature Stop Light Unit** Issue 1; Mar 97 **Replaces**

This document has been prepared to define the detailed requirements for a “Miniature stop light” unit for use on a level crossing.

RT/E/S/10041 **Requirement Specification for an IECC System Monitor Terminal** Issue 1; Dec 99 **Replaces**

This document specifies the requirements for an IECC System Monitor (ISM) Terminal. This terminal is a replacement for the Lynwood J500 which is now obsolete and no longer available for purchase.

RT/E/S/10059 **Non-intrusive Earth Leakage Test Adapter for Reed FDM Systems** Issue 1; Aug 98 **Replaces**

This standard specifies the requirements for the non-intrusive FDM earth leakage adapter. The adapter allows a standard multi-meter to be adapted to allow it to measure the cable resistance to earth of the FDM system. Existing instruments for measuring the resistance pose the hazard of generating an interfering signal through its power supply and can therefore not be used on a live system.

RT/E/S/10065 **Requirement Specification for a Barrier Operation Relay for L.C. Barriers** Issue 1; Feb 99 **Replaces**

This specification identifies the requirements for a barrier operation relay (24V dc working) for controlling level crossing barriers.

RT/E/S/21136 **Track Circuit Operating Device** Issue 2; Oct 99 **Replaces** RT/E/S/21136 Iss 1; Apr 99

This specification states the performance requirements for track circuit operating devices.

Level 1

NR/L1/SIG/30040 ***EMC Strategy for Network Rail*** Issue 1; Aug 08 **Compliance** 01/12/08 **Replaces** New at Issue 69
NR/L1/RSE/30040 EMC Strategy for Network Rail

The purpose of this project is to address Network Rail’s legal obligations under the EMC Directive and set high level EMC compliance statement.
Note: The renumbering of *NR/L1/SIG/30040 to NR/L1/RSE/30040* denotes change of ownership only

NR/L1/SIG/50021 **Signalling Asset Policy** Issue 3; Dec 16 **Compliance** 01/04/19 **Replaces** NR/L1/SIG/50021 Iss 2; Sep 16

The purpose of this document is to specify the asset management policy for Control, Command and Signalling (CCS) systems for CP6 and beyond.

NR/L1/SIG/50021	Module	Issue	Issue Date
01	Workbank Planning	1	Jun 2016
02	Technology	2	Dec 2016
03	Maintenance	1	Jun 2016
04	Environmental and Social Performance	1	Jun 2016

Level 2

NR/L2/SIG/10013	**Investigation of Signalling Equipment** Issue 3; Sep 11	**Compliance** 03/09/11	**Replaces** NR/L2/SIG/10013 Iss 2; Aug 08

This standard defines the requirements for authorising the technical investigation of signalling equipment on Network Rail infrastructure or property, undertaking the investigation, and distributing Investigation Reports.

NR/L2/SIG/10016	**Requirements for an Asset Maintenance Process** Issue 4; Sep 11	**Compliance** 03/09/11	**Replaces** NR/L2/SIG/10016 Iss 3; Aug 08

To define the requirements for an asset maintenance process for Network Rail's infrastructure assets to consistently operate within required safety, business and technical parameters.

NR/L2/SIG/10027	**Surveillance of Signal Engineering Activities** Issue 4; Dec 15	**Compliance** 05/03/16	**Replaces** NR/L2/SIG/10027 Iss 3; Sep 11

The business process for surveillance of signal engineering activities:
- provides assurance on staff competency when working on signalling assets;
- confirms that work on signalling assets is being completed correctly;
- gathers evidence to support IRSE licensing processes.

NR/L2/SIG/10028	**Inspection of Signal Engineering Maintenance Assests** Issue 7; Dec 15	**Compliance** 05/03/16	**Replaces** NR/L2/SIG/10028 Iss 6; Sep 11

The business process for inspection of signalling assets:
- provides assurance that assets are being maintained to the correct standard;
- verifies the asset condition is as expected for the current maintenance regime and the age of installation;
- provides verification of ellipse data against the asset information specification for a sample of the asset inspected.

NR/L2/SIG/10047	**Management of Safety Related Reports for Signalling and Telecoms Failures** Issue 16; Jun 17	**Compliance** 02/09/17	**Replaces** NR/L2/SIG/10047 Iss 15; Jun 12

This process enables the management of safety related failures of signalling & telecoms equipment and services on Network Rail Managed Infrastructure.

NR/L2/SIG/10157	**Signal Sighting Assessment Process** Issue 4; Mar 21	**Compliance** 05/06/21	**Replaces** NR/L2/SIG/10157 Iss 3; Mar 17

This business process describes the process to assess signal sighting of proposed or applied signalling assets to be read and understood by train drivers and staff influencing train movements.

NR/L2/SIG/10158	**Specification for Signal Sighting Assessment** Issue 2; Mar 21	**Compliance** 05/06/21	**Replaces** NR/L2/SIG/10158 Iss 1; Mar 17

This specification details the requirements to be applied when assessing signal sighting of proposed or applied signalling assets to be read and understood by train drivers and staff influencing train movements.

NR/L2/SIG/10158	Module	Issue	Issue Date
01	Guidance on the Production, Checking and Approval of Signal Assessment Records	1	Mar 2021
02	Guidance on Completing Supplementary Readable Time Assessment	1	Mar 2021
03	Specification of Signal Sighting Competency	1	Mar 2021

NR/L2/SIG/10160	**Specification for Application of the IRSE Licensing Scheme** Issue 3; Dec 20	**Compliance** 05/06/21	**Replaces** NR/L2/SIG/10160 Iss 2; Sep 11

This standard sets out the requirement for application of the IRSE licensing scheme.

NR/L2/SIG/10173	**TPWS – Track Sub-system Installation Requirements** Issue 4; Aug 08	**Compliance** 26/08/08	**Replaces** RT/E/S/10173 Iss 3; Apr 04

This specification has been prepared to define the detailed requirements for installation of the track sub-system equipment associated with the Train Protection and Warning System (TPWS).

NR/L2/SIG/11010	**Management of Signalling and Communication Systems** Issue 3; Sep 11	**Compliance** 03/09/11	**Replaces** NR/L2/SIG/11010 Iss 2; Aug 08

The purpose of this standard determines that the managerial responsibility for train control and communications systems is not divided in any way which increases risk.

NR/L2/SIG/11107	**Silver Migration** Issue 4; Mar 12	**Compliance** 03/03/12	**Replaces** NR/L2/SIG/11107 Iss 3; Dec 11

Silver Migration can lead to wrong side failures. This standard specifies:
- The required inspection regime
- Remedial actions to be taken
- Competence for staff undertaking inspections

The high risk conditions are also described.

NR/L2/SIG/11120	**Notice Boards and Technical Instructions** Issue 11; Dec 21	**Compliance** 05/03/22	**Replaces** NR/L2/SIG/11120 Iss 10; Aug 08

This standard details the process for managing the production of information that is specific to signal engineering and needs to be published quickly to facilitate safe working and good practice.

NR/L2/SIG/11129	**Life Management of Signalling Relays, Searchlight and Banner Signals** Issue 6; Sep 11	**Compliance** 30/09/14	**Replaces** NR/L2/SIG/11129 Iss 5; Aug 08

This standard details the requirement to control the risks presented by failures of signalling relays and electromechanical searchlight and banner signal mechanisms. The aim of life management, as it relates to signalling relays, searchlight and banner signals performing safety critical or safety related functions, is to check that equipment continues to operate within its specified parameters. Relay replacement /servicing shall be considered as part of the renewals programme as it is a life extension activity. However, some applications will require periodic maintenance servicing of particular relays to demonstrate safety.

NR/L2/SIG/11201	**Signalling Design Handbook** Issue 15; Dec 21	**Compliance** 05/03/22	**Replaces** NR/L2/SIG/11201 Iss 14; Jun 21

This standard, details mandatory requirements and mandates standards for the production of signalling design detail to support:
- safe development and design of new and altered signalling systems impacting on Network Rail controlled infrastructure;
- safe interfaces between all parties and systems;
- design details are prepared and presented clearly, accurately, consistently and unambiguously; and
- client's specified requirements are met and the design is fit for purpose

NR/L2/SIG/11201/	Title	Issue	Issue Date
Protocol	Signalling – Design Policy	1	Jun 2018
Mod A1-1	Competency	1	Jun 2018
Mod A1-2	Signalling Design- Overview	2	Mar 2021
Mod A1-3	Signalling Design Specifications	1	Jun 2018
Mod A2-1	Design Media	1	Jun 2018
Mod A2-2	Drawing Techniques	1	Jun 2018
Mod A2-3	Design Drawing Control	1	Jun 2018
Mod A2-4	Configuration Control (Including Title Blocks & Indexing)	1	Jun 2018
Mod A2-5	Source Records- Ordering & Return	1	Jun 2018
Mod A2-6	Source Records 'Update	1	Jun 2018
Mod A2-7	Source Records 'As Built' Technical Review	2	Mar 2021
Mod A2-8	Design Presentation & Conventions	1	Jun 2018
Mod A2-9	Functionally Equivalent Design	1	Jun 2018
Mod A2-10	Signalling Design Production Process	1	Jun 2018
Mod A2-11	Certification & Verification Process	1	Jun 2018
Mod A2-12	Overlapping & Parallel Design	1	Jun 2018
Mod A2-13	Signalling Stageworks & Partially Commissioned Design Work	1	Jun 2018
Mod A2-14	Design Logs	1	Jun 2018
Mod A2-16	Dependability (Including RAMS)	1	Jun 2018
Mod A2-17	Risk Assessments & Safety System	1	Jun 2018
Mod A2-19	Assessment of Signalling Systems before Signalling Design Alterations	1	Jun 2018
Mod A2-20	Correlation of Signalling Records	1	Jun 2018
Mod A2-21	Design Modifications	1	Jun 2018
Mod A2-23	Recovery of Redundant Assets	1	Jun 2018
Mod A2-24	Data Systems	1	Jun 2018
Mod A2-25	SSI Systems	1	Jun 2018
Mod A2-26	IECC Data Systems	1	Jun 2018
Mod A2-27	Intelligent Infrastructure	1	Jun 2018
Mod A3-1	Operating Requirements Review	1	Jun 2018
Mod A3-2	Project Requirements for Signalling Schemes	1	Jun 2018
Mod A3-3	Signalling Scheme Plans	3	Dec 2021
Mod A3-4	Equipment Identity Grids	1	Jun 2018

NR/L2/SIG/11201/	Title	Issue	Issue Date
Mod A3-5	Signal Spacing Parameters	1	Jun 2018
Mod A3-6	Aspect Sequence charts	1	Jun 2018
Mod A3-7	Signal Sighting	1	Jun 2018
Mod A3-10	Signalling Scheme Plans Best Practice	1	Jun 2018
Mod A4-2	Signalling Plan & Signal Box Notes (including GFs and Level Crossings)	1	Jun 2018
Mod A4-3	Location Area Plan & Cable Route Plan	1	Jun 2018
Mod A4-4	Bonding Plans	2	Mar 2021
Mod A4-5	Switch and Crossing (S&C) Plans	1	Jun 2018
Mod A4-6	Cable Plans & Power Schematic Plans	1	Jun 2018
Mod A4-7	Mechanical Locking & Mechanical Engineering Detail	1	Jun 2018
Mod A4-8	Signal Box, Interlocking & Lineside Location Circuits	1	Jun 2018
Mod A4-9	Electronic Systems	1	Jun 2018
Mod A4-10	Operation and Maintenance Details	1	Jun 2018
Mod A4-11	Wheel Detection Point Position Record	1	Mar 2021
Mod A5-1	Symbols for Plans and Sketches used in Signalling Applications	2	Dec 2020
Mod A5-2	Symbols for Signalling Circuit Diagrams	1	Jun 2018
Mod A5-3	Signalling Design Control tables	1	Jun 2018
Mod A5-3/Appendix A	Conventions, General Notes, Dollar Notes and Signallers Route Lists	1	Jun 2018
Mod A5-3/Appendix B	RRI Signal and aspect control tables	1	Jun 2018
Mod A5-3/Appendix C	RRI point and ground frame control tables	1	Jun 2018
Mod A5-3/Appendix D	Control tables for level crossings	1	Jun 2018
Mod A5-3/Appendix E	Control tables for train warning and protection systems	1	Jun 2018
Mod A5-3/Appendix F	Control Tables For Staff Protection Systems (TOWS)	1	Jun 2018
Mod A5-3/Appendix G	Control Tables For Block Systems & Electro-mechanical	1	Jun 2018
Mod A5-3/Appendix H	SSI Control Tables	1	Jun 2018
Mod A5-3/Appendix J	SIMIS – W Control Tables	1	Jun 2018
Mod A5-3/Appendix K	Signalling Control Tables – MCB-OD Level Crossings	1	Jun 2018
Mod A5-4	Definitions	1	Jun 2018
Mod A5-5	Signalling Control Centres	1	Jun 2018
Mod A5-6	CAD Cell Library	1	Jun 2018
Mod B1	Circuits - General Introduction	6	Jun 2021
Mod B2	Safety Hazards	6	Jun 2021
Mod B3	Circuits - General	8	Jun 2021
Mod B4	Circuits – Fusing & Looping of Signalling Circuits	5	Jun 2018
Mod B5	Circuits – Electromagnetic Compatibility of Electronic Equipment	5	Jun 2018
Mod B6	Circuits – Insulation and Earthing for Occupational Safety	5	Jun 2018
Mod B7	Interlockings – General	8	Dec 2021
Mod B8	Interlockings – Lever Frame Interlocking Guidelines	5	Jun 2018
Mod B9	Interlockings – Free-Wired Route Setting Interlocking Guidelines	5	Jun 2018
Mod B10	Interlockings – Geographical Relay Interlocking Guidelines	5	Jun 2018
Mod B11	Interlockings – Electronic Interlocking Guidelines	5	Jun 2018
Mod B12	Transmission Systems - (Cable terminations & Cable routes)	5	Jun 2018
Mod B13	Points - General	5	Jun 2018
Mod B17	Signals – General	5	Jun 2018
Mod B19	Signals – Relay Circuits	5	Jun 2018
Mod B20	Guidance for the Application of Temporary Speed Restriction (TSR) and Emergency Speed Restriction (ESR) Designs	1	Mar 2021
Mod B21	Legacy and Specialised Equipment Engineering for Lever Frame and Traditional Signal Boxes	1	Jun 2021
Mod X01	Level Crossings - General	1	Sep 2011
Mod X02	Level Crossings - Common Design Requirements	2	Jun 2012
Mod X10	Level Crossings - Automatic Half Barriers (AHB)	1	Sep 2011
Mod X11	Level Crossings - Automatic Barrier Crossing Locally Monitored (ABCL)	2	Jun 2012
Mod X12	Level Crossings - Automatic Open Crossing Locally Monitored (AOCL)	2	Jun 2012
Mod X13	Level Crossings - Automatic Open Crossing Locally Monitored Plus Barriers (AOCL + B)	1	Sep 2011
Mod X14	Level Crossings - Open Crossing With Additional Flashing Lights	1	Sep 2011
Mod X20	Level Crossings - Manned Gated Crossings (MG)	1	Sep 2011
Mod X21	Level Crossings - Manually Controlled Barriers With Obstacle Detector (MCB-OD)	4	Dec 2021
Mod X22	Level Crossings - Manually Controlled Barriers (MCB)	2	Jun 2012
Mod X23	Level Crossings - Manually Controlled Barriers With Closed Circuit Television (MCB- CCTV)	1	Sep 2011

NR/L2/SIG/11201/	Title	Issue	Issue Date
Mod X24	Level Crossings - On Call Barriers (MCB-OC)	2	Jun 2012
Mod X25	Level Crossings - Wicket Gate Magnetic Locks	1	Sep 2011
Mod X30	Level Crossings - Traincrew Operated Gates (TOG)	1	Sep 2011
Mod X31	Level Crossings - Traincrew Operated Barriers (TOB)	1	Sep 2011
Mod X39	System Application Specification for Overlay Miniature Stop Light Level Crossings	2	Mar 2021
Mod X40	Level Crossings - Miniature Stop Lights (MSL)	3	Mar 2021
Mod X41	Level Crossings - User Worked Barriers	1	Sep 2011
Mod X42	Level Crossings - Power Operated Gate Openers (POGO)	2	Mar 2021
Mod X99	Level Crossings - History Of Level Crossing Protection	1	Sep 2011

NR/L2/SIG/11213 **Signalling Cable Equivalent Sizes** Issue 2; Sep 11 **Compliance** 03/09/2011 **Replaces** RT/E/C/11213 Iss 1; Aug 00

This standard authorises the use of cables to NR/L2/SIG/00005 or GS/ES0872 as alternatives to BR 872 and older imperial sized cables which are shown on the design record. This is in order to eliminate the need to specially order obsolete types of cable where there is an equivalent in the current NR/L2/SIG/00005 range.

NR/L2/SIG/11400 **HPSS Handbook** Issue 8; Sep 21 **Compliance** 04/12/21 **Replaces** NR/L2/SIG/11400 Iss 7; Mar 19

This manual provides instruction and guidance on the application of HPSS on Network Rail Infrastructure.

NR/L2/SIG/11400/	Module	Issue	Issue Date
ER/R/1/0037	HPSS Corrective Maintenance Procedures: HPSA Point Machine Plain Lead Switches: UIC54 & RT60	12	Mar 2019
ER/R/1/0111	HPSS Corrective Maintenance Procedures: Powerlink Backdrive Plain Lead Switches: UIC54 & RT60	7	Apr 2012
ER/R/1/0169	HPSS Power Pack: Design Guide	5	Nov 2012
ER/R/1/0183	HPSS Spares Catalogue	6	Sep 2021
ER/R/1/0224	High Performance Switch System (HPSS) Comprising High Performance Switch Actuator and Powerlink Backdrive	2	Mar 2019
ER/R/1/0410	HPSS Action Tables	1	Sep 2021
HPSS/IBP	New HPSS Documentation: Introductory Briefing Pack	1	Jun 2009

NR/L2/SIG/11655 **Management of Cable & Wire Insulation** Issue 3; Dec 11 **Compliance** 03/12/11 **Replaces** NR/L2/SIG/11655 Iss 2; Aug 08

The safety integrity of the signalling system is at risk if cable/wire insulation is allowed to degrade. This standard specifies:
- The requirements for inspections
- The precautions to be taken during inspections
- Constraints to be placed on work where degradation is detected, and
- Action to be taken to remove degraded wiring/installations.

When the insulation degrades, the inner conductor can become exposed and come into contact with other exposed wires and terminals. The risks are that:
- Contacts are bypassed in a circuit
- Circuits are falsely energised
- Electrical shock, especially when carrying out hand tracing.

NR/L2/SIG/11704 **Signalling Requirements for the Application Design & Management of Points** Issue 5; Dec 19 **Compliance** 07/03/2020 **Replaces** NR/L2/SIG/11704 Iss 4; Mar 19

This business process defines the signalling requirements to manage risk associated with application design and management of points used on Network Rail controlled infrastructure.

NR/L2/SIG/11711 **Digital Railway Ready Signalling** Issue 2; Mar 18 **Compliance** 31/05/18 **Replaces** RT/E/C/11711 Iss 1; Jun 03

The purpose of this document is to provide a specification for a Digital Railway Ready or 'ETCS Ready' signalling renewal. This will enable any signalling works undertaken in advance of a future Digital Railway deployment to be upgraded with minimum disruption and cost to the existing signalling, allowing a staged approach to future ETCS/TMS deployment to be adopted. Therefore the ETCS trackside might not be fully operational or installed at the time a re-signalled area is commissioned into service.

NR/L2/SIG/11752 **Train Detection Handbook** Issue 3; Sep 21 **Compliance** 04/12/21 **Replaces** RT/E/S/11752 Iss 2; Aug 01

This manual gives the requirements for train detection systems to enable the appropriate system specification to be achieved. It also satisfies the mandatory requirements laid down in Technical Specifications for Interoperability, Railway Group Standard GK/RT0028 and RIS-0728-CCS.

NR/L2/SIG/11752	Title	Issue	Issue Date
Part B	Overview and Definitions	3	Sep 2021
Part S	Dimensions	1	Sep 2021

NR/L2/SIG/11764 **Track Circuit Interrupters** Issue 2; Sep 21 | **Compliance** 04/12/21 | **Replaces** RT/E/PS/11764 Iss 1; Dec 00

This line specification states the minimum requirements for track circuit interrupters. It includes lifecycle requirements from design, safety and environmental to installation, testing and maintenance.

NR/L2/SIG/11766 **Aster and Aster21 Track Circuit Manual** Issue 1; Jun 16 | **Compliance** 03/09/16 | **Replaces** New at Issue 100

This document mandates the application of the Aster and Aster21 application manuals and provides instruction and guidance on the application of Aster and Aster21 track circuits.

NR/L2/SIG/11766	Title	Issue	Issue Date
A010	The Aster Type 'U' Jointless Track Circuits for Non-Electrified Lines		Jan 1980
A020	Aster21 Track Circuit Application Manual	4	Jun 2016
A040	Modifications to EBI Track 200 TI21 Tuning Unit and ETU T1/T2 Connections and Trackside Wiring Recommendations	3	Jan 2012
D010	Aster21 Training Brief	1	Apr 2016

NR/L2/SIG/11774 **Clamp Lock Handbook** Issue 4; Sep 20 | **Compliance** 05/12/20 | **Replaces** NR/L2/SIG/11774 Iss 3; Jun 12

This standard mandates the application of the Clamp Lock Handbook. It provides instruction and guidance on the application of the clamp lock on Network Rail Infrastructure.

NR/L2/SIG/11774	Title	Issue	Issue Date
SR0001GA	Clamp Lock Pointcare (aka NR/L2/SIG/11774/A113)	1	Jun 2012
SR0001GB	Clamp Lock Installation Pre-Inspection (aka NR/L2/SIG/11774/A114)	1	Jun 2012
SR0001IA	Clamp Lock General Information (aka NR/L2/SIG/11774/A110)	1	Jun 2012
SR0001IB	Clamp Lock Run-Throughs (aka NR/L2/SIG/11774/A111)	1	Jun 2012
SR0001IC	Clamp Lock Associated Equipment (aka NR/L2/SIG/11774/A112)	1	Jun 2012
SR0001SA	Clamp Lock Equipment Catalogue (aka NR/L2/SIG/11774/A116)	1	Jun 2012
SR0001SB	Clamp Lock Torque Specifications (aka NR/L2/SIG/11774/A117)	1	Jun 2012
SR0001SC	Clamp Lock Special Tools & Gauges (aka NR/L2/SIG/11774/A119)	1	Jun 2012
SR0001SD	Clamp Lock Standard Tools (aka NR/L2/SIG/11774/A118)	1	Jun 2012
SR0001SE	Clamp Lock Handbook Reference Documentation (aka NR/L2/SIG/11774/A120)	1	Jun 2012
SR0001TA	Clamp Lock Fault Finding (aka NR/L2/SIG/11774/A115)	1	Jun 2012
SRA0101RA	Clamp Lock NR60 In-Bearer Installation (aka NR/L2/SIG/11774/B110)	1	Jun 2012
SRA0201RA	Clamp Lock Rail Clamp Point Lock Installation (aka NR/L2/SIG/11774/C110)	1	Jun 2012
SRA0202RA	Clamp Lock NR60 Mk3 In-Bearer Clamp Lock Installation (aka NR/L2/SIG/11774/B120)	2	Sep 2020
SRA0301RA	Clamp Lock UIC54B Installation (aka NR/L2/SIG/11774/D110)	1	Jun 2012
SRA0401RA	Clamp Lock switch Diamond Installation (NR/L2/SIG/11774/E110)	1	Jun 2012

NR/L2/SIG/13251 **Signalling Infrastructure Condition Assessment (SICA) Handbook** Issue 3; Aug 08 | **Compliance** 26/08/08 | **Replaces** RT/E/P/13251 Iss 2; Feb 05

The purpose of this specification is to define the arrangements for the management of signalling infrastructure condition assessments, undertaking SICA assessments and using the SICA model.

Associated Document

NR/L2/SIG/13251/	Module	Issue	Issue Date
SICA UM	SICA3 User Manual	1	Jun 2004

NR/L2/SIG/14201 **Signalling Risk Assessment Handbook** Issue 5; Dec 20 | **Compliance** 06/03/21 | **Replaces** NR/L2/SIG/14201 Iss 4; Jun 19

This manual provides a framework for consistent production of suitable and sufficient risk assessments for the Signalling system.
It sets out the procedures and the specification of tools that Network Rail uses to comply with published standards requiring signalling risk assessment.

NR/L2/SIG/14201/	Title	Issue	Issue Date
Mod01	Prevention and Mitigation of Overruns - Procedure for Risk Assessment of Signals	2	Dec 2020
Mod02	Prevention and Mitigation of Overruns - Preliminary Assessment Specification	2	Dec 2020
Mod03	Prevention and Mitigation of Overruns - Junction Screening Tool Specification	1	Sep 2018
Mod04	Prevention and Mitigation of Overruns - Signal Overrun Risk Assessment Tool Specification	3	Dec 2020
Mod05	Prevention and Mitigation of Overruns - Signal Overrun Risk Assessment Tool – Level Crossing Specification	3	Dec 2020
Mod06	Layout Risk Workshop Specification	1	Sep 2018
Mod07	Competence Requirements	2	Dec 2020
Mod08	SORA Data Management	1	Dec 2020

NR/L2/SIG/17002 **SSI Applications Manual Contents** Issue 27; Dec 21 **Compliance** 05/03/22 **Replaces** NR/L2/SIG/17002 Iss 26; Sep 18

The SSI Applications Manual provides requirements and guidance, to support Solid State Interlocking (SSI) installation onto Network Rail's signalling infrastructure.

Number	Title	Issue	Issue Date
SSI8003-10	**Interlocking:**		
Chapter A	Table of Contents	9	Mar 2012
Chapter B	Introductory Information	4	Mar 2012
Chapter C	Data Format, I/L ID, Identity Files, Etc.	4	Mar 2012
Chapter D	Data Files Source Language	3	Mar 2012
Chapter E	IPT, PFM and PRR Files	9	Mar 2012
Chapter F	FOP and MAP Files	7	Mar 2012
Chapter G	OPT File	9	Mar 2012
Chapter H	Timing Constraints, Failures and Related Documentation	5	Aug 2004
SSI8003-20	**Panel Processor:**		
Chapter A	Table of Contents	6	Apr 2008
Chapter B	Introductory Information	6	Apr 2008
Chapter C	Data Files and Related Documentation	7	Mar 2012
SSI8003-30	Diagnostic	4	Sep 2015
SSI8003-40	**Simulator:**		
Chapter A	Table of Contents	2	Feb 2002
Chapter B	Introduction and TFM and Interlocking Simulation	2	Feb 2002
Chapter C	Train Simulation	2	Feb 2002
SSI8003-51	**Communications With Other Interlockings:**		
Chapter A	Table of Contents	9	Jun 2011
Chapter B	Introduction and Simpler Boundaries	6	Dec 2010
Chapter C	Route Locking Across Boundaries	11	Sep 2015
Chapter D	Communications with other Interlockings: Boundaries Through Crossovers, SSI/RRI Boundaries, and Relay Interfaces Between SSIs	9	Sep 18
Chapter E	Special and More Complex Features	5	Apr 2008
SSI8003-52	Timing Constraints on Interlocking Data Complexity	8	Sep 2015
SSI8003-53	Interfacing with IECC/ARS	6	Sep 2018
SSI8003-54	Data/Compiler/Program Compatibility	8	Sep 2018
SSI8003-55	Data Style	2	Aug 1999
SSI8003-56	Signal Group Replacement Control	3	Sep 2015
SSI8003-61	TISP and TORR	5	Sep 2015
SSI8003-62	Automatic and Distant Signals	7	Sep 2015
SSI8003-63	Route Class Selection and Overlap Releasing	10	Dec 2010
SSI8003-64	Ground Frames and Shunter's Releases	6	Mar 2012
SSI8003-65	**Swinging Overlaps:**		
Chapter A	Table of Contents	8	Mar 2012
Chapter B	Principles and Examples 1 & 2	7	Mar 2012
Chapter C	Examples 3 & 4	7	Sep 2015
Chapter D	Alternative Methods, Preferred and Non- Permitted Overlaps and Alternative Execution Clauses	7	Dec 2010
Chapter E	Additional Methods	6	Sep 2015
SSI8003-66	Restoration of Points	9	Sep 2015
SSI8003-67	Searchlight Signals and Banner Repeating Signals	6	Sep 2015
SSI8003-68	**Preset Shunts:**		
Chapter A	Table of Contents	6	Oct 2005
Chapter B	Principles and Data Preparation	7	Sep 2018
Chapter C	More Complex Data Example	9	Sep 2018
SSI8003-69	**Junction Signalling:**		
Chapter A	Table of Contents	6	Jun 2011
Chapter B	Principles and Data Preparation	7	Sep 2015
Chapter C	More Complex Data Example	4	Aug 2004
SSI8003-71	Divided Sets of Points	2	Feb 2002
SSI8003-72	Co-Acting Signals	4	Sep 2015
SSI8003-73	Opposing Locking Omitted	2	Feb 2002
SSI8003-74	Lockout Devices	4	Apr 2008
SSI8003-75	Track Circuit Interrupters and Wide-to-gauge Trap Points	2	Feb 2002
SSI8003-76	AWS & SPAD Inductors	7	Sep 2018
SSI8003-77	Bi-directional Signalling with Automatic or Semiautomatic Signals	6	Sep 2015

Number	Title	Issue	Issue Date
SSI8003-78	Consecutive Double Yellow Aspect Sequences	2	Feb 2002
SSI8003-79	Special Signal Controls	7	Sep 2018
SSI8003-80	One Train System Without Staff	1	Aug 2004
SSI8003-81	TPWS	8	Sep 2018
SSI8003-82	Sequential Proving of Track Circuits	1	Feb 2002
SSI8003-83	Permissive Controls	4	Jun 2012
SSI8003-84	Relay Interfaced Signals	2	Mar 2012
SSI8003-85	Robust Train Protection	3	Sep 2015
SSI8003-91	Interlocking and Panel Processor Data Syntax Specs	2	Feb 2002
SSI8003-92	Obsolescent Data	1	Feb 2001
SSI8150	**SSI Software Record:**		
Chapter A	Table of Contents	8	Dec 2009
Chapter B	Main Document	7	Sep 2015
Chapter C	Appendix 1	8	Sep 2015
Chapter D	Appendices 2 to 5	7	Sep 2015
Chapter E	Appendices 6, 7 & 9	11	Jun 2012
SSI8151	Retrospective and Other Amendments	3	Sep 2015
SSI8500	**Design of SSI Schemes:**		
Chapter A	Table of Contents	12	Mar 2012
Chapter B	Scope of Document	7	Sep 2015
Chapter C	SSI General Description	8	Sep 2015
Chapter D	Signalling Schemes	16	Sep 2015
Chapter E	Power Supplies	6	Sep 2015
Chapter F	Signaller's Console	5	Mar 2012
Chapter G	Cabling and Connections	12	Sep 2015
Chapter H	Accommodation and Locations	6	Sep 2015
Chapter I	Equipment Procurement and Specifications	8	Dec 2021
Chapter J	Documentation	5	Feb 2002
SSI8503	Earthing and Bonding of Solid State Interlocking Equipment	4	Mar 2011
SSI8505	**SSI Data Procedures:**		
Chapter A	Table of Contents	6	Sep 2015
Chapter B	General Information	6	Sep 2015
Chapter C	Data Production	4	Feb 2002
Chapter D	Installation	6	Sep 2015
Chapter E	Maintenance	1	Feb 2002
Chapter F	Record Keeping	2	Sep 2015
Chapter G	EPROM and Memory Module Programming	1	Feb 2002
SSI8506	MkII Paged Technician's Terminal Installation Manual	2	Sep 2015
SSI8507	Relay Interfaced SSI	3	Dec 2011
SSI8508	SSI Technician's Terminal Logger Recorder User Guide	4	Dec 2009
SSI8509	SSI Graphical Replay User's Guide	6	Dec 2009
SSIDIS018	Electro-Hydraulic Trainstops	3	Jun 2005
SSIDIS101	Non Panel Interfaces	3	Nov 2010
SSIDIS105	Override Emergency Route Setting	6	Dec 2001
SSIDIS106	TFM Mk 111 Flashing Yellow Lamp Proving	8	Jul 2002
SSIDIS108	SSI Application of Bombardier Fibre Optic Colour Light Signal, Full Size Fibre Optic Alpha Numeric Route Indicator and Fibre Optic Junction Route Indicator	4	Sep 2002
SSIDIS109	TPWS Method 3 and Flashing Aspects	5	Dec 2002
SSIDIS112	Axle Counter Data	21	Jan 2013
SSIDIS114	Aspect Restriction Following Axle Counter Restoration	27	Sep 2018
SSIDIS121	Relay Interfaced Signal Temporary Nomenclature for MCS	2	Jan 2004
SSIDIS126	Axle Country Preparatory Reset and Restoration Data	4	Dec 2005
SSIDIS129	Crossing Stopping/Non-stopping switch Data & Non provision of Power On Input (MSL Crossings only)	8	Mar 2012
SSIDIS131	Sequential Calling of Point Ends with the Same Number	3	Sep 2005
SSIDIS136	Flashing Aspects - Proving Double Yellow	2	Dec 2006
SSIDIS137	Directional Interlocking	3	Mar 2007
SSIDIS138	Over-run Detection	10	Aug 2011
SSIDIS145	MCB Level Crossing Controls	4	Jan 2008
SSIDIS145/ Appendix B	MCB-OD Typical Circuit Extracts	2	Apr 2007
SSIDIS145/ Appendix C	MCB/CCTV Stopping/Non-Stopping Controls	2	Jan 2013

Number	Title	Issue	Issue Date
SSIDIS146	Two and Three Aspect LED Banner Repeaters	10	Sep 2018
SSIDIS148	Operation of E.P Points Using SSI TFMs	2	Mar 2008
SSIDIS149	PoSA Signals	11	Sep 18
SSIDIS150	SSI Data Link Test Point Provision	3	Sep 2008
SSIDIS161	Directional Interlocking Cross Boundary Relay Interface and Internal Datalink	2	Nov 2009
SSIDIS162	Swinging Overlap across a Boundary - Crossover with Separately Numbered Point Ends	2	Nov 2009
SSIDIS165	Set to Work and Cross Boundary Best Practice	6	Feb 2011
SSIDIS166	Separate Permissive and Non Permissive Shunt Routes	2	Feb 2010
SSIDIS171	Directional Interlocking: 3 Position Switch	4	Sep 2018
SSIDIS171 Appendix A	Directional Interlocking: 3 Position Switch: Working Across a Relay Interface	3	Sep 2018
SSIDIS172	Sequential Operation of Point Ends	2	Jan 2013
SSIDIS176	Swinging Overlaps Where Hinge Points May Be Subject to Conflicting Calls in Quick Succession	2	Feb 2013
SSIDIS177	MCB-OD Level Crossing Interface	6	Sep 2018
SSIDIS177 – Appendix A	Appendix A – MCB-OD Interface to SSI	4	Jun 2014
SSIDIS178	Splitting Distant and Flashing Aspect Signals: Data Correction	2	Mar 2014
SSIDIS180	Problem with Obsolescent Horizontal Boundary Data	1	Jun 2013
SSIDIS183	Implementation of Overrun Detection and Management for IECC	1	Sep 2013
SSIDIS184	TPWS Zero	1	July 2013
SSIDIS188	Swinging Overlaps: Defensive Data	8	Sep 2018
SSIDIS190	Ground Frame with Route Setting Release	5	Sep 2018
SSIDIS192	Alstom Modular Signalling Relay-Interfaced Signals	3	Sep 2018
SSIDIS193	Over-Run Protection	1	Dec 2014
SSIDIS200	Slots and Route Releases	3	Sep 2018
SSIDIS206	Simplified Swinging Overlap Data	1	Sep 2018

NR/L2/SIG/19609 **Requirements for Colour Light Junction Signalling** Issue 1; Oct 07 | **Compliance** 01/01/08 | **Replaces** BP 5400 Iss 1; Dec 13

With changes in driving techniques and the need for more intensive use of the network, the rules for signalling junctions have changed and developed. With the object of “one railway, one way” this standard lays down the principles to be followed and states how GK/RT0031 and GK/RT0032 should be interpreted in the light of various national derogations.

NR/L2/SIG/19803 **Signalling Scope of Work for Switch and Crossing Renewal Projects** Issue 2; Aug 08 | **Compliance** 26/08/08 | **Replaces** NR/SP/SIG/19803 Iss 1; Dec 06

This Level 2 document provides clarity of what signalling should be included within the track budget for S&C work and ensures a consistent approach.

NR/L2/SIG/19807 **Prioritisation of Signal Engineering Equipment Defects** Issue 3; Jun 10 | **Compliance** 04/09/10 | **Replaces** NR/L2/SIG/19807 Iss 2; Aug 07

This Level 2 document provides uniform guidance for prioritising signal engineering defects (i.e. work arising from signalling maintenance activities or asset inspection where the task cannot be undertaken at the time it was indentified.)

NR/L2/SIG/19809 **Business Process for Selection of Point Operating Equipment** Issue 2; Sep 16 | **Compliance** 04/03/17 | **Replaces** NR/SP/SIG/19809 Iss E1; Apr 07

This document enables Routes to select the Point Operating Equipment (POE) to meet the company’s safety, reliability and performance objectives in line with whole life costs.

NR/L2/SIG/19812 **Cross Track Cable Management** Issue 2; Dec 20 | **Compliance** 06/03/21 | **Replaces** NR/SP/SIG/19812 Iss 1; Feb 07

Cable management is essential to the safe and reliable operation of the railway. This specification sets out the installation requirements for cross track cables to control risks to the public and rail infrastructure while protecting and maintaining the required access to the cable assets. It defines requirements for both ground level and overhead cables crossing the track.

NR/L2/SIG/19820 **Signalling and Level Crossing Product Specifications** Issue 9; Mar 22 | **Compliance** 04/06/2022 | **Replaces** NR/L2/SIG/19820 Iss 8; Dec 21

This manual contains Signalling product specifications that define Network Rail customer requirements. Product specifications provide the following benefits:
a) Signalling products are developed and manufactured to Network Rail requirements;
b) improved asset compatibility and reliability through the setting of customer requirements to follow the process set out in NR/L2/RSE/0005;
c) helps manufacturers to understand Network Rail’s requirements and gain product acceptance.

NR/L2/SIG/19820/	Title	Issue	Issue Date
B01	Electronic Vital Signalling Timer	1	Sep 2019
C01	Electronic Treadle	2	Mar 2020
E01	Combined Alphanumeric Route Indicator	1	Jun 2018
E02	Dispatcher Indicator Unit	1	Dec 2018
E03	Colour Light Signals	1	Dec 2020
E04	Signal Structures	1	Jun 2021
F01	Signalling Voltage Conditioner	1	Sep 2019
F02	Solar Photovoltaic (PV) Modules for Off-Grid Power Supply Systems	1	Jun 2021
F03	Wind Turbine Generators for Off-Grid Power Supply Systems	1	Jun 2021
F04	Fuel Cells for Off-Grid Power Supply Systems	1	Jun 2021
F05	Batteries for Off-Grid Power Supply Systems	1	Jun 2021
F06	Solar Charge Controllers for Off-Grid Power Supply Systems	1	Jun 2021
H01	Automated Route Setting System	1	Mar 2020
J01	Digital Video Recorders for Use at Level Crossings	1	Mar 2019
J02	Magnetic Lock and Automatic Closer	1	Sep 2019
J03	Specification for Overlay Miniature Stop Light Level Crossing Systems	1	Dec 2021
J04	Specification for Interfaced Overlay Miniature Stop Light Level Crossing Systems	1	Dec 2021
K01	Specifying Environmental Requirements and Tests for Signalling Equipment	1	Dec 2020
K02	Equipment Enclosures	1	Mar 2022

NR/L2/SIG/30004 **CAD Cell Library** Issue 2; Jun 10 **Compliance** 05/06/10 **Replaces** NR/L2/SIG/30004 Iss 1; Dec 07

This document, in support of Company standard NR/SP/SIG/11201, “Signalling design: production”, defines the symbols, nomenclature and presentation for use on all CAD signalling circuit diagrams to ensure that the correct information is always conveyed without ambiguity. It specifies the characteristics of the cells and the process for requesting additions and changes to the library.

NR/L2/SIG/30009 **Signalling Principles Handbook** Issue 21; Dec 21 **Compliance** 05/03/22 **Replaces** NR/L2/SIG/30009 Iss 20; Sep 21 NR/L2/SIG/30080 Iss 1; Sep 09

This document mandates the application of the sections of the Signalling Principles Handbook which is intended to provide instruction and guidance to signalling designers, testers and operators on the application of signalling principles on Network Rail Infrastructure.

NR/L2/SIG/30009/	Title	Issue	Issue Date
A060	Command and Control System; Control System and Interlocking Platforms; Common Principles	1	Dec 2020
A100	Command and Control System; Control System and Interlocking Platforms; Definitions	3	Dec 2021
A200	Command and Control System; Control System and Interlocking Platforms; Legacy Arrangements	3	Dec 2021
C320	Interface between Running Lines and Sidings or Depots	1	Sep 2018
C410	Application fo Tail Light Cameras	1	Mar 2010
D120	Identification of Primary and Slotted Signals	1	Dec 2007
D220	Signal Spacing	1	Dec 2009
D225	Former SR Two Thirds Rule	1	Dec 2008
D310	Control of Signals	4	Dec 2021
D410	Provision of Trapping Protection	2	Sep 2021
D430	Signalling Principles Handbook – Provision of Derailment Detection	1	Sep 2021
E060	Command and Control System; Control System and Interlocking Platforms; Setting and Locking of Routes	1	Dec 2020
E063	Approach Locking, Route Cancellation and Route Releasing	2	Dec 2020
E120	Replacement Facilities	1	Dec 2008
E420	Overrun Detection and Management	3	Mar 2019
E421	Application of Overrun Management	2	Dec 2019
E450	Overlap	2	Sep 2018
E710	Provision of Flank Protection	3	Dec 2021
E810	Reasonable Opportunity Assessment for Signalling Alterations	3	Dec 2019
F060	Command and Control System; Control System and Interlocking platforms; Aspect Level	1	Dec 2021
F140	Aspect and Indication Proving	1	Sep 2009
F210	Application of Banner Signals	2	Jun 2012
H060	Command and Control System; Control System and Interlocking Platforms; Train Protection and Automatic Warning Systems	2	Dec 2021
K210	Axle Counter System Application Principles	1	Dec 2021
P060	Command and Control System; Control System and Interlocking Platforms; Interlocking of Points and Other Movable Infrastructure	2	Sep 2021
Z110	Staff Protection Systems	1	Sep 2009
Z115	Train Activated Warning Systems	1	Dec 2011
Z210	National Deviations and Variations	2	Jun 2016

NR/L2/SIG/30009/	Title	Issue	Issue Date
GKRT0039	Semaphore And Mechanical Signalling (Former Railway Group Standard GK/RT0039)	1	Sep 2014
GKRT0041	Track Circuit Block (Former Railway Group Standard GK/RT0041)	1	Sep 2014
GKRT0042	Absolute Block (Former Railway Group Standard GK/RT0042)	1	Sep 2014
GKRT0051	Single Line Control (Former Railway Group Standard GK/RT0051)	2	Sep 2014
GKRT0054	Radio Electronic Token Block (Former Railway Group Standard GK/RT0054)	2	Mar 2015
GKRT0061	Shunters Releases, Ground Frames, Switch Panels and Gate Boxes (Former Railway Group Standard GK/RT0061)	1	Sep 2014
GERT8071	Control Facilities for use during Lineside Signalling Failures	1	Mar 2015

NR/L2/SIG/30010 **Tracklink 2/HSD2000 Platform Identification Beacon System (PIBS) For Selective Door Operation (SDO)** Issue 1; Dec 09 **Compliance** 06/03/10 **Replaces** New at Issue 74

The purpose of this standard is to define Network Rail's role in the operation of the Platform Identification Beacon System (PIBS) that works in conjunction with the "base SDO system" on Class 377 Electric Multiple Units, which, in turn, is based on Global Positioning System (GPS) technology.

NR/L2/SIG/30014 **Signalling Works Testing Handbook** Issue 19; Sep 21 **Compliance** 04/12/21 **Replaces** NR/L2/SIG/30014 Iss 18; Jun 21

This document mandates the application of the sections of the Signalling Works Testing Handbook.
It provides instruction and guidance to testers on the 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.
The Signalling Works Testing Handbook has been created to collate together all the documents describing the procedures and process controls for signal works testing.

Module	Title	Issue	Issue Date
A110	Signalling Works Testing	05	Dec 2019
A210	Signalling Works Testing Processes for Minor Alterations	04	Sep 2021
A310	Signalling Testing Processes for Modular S&C Schemes	01	Sep 2014
B110	Signalling Works Testing IRSE Licensing Requirements	03	Sep 2021
B210	Appointment of Signalling Works Testing Certificate of Competency Authorisers	02	Dec 2011
B310	Signalling Works Testing Training and Competence Modules	03	Jun 2012
B410	Signalling Works Testing Staff Competence Assessment	02	Jun 2012
B510	Project Specific Appointment of Signalling Testers In Charge	03	Sep 2014
C110	Testing Strategy	02	Jun 2012
C120	Test Plans	04	Dec 2019
C210	Acceptance of Testing Planning Documentation	03	Dec 2019
C310	Check Marking and Recording on Test Copies	04	Sep 2014
C410	Error Reporting	03	Jun 2012
C510	Handover for Signalling Works Testing	02	Dec 2019
D110	Signalling Works Test Specification and Certificate Requirements	06	Dec 2019
D115/DT1-01	Defined Inspection Check - Check for Correct Type	02	Dec 2020
D115/DT1-02	Defined Inspection Check - Check for No Damage	03	Dec 2020
D115/DT1-03	Defined Inspection Check - Check for Correct Position	02	Dec 2020
D115/DT1-04	Defined Inspection Check - Check for Correct Labelling	02	Dec 2020
D115/DT1-05	Defined Inspection Check - Check for Correct Installation	01	Dec 2020
D115/DT1-11	Defined Inspection Check - Check for Correct Commissioning Copies	01	Mar 2011
D115/DT2-01	Defined Technical Verification Test - Wire Count	03	Dec 2020
D115/DT2-11	Defined Technical Verification Test - SSI Plug Coupler Verification	01	Mar 2011
D115/DT2-15	Defined Technical Verification Test - Changeover Preparation Check	01	Jun 2012
D115/DT2-21	Defined Technical Verification Test - Recovery Identification Check	02	Jun 2012
D115/DT2-22	Defined Technical Verification Test - Wiring Recoveries	03	Sep 2014
D115/DT2-31	Defined Technical Verification Test - Fouling Point Identification and Clearance Point Measurement	01	Dec 2020
D115/DT3-01	Defined Function Test - Power Supply Tests	03	Dec 2020
D115/DT3-11	Defined Function Test - Relay Circuitry Set to Work Test	01	Mar 2011
D115/DT3-12	Defined Function Test - Circuit Function Test	04	Mar 2018
D115/DT3-13	Defined Function Test - Strap and Function Test	04	Mar 2018
D115/DT3-14	Defined Function Test - Test for Timers Adjusted and Sealed	01	Mar 2011
D115/DT3-21	Defined Function Test - SSI TFM Exercise Test	01	Mar 2011
D115/DT3-22	Defined Function Test - WTS Input / Output Module Exercise Test	01	Dec 2020
D115/DT3-51	Defined Function Test - Point Local Function Tests	03	Dec 2020
D115/DT3-52	Defined Function Test - Point Current and Motor Timer Cut-Off Tests	03	Dec 2020
D115/DT4-01	Defined Correspondence Test - Point Control, Detection and Correspondence Tests	03	Dec 2020
D115/DT5-01	Defined Changeover Technique - Testing Led Changeover	03	Mar 2018

Module	Title	Issue	Issue Date
D115/DT5-02	Defined Changeover Technique - Construction Led Changeover	03	Mar 2018
D120/HS5-50	Axle Counter Detection Point Handover Specification	01	Dec 2020
D120/HS6-01	Point End Inspection and Mechanical Set Up Handover Specification	01	Dec 2020
D120/TS3-01	Cable Signalling Works Test Specification	05	Dec 2020
D120/TS4-01	Equipment Housing Signalling Works Test Specification	03	Dec 2020
D120/TS5-01	DC Track Circuit Test Specification	03	Jun 2012
D120/TS5-05	Diode Track Circuit Signalling Works Test Specification	03	Sep 2014
D120/TS5-11	EBI Track 200 TI21 Track Circuit Signalling Works Test Specification	05	Jun 2021
D120/TS5-21	AC Double Rail Track Circuit Signalling Works Test Specification	03	Sep 2014
D120/TS5-22	AC Single Rail Track Circuit Signalling Works Test Specification	03	Sep 2014
D120/TS5-23	AC VT1 (SP) Track Circuit Signalling Works Test Specification	03	Sep 2014
D120/TS5-31	FS2600 Track Circuit Signalling Works Test Specification	03	Sep 2014
D120/TS5-41	HVI Track Circuit Signalling Works Test Specification	03	Sep 2014
D120/TS5-51	Thales AzLM Axle Counter Trackside Detection Point Signalling Works Test Specification	01	Dec 2020
D120/TS5-55	Thales AzLM Axle Counter Evaluator (ACE) Signalling Works Test Specification	01	Dec 2020
D120/TS5-61	Thales AzLM Axle Counter ISDN / Ethernet Converter (CIE) Signalling Works Test Specification	01	Jun 2021
D120/TS5-62	Thales AzLM Axle Counter Data Link Test Specification	02	Dec 2020
D120/TS5-64	Thales AzLM Axle Counter ISDN / V.24 Converter Signalling Works Test Specification	01	Jun 2021
D120/TS5-65	Frauscher RSR123 Wheel Sensor Signalling Works Test Specification	02	Dec 2020
D120/TS5-66	Frauscher FAdC Axle Counter Evaluator System Signalling Works Test Specification	02	Dec 2020
D120/TS5-69	Frauscher FAdC R1 & R2 Axle Counter Data Signalling Works Test Specification	01	Jun 2021
D120/TS5-81	GETS Treadle System Test Specification	01	Dec 2016
D120/TS5-85	Track Circuit Interrupter Test Specification	05	Dec 2020
D120/TS5-91	Physical Dimensions Track Circuit Test Specification	05	Dec 2020
D120/TS5-95	Mechanical Treadle Signalling Works Test Specification	02	Sep 2014
D120/TS5-99	Generic Axle Counter Physical Dimensions Signalling Works Test Specification	02	Dec 2020
D120/TS6-01	Point End Inspection and Mechanical Set Up Handover Specification	01	Sep 2014
D120/TS6-11	Mechanically Operated Point End Signalling Works Test Specification	04	Dec 2020
D120/TS6-21	Point Machine Signalling Works Test Specification	04	Jun 2021
D120/TS6-31	Rail Clamp Point Lock (RCPL) Test Specification	06	Jun 2021
D120/TS6-35	In Bearer Clamp Lock (IBCL) Test Specification	05	Jun 2021
D120/TS6-41	Mk2 Rail Clamp Point Lock (RCPL) Wide to Gauge (WTG) Trap Points Signalling Works Test Specification	01	Jun 2021
D120/TS6-61	HPSS Signalling Works Testing Specification	02	Sep 2021
D120/TS7-01	Filament or LED Type Signal Signalling Works Test Specification	03	Dec 2020
D120/TS7-11	Semaphore Signal Signalling Works Test Specification	03	Dec 2020
D120/TS7-51	Signage Signalling Works Test Specification	03	Dec 2020
D120/TS8-01	AWS Signalling Works Test Specification	06	Dec 2020
D120/TS8-11	TPWS (Standard Fitment) Signalling Works Test Specification	06	Dec 2020
D120/TS8-21	ATP Beacon / Loop (GWML) Test Specification	01	Dec 2012
D120/TS8-25	ATP Loop (Chilterns) Test Specification	01	Dec 2012
D120/TS8-31	TASS Balise Test Specification	01	Jun 2012
D120/TS9-01	Operator’s Control and Indication Panel Signalling Works Test Specification	03	Sep 2021
D120/TS10-01	Mechanical Signal Box Test Specification and Checklist	03	Dec 2016
D120/TS10-10	Block Systems Test Specification	01	Mar 2012
D120/TS11-01	Control Tables and Principles Testing Signalling Works Test Specification	03	Dec 2020
D120/TS12-01	SSI Central Interlocking Test Specification	02	Jun 2021
D120/TS12-02	SSI Data Link Test Specification	01	Jun 2012
D120/TS12-04	SSI Technician’s Terminal Test Specification	01	Jun 2012
D120/TS12-05	SSI to VDU based SCS Integration Test Specification	01	Dec 2012
D120/TS12-06	Design Workstation Testing of SSI Data Signalling Works Test Specification	01	Dec 2020
D120/TS12-52	Signalling Fibre Optic Circuit Static End To End Signalling Works Test Specification	01	Dec 2020
D120/TS13-01	Train Describer (TD) Test Specification	01	Dec 2012
D120/TS13-11	Reed FDM System Test Specification	01	Jun 2012
D120/TS13-21	TDM Remote Control System Test Specification	01	Dec 2012
D120/TS13-51	Panel Multiplexer (PMUX) System Test Specification	01	Dec 2012
D120/TS13-61	CCTV System Test Specification	01	Jun 2012
D120/TS13-71	Hot Axle Box Detector (HABD) System Test Specification	01	Dec 2012
D120/TS13-81	Frauscher Axle Counter R2 Diagnostics System Signalling Works Test Specification	01	Dec 2020
D120/TS14-01	Automatic Half Barrier Crossing (AHBC) Test Specification	02	Sep 2010
D120/TS14-02	Automatic Barrier Crossing Locally Monitored (ABCL) Test Specification	02	Sep 2010
D120/TS14-03	Automatic Open Crossing Locally Monitored (AOCL) Test Specification	02	Sep 2010
D120/TS14-04	Miniature Stop Light Crossing (MSL) Test Specification	02	Sep 2010

Module	Title	Issue	Issue Date
D120/TS14-05	Manually Controlled Barriers (MCB) Test Specification	02	Sep 2010
D120/TS14-21	Test a Manually Controlled Barrier Crossing (MCB-OD) [4 Barrier]	02	Dec 2016
D120/TS14-41	EBI Gate 200 OMSL Crossing Signalling Works Testing Specification	01	Jun 2021
D120/TS14-42	Vamos OMSL Signalling Works Testing Specification	01	Dec 2019
D120/TS14-81	Test an Obstacle Detector RADAR	03	Dec 2019
D120/TS14-82	Test an Obstacle Detector LIDAR	04	Dec 2019
D120/TS14-83	Level Crossing Appello Sounders	01	Mar 2018
D120/TS15-01	Staff Protection Device / System Signalling Works Test Specification	02	Sep 2021
D120/TS15-10	Operator's Control Unit Signalling Works Test Specification	02	Sep 2021
D120/TS16-01	Scheme Plan Verification Test Specification	01	Dec 2012
D120/TS17-01	Integration Testing - Relay Through Circuit Test Specification	02	Mar 2018
D120/TS17-02	Integration Testing - SSI Module Test Specification	01	Dec 2012
D120/TS17-31	Integration Testing - WTS Module Test Specification	01	Dec 2020
D120/TS17-51	Integration Testing - Correspondence Test Specification	01	Dec 2012
D120/TS17-61	Integration Testing – Supplementary Tests Test Specification	01	Dec 2012
D120/TS19-01	Disconnection and Recovery of Redundant Trackside Equipment Test Specification	01	Dec 2019
E110	Signalling Works Testing Glossary	02	Jun 2012
F110	The Verification and Validation of Relay Based Interlockings	02	Sep 2014
F120	The Verification and Validation of Western Region E10,000 Relay Interlockings	01	Sep 2014
F210	The Verification and Validation of Electronic Interlockings	01	Sep 2014

NR/L2/SIG/30015 **Specification for Station, Footpath, Bridleway, and User Worked Level Crossings** Issue 1; Mar 10 | **Compliance** 05/06/10 | **Replaces** New at Issue 75

This specification provides the preferred layouts for renewal of crossings as defined in the Scope, and is applicable to new crossings or those assets that are to be renewed during maintenance works. The standard guides the installer/maintainer on how to position equipment based on regulation and the latest human factors research.

NR/L2/SIG/30017 **Requirements for Level Crossings** Issue 2; Sep 11 | **Compliance** 03/09/11 | **Replaces** NR/L2/SIG/30017 Iss 1; Sep 09

This document mandates the requirements for the design, construction, inspection, maintenance, operation and decommissioning of level crossings.

NR/L2/SIG/30017/	Module	Issue	Issue Date
Module D	Telephone Systems at Level Crossings	1	Sep 09
Module F	Track and Electrification Systems at Level Crossings	1	Sep 09
Module G	Level Crossing Geometry and Surfaces	1	Sep 09
Module H	Lighting and CCTV Systems at Level Crossings	1	Sep 09
Module J	Construction, Testing and Commissioning of Level Crossings	1	Sep 09
Module K	Operation, Maintenance and Inspection of Level Crossings	1	Sep 09
Module L	Change of Legal Status and Decommissioning of Level Crossings Following Closure	1	Sep 09

NR/L2/SIG/30019 **Process for Closing or Downgrading Public Level Crossings** Issue 1; Sep 10 | **Compliance** 04/09/10 | **Replaces** New at Issue 77

The purpose of yjis standard is to define the process for public level crossing closure or downgrade through provision of all relevant information and formal consultation of interested parties. This will enable the provision of an accurate remit for the renewal, closure or reclassification of public level crossings.

NR/L2/SIG/30021 **Alterations to Authorised Line Speeds** Issue 2; Sep 11 | **Compliance** 03/03/11 | **Replaces** NR/L2/SIG/30021 Iss 1; Aug 08

The purpose of this standard is to set out the process requirements prior to making alterations to Authorised Line Speeds. The aim is to provide a consistent means of managing such changes so that the risk to passengers, the workforce and public is reduced so far as is reasonably practicable. It also defines the documentation to be produced and retained of the considerations made and decisions taken in the process.

NR/L2/SIG/30027 **Product Specification - Plug Couplers for Connection of Cables to Lineside Signalling Equipment** Issue 2; Dec 10 | **Compliance** 04/12/10 | **Replaces** NR/L2/SIG/30027 Iss 1; Sep 09

This specification has been created to identify a standardised family of accepted plug coupler products that can be selected for use on future signalling schemes.

NR/L2/SIG/30035	**Signalling and Level Crossing Scheme Approval Process** Issue 5; Sep 21	**Compliance** 04/12/21	**Replaces** NR/L2/SIG/30035 Iss 4; Sep 19 NR/PRC/MPI/ST0029 Iss 2; Apr 06

This business process delivers signalling and level crossing schemes that are consistent in interpretation and application of principles across the Network. The application of this business process gives a level of assurance that the signalling proposal and the protection system choice for level crossing is fit for purpose.

NR/L2/SIG/30036	**Intelligent Infrastructure Management - Data Logging Specification** Issue 1; Jun 09	**Compliance**	**Replaces** RT/E/P/11305 Iss 1; Feb 03 RT/E/S/11304 Iss 1; Feb 03

This standard for data logging, which replaces both NR/SP/SIG/11304 and NR/SP/SIG/11305, addresses existing Non-Compliances pending standards change, and includes the required interface for the Network Rail Data Management System

NR/L2/SIG/30038	**Supplementary Audible Warning Devices (AWDs) at Footpath and Bridleway Level Crossings Protected by a Whistle Board** Issue 1; Jun 16	**Compliance** 03/09/16	**Replaces** New at Issue 100

This document defines the application constraints and describes the operating characteristics for a Supplementary Audible Warning Device (AWD) for use at footpath and bridleway level crossings protected by a whistle board. It enables the identification of sites suitable for the installation of a supplementary AWD where it can provide a safety benefit.

NR/L2/SIG/30050	**Signalling Power Circuit Principles** Issue 1; Dec 08	**Compliance** 06/06/09	**Replaces** New at Issue 70

This standard states the requirements on designers, suppliers, installers and testers of functional signalling power supply circuits and equipment. Additionally it identifies the need for the designer of the functional circuits to agree load requirements and protection arrangements with the designer of the distribution system.

NR/L2/SIG/30060	**Product Specification for AzLM Axle Counter Cable** Issue 3; Mar 12	**Compliance** 02/06/12	**Replaces** NR/L2/SIG/30060 Iss 2; Sep 11

The aim of this standard is to clearly define to cable manufacturers the construction and performance requirements for AzLM Axle Counter cable. Manufacturers should therefore submit evidence intended to demonstrate compliance with this standard when seeking Network Rail Product Acceptance. It also provides background information to Signalling Designers, Signalling Installers and Signalling Maintainers.

NR/L2/SIG/30070	**Signalling of Modular Switch and Crossing Renewals** Issue 1; Jun 09	**Compliance** 06/06/09	**Replaces** New at Issue 72

This standard details the signalling processes to be followed when planning and implementing a switch and crossing renewal using the pre-fabricated, modular techniques.

NR/L2/SIG/30081	**Axle Counter System Design Principles & Generic Application Rules** Issue 1; Sep 09	**Compliance** 05/12/09	**Replaces** See below

Replaces: NR/SP/SIG/10129 Iss 2; Apr 06, NR/GN/SIG11900 Iss 1; Apr 06, NR/GN/SIG11901 Iss 1; Apr 06
This standard details Network Rail's generic application rules for axle counter systems and the fundamental design principles to be adopted. This standard relates to the physical attributes that the system should have and technical application of various systems.

NR/L2/SIG/30097/001	**Modular Signalling Handbook** Issue 3; Apr 14	**Compliance** 01/06/14	**Replaces** NR/L2/SIG/30097 Iss 2: Jun 12

This Level 2 standard introduces Modular Signalling and mandates use of module NR/L2/SIG/30097/001 Modular Signalling Handbook when developing and implementing a Modular Signalling Scheme.

L2/SIG/30097/	Title	Issue	Issue Date
AppA	Appendix A: System Architecture	3	Apr 2014
AppB	Appendices B and B1: System Components	3	Apr 2014
AppC	Appendix C: System Functionality	3	Apr 2014
AppD	Appendix D: Non-functional Requirements	3	Apr 2014
AppD1	Appendix D1: Ergonomic Requirements	2	Jun 2012
AppE	Appendix E: Maintenance	3	Apr 2014
AppF	Appendix F: Statement of Application & Compliance	2	Apr 2014
AppG	Appendix G: Governance and Procurement	2	Jun 2012
AppH	Appendix H: GRIP Stages 1 and 3 - Feasibility Assessment and Requirements Analysis	3	Apr 2014
AppH1	Appendix H1: Implementation and Commissioning Planning	3	Apr 2014
AppH2	Appendix H2: Implementation and Commissioning Outline Designs	3	Apr 2014
AppH3	Appendix H3: Scheme Design Guidance	3	Apr 2014
AppH4	Appendix H4: Signal Overrun Risk Assessment	3	Apr 2014
AppH5	Appendix H5: Equipment and Drawing Identification	2	Jun 2012
AppI	Appendix I: GRIP Stage 4 - Preliminary Scheme Design	3	Apr 2014
AppJ	Appendix J: GRIP Stage 5 - Signalling Detailed Design	3	Apr 2014

L2/SIG/30097/	Title	Issue	Issue Date
AppK	Appendix K: Verification and Validation (Testing)	2	Jun 2012
AppL	Appendix L: GRIP Stage 6 - Installation and Commissioning	2	Jun 2012
AppM	Appendix M: Hand Back to Operations & Maintenance (GRIP Stage 7 & 8)	2	Jun 2012
AppN	Appendix N: Non-signalling Designs	2	Jun 2012
AppO	Appendix O: Assurance	2	Jun 2012

NR/L2/SIG/30099 **Mechanical Locking Handbook** Issue 1; Jun 12 | **Compliance** 01/12/12 | **Replaces** NR/L3/SIG/SG0190 Iss 2; Sep 11

The purpose of this Handbook is to consolidate processes and requirements relating to the maintenance and overhaul of mechanical signalling equipment into one place. These processes and requirements are currently contained in various standards and some requirements have yet to published in an appropriate document.

NR/L2/SIG/30099/	Title	Issue	Issue Date
005	Mechanical Locking: Process & Management	1	Jun 2012
010	Mechanical Locking: Lever Frame Overhaul – 10 Yearly Periodic Activity	1	Jun 2012
011	Mechanical Locking: Electrical Locking Equipment Overhaul - 7 Yearly Activity	1	Jun 2012
091	Mechanical Locking: Replace an Annette's Key	1	Jun 2012
092	Mechanical Locking: Replace an Annette's Lock	1	Jun 2012
093	Mechanical Locking: Replace a Token Keys	1	Jun 2012
094	Mechanical Locking: Replace a Token Lock	1	Jun 2012

NR/L2/SIG/31000 **Provision of Off-Grid Power Supply for Signalling and Level Crossings** Issue 1; Dec 20 | **Compliance** 06/03/21 | **Replaces** New at Issue 118

This standard describes the off-grid power supply system design process and requirements providing a standard level of functionality across Network Rail for level crossings and other remote rail infrastructure locations.

NR/L2/SIG/50010 **Methodology for the Demonstration of Electrical Compatibility with Train Detection System in use on Non-Electrified Lines** Issue 2; Aug 08 | **Compliance** 26/08/08 | **Replaces** NR/L2/SIG/50010 Iss 1; Dec 07

The methodologies provided in these documents apply to rolling stock manufacturers and infrastructure maintenance project managers, who are providing the EMC safety case with respective parts of Network Rail controlled infrastructure as part of the acceptance process.

NR/L2/SIG/50019 **Control of the Issue of S & T Keys from Unipart Rail** Issue 4; Mar 12 | **Compliance** 03/03/12 | **Replaces** NR/L2/SIG/50019 Iss 3; Sep 10

To explain the agreed process between Network Rail and Unipart Rail for control of S&T key issue.
To control the issue of S&T keys allowing access to operational signalling and telecoms equipment so that only competent people can access sites and minimise risk to the operational railway.

NR/L2/SIG/50030 **Management of ERTMS National Identities** Issue 1; Mar 20 | **Compliance** 06/06/20 | **Replaces** New at Issue 115

Interoperable European Rail Traffic Management System (ERTMS) equipment is primarily used for ERTMS applications, however, it can also be used for other national applications utilising Packet 44. All systems using the equipment need to be able to identify the equipment uniquely.

NR/L2/SIG/50035 **Competence Standard - Competence and Training in Signal and Level Crossing Engineering** Issue 2; Mar 22 | **Compliance** 04/06/22 | **Replaces** NR/L2/SIG/50035 Iss 1; Dec 21

This manual describes the requirements for individuals who undertake signal engineering work to attain competence and hold the appropriate competences to perform the work safely and correctly.

NR/L2/SIG/50035/	Title	Issue	Issue Date
02	Competence and Training for the Competence Framework; CCS Signal Maintenance Level Crossings	1	Dec 2021

NR/L2/SIG/50040 **Temporary Speed Restrictions** Issue 1; Dec 21 | **Compliance** 05/03/22 | **Replaces** See below

Replaces: NR/L3/SIG/MG0110 Iss 3, NR/L3/SIG/SG0093 Iss 2, NR/L3/SIG/SG0111 Iss 3
This document provides a process for proposing, publishing and implementing a temporary or emergency speed restriction design to support the control of hazards related to the safe passage of trains.

NR/L2/SIGELP/27408 **Product Specification for Signalling Power Distribution Cables** Issue 3; Mar 17 | **Compliance** 03/06/17 | **Replaces** NR/L2/ELP/27408 Iss 2; Jun 15

This specification defines cable construction and performance requirements for signalling power distribution cables to be used in railway signalling systems.

NR/L2/SIGELP/27409	**Product Specification for Functional Supply Points (FSP)** Issue 2; Jun 15	**Compliance** 06/06/15	**Replaces** NR/L2/ELP/27409 Iss 1; Dec 11

This specification details the product manufacturers requirements for Class I and Class II functional supply point (FSP) switchgear assemblies and FSP assemblies for use within railway infrastructure signalling power distribution systems.

NR/L2/SIGELP/27410	**Specification for Class II Based Signalling Power Distribution Systems** Issue 2; Jun 15	**Compliance** 06/06/15	**Replaces** NR/L2/ELP/27410 Iss 1; Dec 11

This document specifies the requirements for the design, installation and testing of Class II based signalling power distribution systems on Network rail managed infrastructure.This specification also includes requirements for introducing Class II equipment into legacy signalling power distribution systems to provide fault protection.

NR/L2/SIGELP/27416	**Alterations to Signalling Power Systems** Issue 1; Mar 17	**Compliance** 03/06/17	**Replaces** New at Issue 98

This standard defines the functional and electrical requirements to be applied when undertaking alterations to existing Signalling Power Systems (SPSs).

NR/L2/SIGELP/27417	**Signalling Power Distribution Diagrams** Issue 1; Dec 15	**Compliance** 05/03/16	**Replaces** New at Issue 98

This standard sets out the detailed requirements for the provision, management and maintenance of signalling power supply network drawings and associated documentation, to enable safe isolations for any purpose, including:

- Stage work;
- Entry into service;
- Operational planning;
- Maintenance;
- Fault finding;
- Signalling possession planning;
- Emergency shutdown works;
- Recoveries.

NR/L2/SIGELP/27417	Title	Issue	Issue Date	Price
MOD A	Requirements for Technical Content of Each Type of Schematic	1	Dec 2015	D
MOD B	Guidance on Arrangement and Presentation of Drawings	1	Dec 2015	B
MOD C	CAD Cell Symbol Library – EP Low Voltage Operational Equipment	1	Dec 2015	C

NR/L2/SIGELP/27418	**Design, Installation and Testing of Earthing in Signalling Power Systems** Issue 1; Sep 15	**Compliance** 05/09/15	**Replaces** New at Issue 97

This specification details the design, installation, construction, testing and commissioning requirements for safety earthing systems to limit touch voltage potentials on exposed conductive parts forming part of signalling power systems, to meet the requirements of BS EN 50122-1.

NR/L2/SIGELP/27418	Title	Issue	Issue Date
MOD A	Earth Electrode Installation Process	1	Sep 2015
MOD B	Earth Mat Installation Process	1	Sep 2015
MOD C	Template Earthing Construction Drawings	1	Sep 2015
MOD D	Earthing Testing Methods	1	Sep 2015
MOD E	RDU Scanner Selection	1	Sep 2015

NR/L2/SIGELP/27419	**Product Specification for Distribution Interface Transformer Assemblies (DITA) for Signalling Power Distribution Systems** Issue 1; Jun 15	**Compliance** 06/06/15	**Replaces** New at Issue 96

This specification defines the requirements for the design, installation, integration and testing of distribution interface transformer assemblies (DITA) into Network Rail managed infrastructure.

NR/L2/SIGELP/27421	**Product Specification - Flexible Conduits for Class II Based Signalling Power Distribution Systems** Issue 1; Jun 15	**Compliance** 06/06/15	**Replaces** New at Issue 96

This specification defines the requirements for flexible insulating conduits to be used in Class II based signalling power distribution systems.

NR/L2/SIGELP/27422	**Product Specification - Cable Glands for use in Class II Based Signalling Power Distribution Systems** Issue 1; Jun 15	**Compliance** 06/06/15	**Replaces** New at Issue 96

This specification defines the requirements for glands suitable for flexible insulating conduits to be used in Class II based signalling power distribution systems.

NR/L2/SIGELP/27423	**Product Specification for Connectors and Joints for Signalling Power Cables** Issue 1; Sep 15	**Compliance** 05/09/15	**Replaces** New at Issue 97

This specification details the performance, construction and test requirements for connectors and joints suitable for connecting armoured and unarmoured power cables, used in signalling power distribution systems.

NR/L2/SIGELP/27501	**Temporary Insulating Covers for Network Rail Signalling Location Cases** Issue 1; Dec 16	**Compliance** 04/03/17	**Replaces** New at Issue 102

The standard defines the requirements for an electrically insulating temporary insulating cover for Network Rail signalling location cases which will assist in promoting electrical safety to align with the Electricity at Work Regulations 1989, specifically by preventing persons touching the external metalwork of a location case which may have an unsafe touch potential under certain circumstances.

NR/L2/SIGELP/27725	**Insulation Monitoring and Fault Location Systems for Use on Signalling Power Systems** Issue 1; Mar 17	**Compliance** 03/06/17	**Replaces** New at Issue 103

This standard defines Network Rail's requirements for Insulation Monitoring Devices/Systems (IMDs) and Insulation Fault Location Systems (IFLSs).

NR/L2/SIGELP/30007	**Product Specification for Power Transformers for Signalling Systems** Issue 3; Jun 15	**Compliance** 31/12/15	**Replaces** NR/L2/SIG/30007 Iss 2; Dec 11

This specification defines the requirements for signalling functional supply point (FSP) isolating transformers and any intermediate transformers used to power signalling loads. The primary function of this specification is to clearly define to manufacturers the minimum performance requirements that need to be achieved for product acceptance to be considered. The secondary function of this specification is to provide background information to Electrical power designers, Signalling designers, Signalling installers and Signalling maintainers.

NR/L2/SIGELP/50000	**Safe Working and Maintenance on or near Signalling Power Distribution Equipment above 175 V AC** Issue 4; Sep 21	**Compliance** 04/12/21	**Replaces** NR/L2/SIGELP/50000 Iss 3; Mar 17

This standard describes the minimum requirements for working on or near signalling power distribution equipment above 175 Volts on Network Rail managed Infrastructure, which includes:

- Safe working practices.
- Maintenance and testing requirements.
- Active fault and defect management.

This standard describes the means of compliance with the requirements of the Electricity at Work Regulations 1989 when working on or near signalling power supplies. This has been written in accordance with HSE publication HSG85 – Electricity at Work Safe Working Practices (3rd Edition).

NR/L2/SIGELP/50000	Title	Issue	Issue Date
MOD A	Inspection and Maintenance Periodicities (including risk based maintenance criteria) for Signalling Power Distribution Equipment above 175 V AC	2	Sep 2021

Level 3

NR/L3/SIG/0077	**Signalling Pre-Commissioning Readiness Requirements** Issue 2; Jun 21	**Compliance** 04/09/21	**Replaces** NR/L3/INI/CP0077 Iss 1; Mar 11

This work instruction provides Network Rail with a framework to manage and reduce the risks associated with signalling pre-commissioning testing activities on Projects and verify readiness for commissioning by ensuring that an appropriate level of assurance is undertaken at key points in advance of commissioning.

NR/L3/SIG/10046	**SINCS (Signalling) For Network Rail Fault Management** Issue 1; Mar 11	**Compliance** 29/05/11	**Replaces** NR/GN/SIG/18301 Iss 2; Aug 08 NR/L3/SIG/SG0165 Iss 2; Aug 07

To provide a consistent method of data entry to SINCS. Records should be

- Accurate
- Auditable
- Cross referenced to other documentation.

Complete and that it addresses both immediate and underlying deficiencies.
This supports Railway Group Standard GE/RT8106 – Management of Safety Related Control, Command and Signalling (CCS) System Failures

NR/L3/SIG/10064	**General Instructions to Staff Working on S & T Equipment** Issue 10; Sep 21	**Compliance** 04/12/21	**Replaces** NR/L2/SIG/10064 Iss 9; Dec 20

This Handbook covers personal safety issues and the essential features of S&T equipment. The handbook also includes information not covered by the Rule Book which is necessary for any S&T staff involved in lineside or technical work.

NR/L3/SIG/10661	**Signalling Maintenance Task Intervals** Issue 22; Dec 21	**Compliance** 05/03/22	**Replaces** NR/L3/SIG/10661 Iss 21; Sep 21

The purpose of this document is to set the safety and performance intervals applicable for carrying out signalling maintenance tasks and tests. The intervals shown are intended to maintain the designed safety and reliability by detecting and correcting deficiencies to signalling infrastructure before there is deterioration or failure.

NR/L3/SIG/10663 **Signal Maintenance Specifications** Issue 14; Dec 21 **Compliance** 05/03/22 **Replaces** NR/L3/SIG/10663 Iss 13; Sep 21

This document contains the index to the Signal Maintenance Specifications (NR/SMS) for signalling equipment on Network Rail Managed Infrastructure (NRMI).

NR/SMS/Part	Title	Issue	Issue Date
A	General	14	Sep 2021
B	Tests	16	Sep 2021
C	Tasks	19	Dec 2021
D	Annual Level Crossing Tests	14	Sep 2021
E	Assets not Owned by Signalling	11	Sep 2021
L	Local Instructions	9	Sep 2021
R	Maintenance Record Cards	13	Sep 2021
T	Telecom Assets	8	Sep 2021
Z	Reference Values	15	Sep 2021
Appendix	SMS Appendices	11	Sep 2021

NR/L3/SIG/10665 **Reliability Centred Maintenance of Signalling Equipment** Issue 21; Dec 21 **Compliance** 05/03/22 **Replaces** NR/L3/SIG/10665 Iss 20; Sep 21

This document contains the prerequisites, allowing Reliability-Centred Maintenance to be implemented on signalling equipment as an alternative to the default maintenance regime.

NR/L3/SIG/11231 **Signalling Maintenance Testing Handbook** Issue 16; Sep 21 **Compliance** 04/12/21 **Replaces** NR/L3/SIG/11231 Iss 15; Dec 20

The SMTH provides a maintenance testing regime for the replacement or installation of signalling equipment that does not affect the application logic of the system, or the controls of the system that have previously been tested to signal works testing specifications

Section	Title	Issue	Date
Part 01	Principles and Processes	7	Sep 2021
Part 02	Forms and Templates	10	Sep 2021
Part 03	Defined Checks and Tests	10	Sep 2021
Part 04	Test Plans	15	Sep 2021
Part 05	Wrong Side Failure and Incident Investigation	16	Sep 2021
Part 06	Test Plans for Telecoms, DOO and RETB	6	Sep 2021
Part 08	Wrong Side Failure Test Guides	1	Sep 2021
Part 09	Intermittent or Obscure Failure Guides	1	Sep 2021
Part 10	Faulting Guides	1	Sep 2021

NR/L3/SIG/11235 **Signalling Intermediate Testing Handbook** Issue 1; Sep 21 **Compliance** 04/12/21 **Replaces** New at Issue 121

This document contains the index to the Signal Intermediate Testing Handbook. It contains the procedures and process controls necessary to confirm that signalling alterations to existing installations within the scope of this Handbook, are independently tested in a manner that assures the Health and Safety of Network Rail employees, supply chain and others affected by its activities, compliance with the design and fitness for purpose before they are offered for Entry into Operational Service

Module	Title	Issue	Date
G110	Testing of Extensive and Simultaneous and Functionally Equivalent Works, using Signal Maintenance Testing Techniques	1	Sep 2021
G210	Production and Acceptance of G130 Test Plans, and Acceptance of Associated G120 Test Schedules	1	Sep 2021
G310	Signalling Intermediate Testing Check Marking and Recording on Test Copies	1	Sep 2021
Form Templates			
G120	SITH Test Schedule	1	Sep 2021
G130 Test Plans			
G130/AP1051	Install a TPWS Filter Module	1	Sep 2021
G130/AP1053	Relocate a TPWS Buffer Stop Arming Loop	1	Sep 2021
G130/AP1061	Isolation of TPWS Equipment at Simple Permanent Speed Restrictions (PSR)	1	Sep 2021
G130/AR1001	Temporary Strapping of Point Detection (and Reinstatement)	1	Sep 2021
G130/AR1002	Temporary Bonding Out of Rails (and Reinstatement)	1	Sep 2021
G130/AR1003	Converting a 50Hz Double Rail Track Circuit to a Single Rail Track Circuit (and Reinstatement)	1	Sep 2021
G130/AR1004	Temporary Strapping of Proving Contact (and Reinstatement)	1	Sep 2021
G130/AR1005	Temporary Strapping of Ground Frame Proving (and Reinstatement)	1	Sep 2021
G130/CA1003	Recover an Existing Wire and / or Install a New Wire as part of SITH Work	1	Sep 2021
G130/EL1023	Replace an Electro-mechanical banner repeating signal with an LED type, using a Howells Interface Unit	1	Sep 2021
G130/EL1051	Install a Track Circuit Relay Counter	1	Sep 2021
G130/EL1052	Install a Varistor Surge Protector	1	Sep 2021
G130/EL1053	PIN Code 202 (Style QS1) relay and plugboard conversion to PIN Code 201 (Style QS2) relay and plugboard	1	Sep 2021

Module	Title	Issue	Date
G130/ER1001	Installation of Intelligent Infrastructure Data Logger	1	Sep 2021
G130/SG1061	Filament type Drivers Crossing Indicator (DCI) Conversion to LED DCI	1	Sep 2021
G130/SG1062	Filament type MSL conversion to Fitment of LED MSLs	1	Sep 2021
G130/SG1063	Filament type Level Crossing Road Traffic Lights conversion to LED LX RTL	1	Sep 2021
G130/SS1051	Install a New or Replacement SSI LDT Filter	1	Sep 2021

NR/L3/SIG/11303 **Signalling Installation** Issue 8; Mar 19 **Compliance** 01/06/19 **Replaces** NR/L3/SIG/11303 Iss 7; Dec 16

This standard requires that any installation of signalling equipment on Network Rail Managed Infrastructure provides:

- An operationally safe installation of new or altered systems and equipment, with safe interfaces between systems;
- That safe methods of work are adopted, with safe interfaces between all parties involved or affected;
- A correct and consistent interpretation of design detail;
- A neat and tidy appearance;
- Compliance with the client's specified requirements, so that the installation is dependable, fit for purpose and free from defect;
- Adequate testability; and
- Safe and easy maintenance.

Reference	Title	Issue	Issue Date
1B05	Safety: Introduction	2	Sep 2010
1D05	Electrical Wiring: Installation Diagrams and Symbols	2	Sep 2010
1D10	Electrical Wiring: Wires and Cables	2	Sep 2010
1D15	Electrical Wiring: Wiring Up and Termination	2	Sep 2010
1D20	Electrical Wiring: Alterations to an existing installation	2	Sep 2010
1D25	Electrical Wiring: Stagework Techniques	2	Sep 2010
1H05	Tools and Techniques: Wire Connections and Crimping	2	Sep 2010
1H10	Tools and Techniques: Stripping Wires and Cables	2	Sep 2010
1H15	Tools and Techniques: Soldering	2	Sep 2010
1H20	Tools and Techniques: Wire Wrapping	2	Sep 2010
1H25	Tools and Techniques: Torque Wrenches	2	Sep 2010
1M01	Labelling: Safety Signs	2	Sep 2010
1M05	Labelling: Wires and Cables	2	Sep 2010
1M10	Labelling: Internal Equipment	2	Sep 2010
1M20	Labelling Balises for TASS	2	Sep 2010
1Q05	Fixings: Nuts, Bolts, Screws, Washers, etc.	2	Sep 2010
1U10	Pre-commissioning Work: Setting up and Quality Checks	2	Sep 2010
1X05	General Advice: Good Housekeeping Practice	2	Sep 2010
1X10	General Advice: Common Pitfalls	2	Sep 2010
2A10	Cabling: Jointing and Termination	2	Sep 2010
2C05	Relays: Basic Principles	3	Mar 2011
2C10	Relays: Plugboard Configuration	2	Sep 2010
2E05	Equipment Rooms: Equipment and Wiring Practice	2	Sep 2010
2F05	Signal Boxes and Ground Frames: Electrical Equipment	2	Sep 2010
2F10	Signal Boxes: Lever Locks and Contacts	2	Sep 2010
2G05	Locations: Construction	5	Dec 2016
2G10	Locations: Fitting Out	2	Sep 2010
2J01	Power and Earthing: Electrical Safety	2	Sep 2010
2J05	Power and Earthing: Power Supplies	2	Sep 2010
2K05	Batteries: Primary Cells	2	Sep 2010
2K10	Batteries: Secondary Cells	2	Sep 2010
2M05	Signals: General	2	Sep 2010
2M10	Signals: Signals Not in Use	3	Dec 2016
2M15	Signals: Signs and Boards	2	Sep 2010
2P01	Track Circuits: Definitions	2	Sep 2010
2P05	Track Circuits: General	2	Sep 2010
2P10	Track Circuits: Rail Terminations	2	Sep 2010
2P15	Track Circuits: Bonding	2	Sep 2010
2P20	Track Circuits: DC	2	Sep 2010
2P25	Track Circuits: DC High Sensitivity	2	Sep 2010
2P30	Track Circuits: Jointless Track Circuits	2	Sep 2010
2P35	Track Circuits: Aster 'U' and SF15 Types	2	Sep 2010
2P40	Track Circuits: EBI Track 200 TI21 Types	2	Sep 2010
2P45	Track Circuits: Reed (Jointed) Type	2	Sep 2010

Reference	Title	Issue	Issue Date
2P60	Track Circuits: Westinghouse Quick Release Type	2	Sep 2010
2Q05	Train Detection: Treadles: Silec Type	2	Sep 2010
2S05	Points: General	2	Sep 2010
2S10	Points: Electric Point Machines	2	Sep 2010
2S20	Points: Detection	2	Sep 2010
2S25	Points: Train Operated Point Systems	1	Mar 2011
2U05	Train Warning and Protection Systems: Automatic Warning System (AWS)	3	Dec 2010
2U15	Train Warning and Protection Systems: Train Stops	2	Sep 2010
2W05	Electronic Equipment: General	2	Sep 2010
2W10	Electronic Equipment: SSI and IECC Systems	3	Sep 2010
2X05	Level Crossings: Road Traffic Signals	2	Sep 2010
2X10	Level Crossings: Lifting Barrier Machines (BR 843 Mks 1 & 2)	2	Sep 2010
2X15	Level Crossings: CCTV	2	Sep 2010
2X20	Installation of M82-FGBM and M82-GBM Magnetic Lock and Adapt-A-Gate Closer for Wicket Gates	1	Mar 2019
2X25	Pre-installation Survey (Protection Caging)	1	Mar 2019
2X30	Installation of Newgate Level Crossing Barrier Protection Caging	1	Mar 2019
2Y05	Balises: TASS Balise	2	Sep 2010

NR/L3/SIG/11761 **Handbook for EBI Track 200 Audio Frequency Track Circuit** Issue 5; Dec 17 **Compliance** 03/03/18 **Replaces** NR/L3/SIG/11761 Iss 4; Dec 15

This Level 3 standard mandates the application of the sections of EBI Track 200 Handbook which is intended to provide instruction and guidance to signalling designers, installers, maintainers and trainers on the application of EBI Track 200 on Network Rail Infrastructure in order to achieve the requirements of NR/SP/SIG/11752.

Module	Title	Issue.	Issue Date
L0_A010	Network Rail EBI Track 200 Application Manual	3	Dec 17
L1_B010	EBI Track 200 TI21 Audio Frequency Track Circuit - Technical Manual	5	Jan 15
L1_B020	EBI Track 200 TI21 Audio Frequency Track Circuit - Single Rail Application	4	Mar 14
L2_C010	EBI Track 200/300/400 Application Note : Points and Crossings	8	Dec 14
L2_C020	EBI Track 200/300/400 Track Circuits Guidance Notes for Traction Bonding	4	Jun 15
L3-D010	EBI Track 200, 300 & 400 Track Circuits - Operation with Concrete Slab Track with Steel reinforcing or Iron Lined Tunnels	1	Sep 08
L3-D020	Summary of Fusing and Surge Arrestor Arrangements	5	Aug 12
L3-D040	ETX00 Check Rail Design Note with Application Rules for Tuned Zone Lengths	2	21-Sep-15*
L3-D060	ET200 Traction Bonding Impact on Parallel TC's Hazard Review and Rules	2	21-Sep-15*
Tools			
L3-D110	TI21 Test Meter (TTM) Operating Instructions	4	Oct 03
L3-D140	ET200 / TI21 Audio Frequency Track Circuit - Tuning Unit, End Termination Unit and Surge Protected End Termination Unit Test Rig	2	Sep 13
L3-D150	TI21 Sleeper Insulation Tester (SIT) Operating Instructions	2	Oct 02
Condition Monitoring			
L3_D210	EBI Track 200 - Track Circuit Condition Monitoring (Guide to using the CM interface)	1	Mar 10
L3_D220	PC Application User's Manual : Customer Version	2	Nov 11
Reliability			
L3_D310	EBI Track 200 TI21 Use of Compensating Capacitors	1	Oct 12
L3_D320	Modifications to EBI Track 200 TI21 Tuning Unit and ETU T1/T2 Connections and Trackside Wiring Recommendations	3	Jan 12
E010	Reliability Centred Maintenance of Signalling Equipment (ROSE) – NR/ROSE/Test/253 EBITRACK 200 TI21	1	Sep 11
F010	EBI Track 200 Lesson Plans for Single Rail and Double Rail Applications	1	-
G010	EBI Track 200 Audio Frequency Track Circuit	16 or later	-
G020	EBI Track 200 TI21 Track Circuit Cases	1	Oct 09
G030	Application of "Gain of 9 restriction" to TI21 track circuits on LT&S Resignalling Project containing not more than one impedance bond where a buried earth wire is provided for earth bonding.	1	Dec 11

* Published in standards and controls framework 2-Dec-17

NR/L3/SIG/11767 **Handbook for EBI Track 400 Audio Frequency Track Circuit** Issue 1; Mar 18 **Compliance** 02/06/18 **Replaces** New at Issue 107

This document mandates the application of the sections of the EBI Track 400 Handbook which is intended to provide instruction and guidance to signalling designers, installers, maintainers and trainers on the application of EBI Track 400 on Network Rail Infrastructure in order to achieve the requirements of NR/L2/SIG/11752.

NR/L3/SIG/11767/	Title	Issue.	Issue Date
A010	Network Rail EBI Track 400 Application Manual	Issue 1	Mar 2018
B010	EBI Track 400 Coded Track Circuit - Technical Manual for Open Line Applications	Issue 1	Oct 2014
B020	EBI Track 400 Coded Track Circuit - Technical Manual Supplement for Station Areas	Issue 1	Oct 2014
B030	EBI Track 400 Audio Frequency Track Circuit - Addendum to the Open Line Manual - Single Rail Application	Issue 1	Nov 2014
C010	EBI Track 400/300/400 Application Note : Points and Crossings	Issue 1	Dec 2014
C020	EBI Track 400/300/400 Track Circuits Guidance Notes for Traction Bonding	Issue 1	Jun 2015
C030	EBI Track 400 Infrastructure Compatibility - Review of the Compatibility of EBI Track 400 with Network Rail Infrastructure	Issue 1	Feb 14
D010	EBI Track 200, 300 & 400 Track Circuits - Operation with Concrete Slab Track with Steel reinforcing or Iron Lined Tunnels	Issue 1	Aug 2008
D020	EBI Track200 - Summary of Fusing and Surge Arrestor Arrangements	Issue 1	Aug 2012
D030	EBI Track 400 - Earth Leakage Testing of 48VDC Supplies	Issue 1	Oct 2014
D040	ETX00 Check Rail Design Note with Application Rules for Tuned Zone lengths	Issue 1	Sep 2015
D060	ET200 Traction Bonding Impact on Parallel TC's Hazard Review and Rules	Issue 1	Feb 2017
D110	TI21 Test Meter (TTM) Operating Instructions	Issue 1	Oct 2003
D120	TI21 Test Meter (MTM) Operating Instructions	Issue 1	Oct 2003
D130	Bombardier MTM & TTM Additional Operating Instructions	Issue 1	Mar 2018
D140	ET200 / TI21 Audio Frequency Track Circuit - Tuning Unit, End Termination Unit and Surge Protected End Termination Unit Test Rig	Issue 1	Sep 2013
D210	EBI Track 400 - Track Circuit Condition Monitoring (Guide to using the CM interface)	Issue 1	Mar 2010
D220	PC Application User's Manual : Customer Version	Issue 1	Nov 2011

NR/L3/SIG/19102 **Advanced SSI Go/No-Go Tester Specification** Issue 1; Aug 08 **Compliance** 01/12/08 **Replaces** New at Issue 69

This document is the Network Rail Specification for a second-generation SSI (Solid State Interlocking) Go/No-Go Tester.

NR/L3/SIG/19272 **Signalling Equipment Workshop Engineering Notice (SIGWEN021) Signalling Relays** Issue 5; Jun 11 **Compliance** 04/06/11 **Replaces** NR/L3/SIG/19272 Iss 4; Dec 10

This standard has been prepared to advise manufacturers, repair and service agents about problems affecting railway signalling relays used on Network Rail's Signalling Infrastructure. The methods and processes used to satisfy the requirements of this standard should be detailed within the manufacturers and/or service agents documented procedures, as applicable.

NR/L3/SIG/19808 **Hy-Drive Supplementary Point Drive System** Issue 4; Mar 20 **Compliance** 06/06/20 **Replaces** NR/L3/SIG/19808 Iss 3; Aug 14

This work instruction supports the installation and maintenance of the Hy-Drive Supplementary Point Drive System. It is intended to control the risk of incorrect componentry and setup being applied in Hy-Drive systems. It is a reference document to support staff working with the system.

NR/L3/SIG/19810 **Signal Engineering Involvement in Civil Engineering Work** Issue 2; Aug 08 **Compliance** 26/08/08 **Replaces** NR/WI/SIG/19810 Iss E1; Feb 07

This standard is to check that signal engineering resources are coordinated in support of civil and permanent way engineering work for maintenance and minor renewals.

NR/L3/SIG/20047 **Management of Safety Related Reports for Signalling Failures Appendix** Issue 2; Jun 17 **Compliance** 02/09/17 **Replaces** NR/L3/SIG/20047 Iss 1; Jun 12

This document contains the hazard index system and the MCF (Monitored common failures) of safety related failures of signalling equipment and services, owned by Network Rail or provided by third parties for railway operational purposes.

NR/L3/SIG/30011 **Signalling Equipment Support Specification** Issue 1; Jun 08 **Compliance** 01/09/08 **Replaces** New at Issue 68

This standard specifies the minimum support levels to be provided under contract for the principal categories of signalling equipment. The service levels are defined for the required support tasks to ensure consistency across all signalling support contracts.

NR/L3/SIG/30051 **Signalling Functional Power Loads Data Management** Issue 1; Mar 10 **Compliance** 05/06/10 **Replaces** New at Issue 75

This document describes the processes that shall be used to capture and update electrical characteristic data related to signalling products for the signalling functional power loads database. This procedure supports Network Rail standard NR/L2/SIG/30050 and applies to all signalling electrical products that have product approval certification or have been submitted for approval.

NR/L3/SIG/30071	**Specification For Point Interface Location** Issue 1; Jun 09	**Compliance** 06/06/09	**Replaces** New at Issue 72

The Point Interface Location is a concept to enable a new point operating equipment to be connected to the existing control location with minimal alteration to the existing circuitry and power supplies.
This specification describes:-

- the interfaces required for the new point operating equipment,
- the interfaces required for connection to the existing control circuitry (and how those interfaces may be configured) and
- the facilities provided for maintenance.

NR/L3/SIG/30082	**Axle Counter System Handbook** Issue 2; Dec 10	**Compliance** 05/03/11	**Replaces** NR/L3/SIG/30082 Iss 1; Mar 10

This handbook defines requirements and provides guidance to those involved with axle counter systems for use on Network Rail infrastructure. It has been produced following lessons learnt from a number of applications.

NR/L3/SIG/30082/	Title	Issue	Issue Date
002	Axle Counter Installation, Testing and Commissioning Requirements	1	Mar 2010
003	Axle Counter Software / Data Rules	1	Dec 2010
004	Product Specification for Axle Counter Equipment	1	Mar 2010
010	Design and Application Rules - Thales Axle Counter Systems	1	Dec 2010

NR/L3/SIG/31655	**Inspection of Cable & Wire Degradation** Issue 1; Dec 11	**Compliance** 03/12/11	**Replaces** NR/L3/SIG/SG0059 Iss 2; Aug 08

This standard describes how an inspection of signalling cabling and wiring is to be undertaken to identify signs of degradation When the insulation degrades, the inner conductor may become exposed and come into contact with other exposed wires and terminals. The risks are that:

- Contacts are bypassed in a circuit
- Introduction of connections between different circuits The other risk being to staff is of electrical

NR/L3/SIG/SG0053	**Preventative Maintenance of Signalling Assets** Issue 3; Sep 11	**Compliance** 03/09/11	**Replaces** NR/L3/SIG/SG0053 Iss 2; Aug 08

This procedure details the roles and responsibilities in the planning of all routine preventative maintenance activities on signalling assets to fit in with the national planning process and timescales as detailed in NR/PRC/MTC/PL0056.

NR/L3/SIG/SG0054	**Corrective Maintenance of Signalling Assets** Issue 3; Aug 08	**Compliance** 26/08/08	**Replaces** NR/PRC/MTC/SG0054 Iss 2; Apr 07

The purpose of this document is to define the process for corrective maintenance of Network Rail signalling assets.

NR/L3/SIG/SG0057	**Management of Signal Relay Reservicing** Issue 2; Aug 08	**Compliance** 26/08/08	**Replaces** NR/PRC/MTC/SG0057 Iss 1; Jun 07

This procedure details the responsibilities for establishing and maintaining a signal relay reservicing database along with a relay reservicing programme.

NR/L3/SIG/SG0058	**Management of Defective Cables** Issue 2; Sep 11	**Compliance** 03/09/11	**Replaces** NR/L3/SIG/SG0058 Iss 1; Sep 08

The purpose of this procedure is to define the specific responsibilities of maintenance staff for the diversion of working circuits following identification of one or more faulty cable cores, and the associated testing and monitoring of cables.

NR/L3/SIG/SG0065	**Management of Disconnections that Affect Signalling Equipment** Issue 2; Aug 08	**Compliance** 26/08/08	**Replaces** NR/PRC/MTC/SG0065 ss 1; Jun 07

This procedure details the roles and responsibilities for the disconnection of signalling equipment for preventative or corrective maintenance, minor renewals, or safety that will or may affect the normal running of trains.

NR/L3/SIG/SG0079	**Signalling Responsibilities for S&C Maintenance** Issue 3; Jun 10	**Compliance** 04/09/10	**Replaces** NR/L3/SIG/SG0079 Iss 2; Aug 08

This document defines the additional signalling procedures for S&C inspection and maintenance over and above that detailed in NR/L3/SIG/SG0053 (preventative maintenance of signalling assets) and NR/L3/SIG/SG0054 (corrective maintenance of signalling assets).

NR/L3/SIG/SG0108	**Signalling Maintenance Vehicle Stock Check and Replenishment** Issue 2; Aug 08	**Compliance** 26/08/08	**Replaces** NR/PRC/MTC/SG0108 Iss 1

This document details the process for routinely checking signalling maintenance rapid response vehicles of all types for minimum spares holding, and that stock shortages are replenished from local minor stocking points.

NR/L3/SIG/SG0138	**Management of Signalling Wrong Side Failures** Issue 2; Aug 08	**Compliance** 26/08/08	**Replaces** NR/PRC/MTC/SG0138 Iss 1; Apr 07

This document details the process to ensure that the investigation, escalation, rectification, and recording of signalling wrong side failures is undertaken by maintenance according to Network Rail company specifications NR/SP/SIG/10047 and NR/SP/SIG/11231.

NR/L3/SIG/SG0139	**Management of Right On Arrival and Repeat Signal Failures** Issue 2; Aug 08	**Compliance** 26/08/08	**Replaces** NR/PRC/MTC/SG0139 Iss 1; Apr 07

This document details the process to ensure that right on arrival and repeated failures are investigated sufficiently to ensure the fundamental cause of the failure is found and rectified.

NR/L3/SIG/SG0154	**Management of Signalling Defects** Issue 2; Aug 08	**Compliance** 26/08/08	**Replaces** NR/PRC/MTC/SG0154 Iss 1; Apr 07

This document details the process to ensure signalling defects that have been found during preventative or corrective maintenance and cannot be corrected at the time of their discovery are entered on the Ellipse system and are managed to conclusion according to the engineering standard NR/SP/SIG/19807.

NR/L3/SIG/SG0155	**Management of Isolation, Re-sets & Restoration On Axle Counter Equipment** Issue 2; Aug 08	**Compliance** 26/08/08	**Replaces** NR/PRC/MTC/SG0155 Iss 1; Jun 07

This document details the procedure for the isolation of axle counter equipment from the interlocking for preventative or corrective maintenance activities along with the re-set and restoration of the equipment back to the interlocking.

NR/L3/SIG/SG0162	**Management of Signalling Maintenance Diagrams** Issue 2; Aug 08	**Compliance** 26/08/08	**Replaces** NR/PRC/MTC/SG0162 Iss 1; Jun 07

The purpose of this procedure is to define the methods of control of maintenance diagrams within signalling maintenance. Such controls shall ensure that the correct issue of diagrams are maintained at the work sites, that amendments are carried out in a controlled manner, and that obsolete diagrams are removed to avoid inadvertent use.

NR/L3/SIG/SG0163	**Management of Data from Logging Systems & Event Recorders** Issue 3; Sep 11	**Compliance** 03/09/11	**Replaces** NR/L3/SIG/SG0163 Iss 2; Aug 08

This document details the process of retrieving, checking and storing data from signalling logging systems connected to or part of interlockings, control systems or control centres. It also covers the process of retrieving, checking and storing data from signalling event recorders that are permanently or temporarily connected to signalling equipment.

NR/L3/SIG/SG0166	**Management of Operational Signalling Equipment Involved in Wrong Side Failures and Incidents** Issue 2; Aug 08	**Compliance** 26/08/08	**Replaces** NR/PRC/MTC/SG0166 Iss 1; Aug 07

This document details the process for the Network Rail signal maintenance function managing operational signalling equipment that has or has been suspected of causing a wrong side failure or major incident and is required to undergo an independent specialist or technical investigation to find the fundamental or root cause of the reason for the equipment failing or causing a failure.

NR/L3/SIGELP/27420	**Target Earth Calculation Methodology for Signalling Power Systems** Issue 1; Jun 15	**Compliance** 06/06/15	**Replaces** New at Issue 96

This standard sets out a method for calculating the maximum target earth value at signalling apparatus housings and power supply sources to afford protection against electric shock in the event of first earth fault in Class I and Class II signalling power distribution systems using IT electrical systems.

NR/L3/SIGELP/27425	**Equivalent Cable Sizes for Signalling Power Distribution Cables** Issue 1; Sep 16	**Compliance** 09/01/17	**Replaces** New at Issue 101

This standard authorises, subject to constraints specified, the replacement of signalling power supply cables complying with BR 880, BR 872 or RT/E/PS/00005 with cables complying with NR/L2/SIGELP/27408. This standard is intended to facilitate replacement of cables without resorting to design, subject to exclusions, in order to improve the availability and safety of signalling power supply systems.

NR/L3/SIGELP/27427	**Identification and Colours for Signalling Power Distribution Cables** Issue 1; Sep 16	**Compliance** 09/01/17	**Replaces** New at Issue 101

This standard specifies the cable identification requirements for signalling power supply distribution cables. This reduces the risk of cables being mis-identified during installation, isolations and incorrect connections leading to potential mal operation of signalling systems.

NR/L3/SIGELP/50001	**Signalling Power Distribution Equipment above 175 V AC** Issue 5; Sep 21	**Compliance** 04/12/21	**Replaces** NR/L3/SIGELP/50001 Iss 4; Dec 17

This manual contains the work instructions which are to be used when maintaining fault finding and repairing signalling power distribution equipment above 175 V AC.

NR/SPS/	Title	Issue	Issue Date
A001	Maintenance Periodicities	2	Sep 2021
A002	Use of Joints and Terminations for Aluminium Signalling Power Distribution Cables	1	Dec 2017
G001	Guidance for the use of Editable PDF Forms	1	Dec 2017
M001	FSP and Cabling Maintenance (Signalling Power Distribution Equipment above 175 V AC)	4	Sep 2021
M002	Defect Management for Signalling Power Distribution Equipment above 175 V AC	5	Sep 2021
M003	Insulation Resistance Monitor Management and Maintenance	4	Sep 2021
M005	Interrupter Cables Management and Maintenance	2	Dec 2016
M006	Maintenance of Auto Reconfiguration Equipment	1	Dec 2016
M007	Inspection of Temporary Protective Measures at Location Cases	1	Dec 2016
M010	Distribution Interface Transformer Assembly (DITA) Maintenance	1	Dec 2017
T001	Earth Electrode Testing	2	Dec 2016
T002	Cable Insulation Resistance Test	2	Dec 2016
T003	Conductor and CPC Continuity Tests	2	Dec 2016
T004	Insulation Resistance Monitor Equipment Test	2	Dec 2016
T006	Transformer Insulation Resistance Test	3	Dec 2017
T007	Earth Loop Impedance Test (TN & TT systems)	1	Dec 2016

NR/L3/SIGELP/50002 **Safe Working Practices When Working on or Near Signalling Power Distribution Equipment Above 175 Volts** Issue 1; Dec 16 | **Compliance** 03/06/17 | **Replaces** New at Issue 102

The purpose of this standard is to define the safe working practices to be employed when working on or near signalling power distribution equipment above 175 V.

Associated Document

NR/L3/SIGELP/50002/	Title	Issue	Issue Date
BRIEFING	Briefing	1	Dec 2016

NR/L3/SIGELP/50003 **Safe Working Practices When Working on or Near Signalling Equipment** Issue 1; Mar 18 | **Compliance** 02/06/18 | **Replaces** New at Issue 107

This standard provides guidance on the potential electrical safety risks that exist when working on or near signalling equipment and defines the safety requirements for different work activities. By reviewing the risks of a particular work activity and applying the safety requirements in this standard, work can be pre-planned so that the necessary safeguards are in place for work to be carried out safely.

Work Instruction

NR/WI/SIG/00111 **Points General – Supplementary Drives – Mechanical** Issue 2; Apr 06 | **Compliance** 31/07/07 | **Replaces**

This standard gives additional information to supplement and support the information given in RT/E/C/11772, regarding best practice for the installation and adjustment of mechanically operated supplementary (back) drives.

Guidance Notes (including Codes of Practice)

NR/GN/SIG/02022 **Requirements for TASS Infrastructure – System Description** Issue 2; Dec 05 | **Replaces** RT/E/C/02022 Iss 1; Dec 03

This guidance note describes the Tilt Authorisation And Speed Supervision (TASS) system developed to deliver the principal requirements of Railway Group standards GE/RT8012 “Controlling the speed of tilting trains through curves” and GE/RT8019 “Tilting trains: controlling tilt systems to maintain clearances”.

NR/GN/SIG/02025 **Guidance for Consideration of TASS Balises During Railway Engineering Activities** Issue 2; Dec 05 | **Replaces** RT/E/G/02025 Iss 1; Dec 03

This guidance note gives advice to those engaged in various engineering activities on the treatment of the TASS system and the precautions they should take in respect of it.

NR/GN/SIG/17901 **SSI Configuration Guide** Issue 5; Dec 21 | **Replaces** NR/GN/SIG/17901 Iss 4; Jun 12

This document is a guide to the permitted configurations of SSI hardware, as in use by Network Rail.

Associated Document

NR/GN/SIG/17901/	Module	Issue	Issue Date
A	Appendix	1	Jun 12

NR/GN/SIG/17902 **SSI Program and Data Problems** Issue 5; Mar 09 **Replaces** RT/E/C/17902 Iss 4; Dec 04

This Guidance Note describes installed program and site specific data problems that have occurred with Solid State Interlocking (SSI) equipment, and been notified to Network Rail. The guidance includes a description of the problem, and states where to find information in Standards to prevent re-occurrence.

NR/GN/SIG/17903 **SSI Hardware Problems** Issue 4; Mar 11 **Replaces** RT/E/C/17903 Iss 3; Dec 04

This Guidance Note summarises significant SSI hardware problems that have been identified on Network Rail infrastructure as a result of technical investigation, and the resultant changes made. It supersedes RT/E/C/17903 Issue 3. This information will be useful to those wishing to fully understand the reasoning behind a particular change to SSI equipment or its application.

NR/GN/SIG/19002 **WRSL – Style 63 Point Machine (SIGTAN 002)** Issue 3; Jun 07 **Replaces** RT/E/C/19002 Iss 2; Aug 98

This SIGTAN has been prepared to provide advice on significant problems associated with Westinghouse Signals style 63 point machines.

NR/GN/SIG/19012 **SIGTAN012 Cables and Wiring Used for Signalling Systems** Issue 4; Aug 08 **Replaces** RT/E/C/19012 Iss 3; Feb 01

This Guidance Note provides information relating to cables and wiring insulation, both degradation that has been encountered on Network Rail Signalling Infrastructure and testing methods. It also contains relevant technical information and the historical background. Some notes on inspection techniques, alterations to affected wiring and some miscellaneous cable problems are included in the appendices. The purpose of insulation testing is to detect the deterioration or failure of the insulation of wires, cables and other circuit components. Testing may be by continuous monitoring or by regular testing depending on the required level of integrity.

NR/GN/SIG/19020 **Signalling Relays (SIGTAN020)** Issue 7; Sep 11 **Replaces** NR/L3/SIG/19020 Iss 6; Jun 11

This document has been prepared to summarise problems affecting railway signalling relays used on Network Rail's Signalling Infrastructure.

NR/GN/SIG/19047 **SIGTAN047 Points (General)** Issue 3 Aug 08 **Replaces** RT/E/C/19047 Iss 2; Dec 02

This code of practice summarises a range of general issues relating to points on Network Rail's signalling infrastructure

NR/GN/SIG/19053 **IECC Technicians Manual** Issue 2; Dec 08 **Replaces** NR/GN/SIG/19053 Iss 1; Dec 05

This Manual authorises the use of the IECC Technicians Manual for signalling schemes employing Integrated Electronic Control Centre equipment on Network Rail infrastructure, and lists all documents therein to provide a record of which constituent documents are current and approved for use.

NR/GN/SIG/19054 **SSI Technicians Manual (Parts A, B & C)** Issue 2; Dec 09 **Replaces** NR/GN/SIG/19054 Iss 1; Dec 05

This document is to provide an updated version of the SSI guidance provided to maintainers, and to eliminate temporary standards such as TIs and NBs where possible.

NR/GN/SIG/19054/	Title	Issue	Issue Date
1	Part 1 Introduction	2	Dec 2009
2	Part 2 System Description	2	Dec 2009
3	Part 3 General Information	2	Dec 2009
4	Part 4 Multi-Processor Module (MPM)	2	Dec 2009
5	Part 5 Panel Processor Module (PPM)	2	Dec 2009
6	Part 6 Signal Module (SM)	2	Dec 2009
7	Part 7 Points Module (PM)	2	Dec 2009
8	Part 8 Data Link Module (DLM)	2	Dec 2009
9	Part 9 Long Distance Terminal (LDT)	2	Dec 2009
10	Part 10 Technicians Terminal (TT)	2	Dec 2009
11	Part 11 SSI Data Link Testing	2	Dec 2009
12	Part 12 Guide to SSI Earthing and Bonding	2	Dec 2009

NR/GN/SIG/19101 **Good Practice Guide - Acic Track Circuit Leaf Fall Detection Unit** Issue 1; Aug 05 **Replaces**

A new standard: to provide guidance on the provision and use of the ACIC track circuit leaf fall detection unit.

NR/GN/SIG/19800	**Bedford - Bletchley: Control and use of VHLC Local Panels** Issue 1; Feb 06	**Replaces**

This document describes the control and operating principles of the Vital Harmon Logic Controller (VHLC) Local Control Panels (LCPs).

NR/GN/SIG/19801	**Sittingbourne - Sheerness: Control and use of VHLC Local Control Panels** Issue 1; Feb 06	**Replaces**

This document describes the control and operating principles of the Vital Harmon Logic Controller (VHLC) Local Control Panels (LCPs).

NR/GN/SIG/50011	**Methodology for the Demonstration of Compatibility with Axle Counters** Issue 2; Mar 20	**Replaces** NR/SP/SIG/50011 Iss 1; Apr 06

This Guidance Note aids safe and reliable rolling stock introduction by:
a) defining how interference from electric traction systems can enter axle counter systems; and
b) providing a methodology for demonstration of compatibility.

NR/GN/SIG/50013	**Methodology for the Demonstration of Compatibility with Route Relay and Solid State Interlockings** Issue 2; Sep 19	**Replaces** RT/E/C/50013 Iss 1; Feb 03

By describing how interference from electric tractions systems can enter RRI and SSI interlocking systems and providing a methodology for demonstration of compatibility, this Guidance Note aids safe and reliable rolling stock introduction.

NR/GN/SIG/50014	**Methodology for the Demonstration of Compatibility with Lineside Equipment** Issue 2; Aug 08	**Replaces** RT/E/G/50014 Iss 1; Feb 03

The purpose of this document is to provide a methodology to demonstrate compatibility with lineside equipment installed on the ac and dc electrified railway on Network Rail controlled infrastructure.

NR/GN/SIG/50015	**Methodology for the Demonstration of Electrical Compatibility with Reed FDM Systems on the AC and DC Railways** Issue 3; Sep 20	**Replaces** NR/SP/SIG/50015 Iss 2; Feb 07

This Guidance Note aids safe and reliable rolling stock introduction by:
a) defining how interference from electric traction systems can enter reed FDM systems; and
b) providing a methodology for demonstration of compatibility

RT/E/C/11772	**Supplementary Point Drives and Detection** Issue 1; Apr 01	**Replaces**

This code of practice contains information which represents current best practice for supplementary point drives and detection developed under British Rail.

RT/E/C/11821	**Siting Requirements for Lineside Apparatus Housings** Issue 1; Aug 00	**Replaces**

This code of practice defines best practice for the support of, and safe working area around lineside apparatus housings in order to minimise the risks associated with work on lineside signalling equipment and satisfy Railway Group Standard GK/RT0208, Installation of Signalling and Operational Telecommunications Equipment, and Line Specification RT/E/S/11303, Requirements for Signalling Installation.

RT/E/C/17904	**Risk Analysis of Signalling Relays** Issue 1; Aug 04	**Replaces**

This code of practice defines a process to assess the risks presented by failure of specific applications of signalling control relays. By applying the process it is possible to determine which relays (if any) may be exempt from routine replacement for a specific interlocking design.

RT/E/C/19008	**SIGTAN008 Sangamo/Schlumberger Time Switches Used at Level Crossings** Issue 2; Oct 00	**Replaces** RT/E/C/19008 Iss 1; Jun 95

An investigation (Technical Investigation Report 94507) into the setting of Sangamo time switches highlighted the lack of information available to staff relating to the use of these devices. Also, a separate investigation (Technical Investigation Report 94535) into an incident at a level crossing identified the slow running timer switches, provide advice on their subsequent replacement and to inform staff of the correct application of these devices.

RT/E/C/19010	**SIGTAN010 Circuit Controllers Used with BR843 Level Crossing Lifting Barriers** Issue 1; Jun 96	**Replaces**

In 95, Opal Engineering were commissioned to investigate the reliability of circuit controllers used with the BR 843 Standard Mk1 and Mk2 lifting barriers. The study reported that some re-serviced circuit controllers were not supplied pre-set for installation and recommended that existing stocks should be examined and any unsuitable circuit controllers withdrawn and not used. This document provides advice on identifying these unsuitable circuit controllers and also addresses the method for carrying out fine adjustment during installation, when this is made necessary by individual site conditions.

RT/E/C/19014	**SIGTAN014 Mechanical Handbook** Issue 1; Mar 97	**Replaces**

This SIGTAN contains a draft copy of the mechanical handbook and is intended as a guidance document only.

RT/E/C/19015 **SIGTAN015 Relay Plugboard Problems** Issue 1; Feb 98 **Replaces**

As a result of an investigation (Technical Investigation report 96626), into the contamination of relay plugboards, this document has been prepared to give advice on dealing with such contamination. Advice on recognition, contributory factors and preventative measures is also provided.

RT/E/C/19016 **SIGTAN016 Westinghouse M3 Point Machine** Issue 1; Feb 98 **Replaces**

An investigation (Technical Investigation Report 96508) revealed various Westinghouse M3 point machine problems. This document provides advice on examining the locking of the main shaft bearing and includes the temporary measures necessary until the point machine can be replaced.

RT/E/C/19019 **SIGTAN019 Westinghouse Signal Machines** Issue 2; Apr 99 **Replaces** RT/E/C/19019 Iss 1; Apr 98

Investigations (Technical Investigation Reports 96051 and 98070) into two separate incidents, where signals were stuck in the “off” position due to jammed signal machines have revealed that on both occasions, some onsite repairs had been carried out and replacement components had been incorrectly fitted. This document has been prepared to discuss the problems associated with carrying out on-site repairs and recommends that all repairs (other than those considered to be associated with first line maintenance) and re-servicing are carried out in a controlled workshop environment by staff who have received specialised craft training.

RT/E/C/19023 **SIGTAN023 Signal Post Replacement Switches** Issue 1; Jun 00 **Replaces**

This document has been prepared to provide advice on significant problems associated with the signal post replacement Switch.

RT/E/C/19024 **SIGTAN024 Signalling Control Panels** Issue 1; Apr 99 **Replaces**

This document has been prepared to provide advice on problems affecting equipment/components associated with signalling control panels.

RT/E/C/19025 **SIGTAN025 Electric Lever Locks and Circuit Controllers** Issue 2; Feb 01 **Replaces** RT/E/C/19025 Iss 1 Apr 99

This code of practice summarises technical information and advice on problems relating to electric lever locks and circuit controllers that form part of Network Rail’s signalling infrastructure.

RT/E/C/19026 **SIGTAN026 Track Circuit Equipment** Issue 1; Dec 99 **Replaces**

This document has been prepared to provide advice on problems affecting track circuit equipment that forms part of the railway infrastructure signalling control system.

RT/E/C/19030 **SIGTAN030 Earth Testing of Bus-bars** Issue 1; Oct 00 **Replaces**

This document has been prepared to provide advice on earth testing of bus-bars.

RT/E/C/19032 **SIGTAN032 Alignment of Colour Light Signals** Issue 1; Oct 00 **Replaces**

This code of practice details the methods to be used for checking and adjusting the beam alignment of colour light signals, so as to achieve compliance with Network Rail group standard GK/RT0037 “Signal sighting”, Issue 3.

RT/E/C/19036 **SIGTAN036 Test and Measurement Meters** Issue 1; Feb 01 **Replaces**

This document has been prepared to provide advice on significant problems associated with the use of certain models of Fluke® digital multimeters.

RT/E/C/19039 **SIGTAN039 Signals (General)** Issue 1; Feb 01 **Replaces**

This document summarises a range of general issues relating to signals on Network Rail’s signalling infrastructure.

RT/E/C/19040 **SIGTAN040 Train Protection Systems** Issue 2; Aug 01 **Replaces**

This code of practice summarises a range of general issues relating to train protection systems on Network Rail’s signalling infrastructure.

RT/E/C/19041 **SIGTAN041 Battery Cells** Issue 1; Feb 01 **Replaces**

This document summarises a range of general issues relating to cells on Network Rail’s signalling infrastructure

RT/E/C/19044 **SIGTAN044 Level Crossings** Issue 1; Feb 01 **Replaces**

This code of practice summarises a range of general issues relating to level crossings on Network Rail’s signalling infrastructure

RT/E/C/19045 **SIGTAN045 Power Supplies** Issue 1; Feb 01 **Replaces**

This code of practice summarises a range of general issues relating to power supplies on Network Rail’s signalling infrastructure

RT/E/C/19046	**SIGTAN046 Treadles** Issue 1; Feb 01	Replaces

This code of practice summarises a range of general issues relating to treadles on Network Rail's signalling infrastructure

RT/E/C/19048	**SIGTAN048 TPWS Trackside Equipment** Issue 1; Apr 03	Replaces

This Code of Practice provides a record of best practice general information relating to the trackside sub-system of the Train Protection and Warning System (TPWS) used on Network Rail signalling infrastructure, together with relevant technical information

RT/E/C/19050	**SIGTAN050 Western Region Type Barrier Machine Hydraulic Ram – Ram Pin Failure** Issue 1; Dec 02	Replaces

This document has been prepared to provide advice on a potential failure mode of level crossing barrier machines manufactured by the former Western Region. The pins that connect the hydraulic ram to the rear strut of the barrier machine side arms and the bottom fulcrum bracket may not be compliant with the design specification.

RT/E/C/19051	**SIGTAN051 GEC FDM Reed Equipment** Issue 1; Dec 02	Replaces

The aim of this code of practice is to describe the nature of certain in-service problems that have arisen with GEC reed equipment, the symptoms manifested, show how they can be avoided and where possible, what remedial action can be taken if these problems are experienced. It also describes best practice for jointing the transmission line cable used on reed systems.

RT/E/C/19052	**SIGTAN052 TPWS in Radio Electronic Token Block (RETB) - Faulting Guidance** Issue 1; Apr 04	Replaces

This code of practice provides details of the faulting procedures, or cross-references to other faulting information necessary to locate anomalies in the operation of the Trackside Radio Control Unit and its associated subsystems, such that a fault can be determined down to the level of a Line Replaceable Unit.
For further information regarding the Train Protection and Warning System/Radio Electronic Token Block system see RT/E/S/10178.

RT/E/C/19254	**SIGWEN003 GEC-GS HW Point Machine** Issue 4; Dec 02	Replaces RT/E/C/19254 Iss 3; Apr 98

This document advises Network Rail's suppliers who manufacture, repair or service the GEC-GS types HW 1000 and HW 00 point machines of additional/revised processes to be applied before the equipment is released to the customer. This information is supplementary to manufacturing, repair or servicing standards.

RT/E/C/19257	**SIGWEN006 Smiths Industries Clamp Lock Power Pack** Issue 1; Aug 95	Replaces

This document advises Network Rail's suppliers who manufacture, repair or service the Smiths Industries clamp lock power pack of additional/revised processes to be applied before the equipment is released to the customer. This information is supplementary to manufacturing, repair or servicing standards.

RT/E/C/19258	**SIGWEN007 BR843 Level Crossing Lifting Barriers** Issue 1; Jun 96	Replaces

This document advises Network Rail's suppliers who manufacture, repair or service BR843 level crossing lifting barriers, including composite components, of additional/revised processes that need to be applied adopted before the equipment is released to the customer. This information is supplementary to manufacturing, repair or servicing standards.

RT/E/C/19259	**SIGWEN008 Westinghouse Signal Machines** Issue 1; Apr 98	Replaces

This document advises Network Rail's suppliers who repair or service Westinghouse signal machines of processes that need to be adopted/amended before the equipment is released for re-use on Network Rail's infrastructure. This information is supplementary to repair or servicing standards.

RT/E/C/19262	**SIGWEN011 BR817 Hydraulic Clamp Lock Power Packs** Issue 2; Dec 02	Replaces

This document advises Network Rail's suppliers who repair or service hydraulic clamp lock power packs to BR817 of processes that need to be adopted/amended before the equipment is released for re-use on Network Rail's infrastructure. This information is supplementary to manufacture, repair or servicing standards.

RT/E/C/19265	**SIGWEN014 Labelling of Signalling Equipment** Issue 1; Jun 03	Replaces

This document advises servicing agents who repair or service signalling equipment of the labelling requirements that should be applied before the equipment is released for re-use onto Network Rail's Infrastructure.

RT/E/C/19269	**SIGWEN018 GEC FDM Reed Equipment** Issue 1; Dec 02	Replaces

The aim of this document is to identify to servicing agents specific additional servicing requirements that are required on GEC FDM reed receiver amplifiers.

RT/E/C/50005	**Methodology for the Demonstration of Compatibility with 50Hz Single Rail Track Circuits** Issue 1; Feb 03	**Replaces**

The purpose of this document is to provide a methodology for the demonstration of electromagnetic compatibility of rolling stock with 50Hz single rail track circuits installed on Network Rail controlled infrastructure. It is based upon previously accepted safety assessments which were undertaken for traction and rolling stock thereby allowing them to operate over 50Hz single rail track circuits.

RT/E/C/50007	**Methodology for the Demonstration of Compatibility with HVI Track Circuits** Issue 1; Feb 03	**Replaces**

The purpose of this document is to provide a methodology to demonstrate compatibility of trains with HVI track circuits on the ac and dc railways on Network Rail controlled infrastructure.

RT/E/C/50008	**Methodology for the Demonstration of Compatibility with TI 21 Track Circuits** Issue 1; Feb 03	**Replaces**

The purpose of this procedure is to provide a method for calculating the safe permissible maximum levels of electrical interference that may be generated by electric trains designed to be used on tracks employing TI 21 track circuits. The procedure lists all of the infrastructure aspects to be taken into account, characteristics of the TI 21 track circuits and possible failure modes. Worked examples are given for calculating maximum permissible levels of electrical interference due to traction current, and axle-to-axle voltages.

RT/E/C/50009	**Methodology for the Demonstration of Compatibility with FA2600 Track Circuits on the DC Railway** Issue 1; Feb 03	**Replaces**

The purpose of this document is to provide a methodology to demonstrate compatibility with FS2600 track circuits on Network Rail 750Vdc electrified railway.

RT/E/C/50018	**Methodology for the Determination of Interaction with Neighbouring Railways** Issue 1; Feb 03	**Replaces**

The purpose of this code of practice is to provide a methodology to demonstrate compatibility of traction and rolling stock operating on Network Rail electrified lines with the infrastructure of neighbouring railways & vice versa.

RT/E/G/00013	**Guidance For Consideration of TPWS During Railway Engineering Activities** Issue 1; Jun 02	**Replaces**

This guidance note gives advice to those engaged in various activities on the treatment of TPWS and the precautions they should take in respect of TPWS.

RT/E/G/00028	**General Guidelines on Train Protection and the Provision of Signalling** Issue 1; Dec 03	**Replaces**

These guidelines form a detailed set of methodologies to cover this concept. The development of a significant number of signalling schemes are presently at that critical position, where much signalling would be built without these provisions, unless they are adopted for projects being developed and designed now. These principles are already being applied to the west coast main line upgrade and speed enhancement projects.

Special Inspection Notices

NR/SIN/161	**Permanent Speed Restrictions Fitted with TPWS** Issue 1; Feb 17	**Compliance** 20/02/18	**Replaces** New at Issue 103

The purpose of this Special Inspection Notice (SIN) is to identify and assess the effectiveness of infrastructure controls provided to manage the risk of overspeed at Permanent Speed Restrictions.

NR/SIN/162	**Inspection of Dorman Classic and CLS LITE LED Signals** Issue 2; Nov 18	**Compliance** 31/10/22	**Replaces** NR/SIN/162 Iss 1; Jul 17

The purpose of this Special Inspection Notice (SIN) is to inspect E-clips and vertical tilt adjustment clamp assemblies to inspect/replace missing E-clips on Unipart Dorman Classic LED and CLS LITE Signals and to rectify any issues arising from the inspection.

NR/SIN/181	**Signal Overrun Risk Assessment - Gap Analysis** Issue 1; July 18	**Compliance** 25/09/18	**Replaces** New at Issue 109

This Special Inspection Notice (SIN) has been issued to identify the number of plain line signals requiring steady state Signalling Overrun Risk Assessment (SORA) and the type of assessment required.

NR/SIN/190	**Electronic Boundary Inspection (End to End)** Issue 1; Apr 20	**Compliance** 20/04/20	**Replaces** New at Issue 115

The purpose of this Special Inspection Notice (SIN) is to identify the end-to-end management processes associated with Boundary Measure Inspections. Specifically, the SIN must identify, to what extent, either paper only or dual [paper/electronic] processes are being used for the undertaking of Boundary Measure Inspections.

NR/SIN/192	**Dorman Phantom Aspect Mitigation** Issue 1; Aug 20	**Compliance** 31/07/21	**Replaces** New at Issue 117

The purpose of this Special Inspection Notice (SIN) is to check that all Unipart Dorman signals that have a high safety and performance risk of displaying a phantom aspect from reflected light (from any source of sufficient luminosity) are aligned in accordance guidance provided in NB 179.

NR/SIN/207	**Duvine DD920 Battery Chargers** Issue 1; Dec 21	**Compliance** 15/05/23	**Replaces** New at Issue 122

The purpose of this SIN is to identify all Duvine DD920 Battery Chargers listed in the scope and replace with upgraded versions.

4.21 SYSTEM ENGINEERING

4.21.1 Engineering Programme Management

Level 1

NR/L1/AMG/1010	**Policy on Working Safely in the Vicinity of Buried Services** Issue 1; Dec 08	**Compliance** 01/03/09	**Replaces** New at issue 70

To set out Network Rail's policy and related implementation arrangements for employees and contractors to be able to work safely in the vicinity of buried services.

Level 2

NR/L2/AMG/1020	**Buried Services Data Provision** Issue 1; Dec 08	**Compliance** 01/03/09	**Replaces** NR/L2/AMG/028 Iss 4; Jun 08 NR/L3/AMG/00114

This standard defines a consistent method for obtaining buried services search information before work is started on site.

NR/L2/AMG/1030	**Working Safely in the Vicinity of Buried Services** Issue 1; Dec 08	**Compliance** 01/03/09	**Replaces** See below

Replaces: NR/SP/BUS/011, NR/L3/INI/CP024, NR/L3/INI/CP0026, NR/L3/MTC/SE0113
This standard identifies the process for a consistent method of planning a safe system of work and how to work safely with these assets when on site.

NR/L2/AMG/1040	**Buried Services Data Feedback** Issue 1; Dec 08	**Compliance** 01/03/09	**Replaces** New at issue 70

This standard identifies the process for the supply of as-built buried services drawings/plans following completion of ground disturbance work on Network Rail infrastructure.

NR/L2/AMG/02106	**The Provision of Track Category and Traffic Data - Procedure** (Formerly – Management of the Effects of Changing Traffic Flows on Maintenance) Issue 4; Jun 08	**Compliance** 26/08/08	**Replaces** NR/L2/BUS/02106 Iss 3; Dec 07

This document defines the process for identifying, evaluating and providing information about track category, planned traffic flows and short-term changes to traffic. This enables informed decisions to be made about asset stewardship, inspection, maintenance and renewal.
(Contains NR/BS/LI/305)

NR/L2/HAM/02201	**Management of Risk Arising from Deferred Renewals** Issue 5; Jun 16	**Compliance** 03/09/16	**Replaces** NR/L2/HAM/02201 Iss 4; Mar 12

This standard sets out the process to mitigate the risks arising from a re-scheduled prioritised renewal or an incomplete delivery of the scope of a renewal.

4.21.3 Railway System Engineering

Level 2

NR/L2/RSE/0005	**Product Design for Reliability** Issue 5; Dec 20	**Compliance** 05/12/20	**Replaces** NR/L2/RSE/0005 Iss 4; Mar 20

This business process integrates proven tools and methodologies into a supplier's existing design processes to create documented, traceable, controlled evidence of reliability, availability and maintainability. It helps enable compliance with BS EN 50126 before product acceptance (PA) is granted by Network Rail and addresses train delay risk resulting from asset reliability.

NR/L2/RSE/070	**Engineering Verification** Issue 3; Mar 22	**Compliance** 31/03/22	**Replaces** NR/L2/RSE/070 Iss 2; Dec 11

This standard defines the process for Engineering Verifications which form part of Network Rail's assurance process for confirming that infrastructure assets are fit for purpose.

NR/L2/RSE/100	**Network Rail Assurance Panel Processes** Issue 7; Dec 21	**Compliance** 05/03/22	**Replaces** NR/L2/RSE/100 Iss 6; Sep 21

This standard sets out how NRAP carries out these responsibilities and delegates authority to bodies and individuals within Network Rail.

NR/L2/RSE/100/	Module	Issue	Issue Date
01	Network Rail Assurance Panel	2	Dec 2015
02	Application of the Common Safety Method for Risk Evaluation and Assessment	4	Dec 2021
03	The Application of the Interoperability Regulations for Insfrastructure Projects	3	Dec 2021
04	Introduction of New or Modified Vehicles	2	Dec 2015
05	Product Acceptance and Change to Network Rail Operational Infrastructure	4	Sep 2021
07	System Review Panels	3	Jun 2019
08	Guidance on the Application of the Common Safety Method for Risk Evaluation and Assessment	1	Dec 2021

NR/L2/RSE/02009	**Engineering Management for Projects** Issue 7; Mar 21	**Compliance** 04/09/21	**Replaces** NR/L2/INI/02009 Iss 6; Sep 15

This standard aligns engineering management practices with elements of legislative instruments, including the Construction (Design and Management) Regulations 2015, Common Safety Method for Risk Evaluation and Assessment Regulation (EU) and The Railways (Interoperability) Regulations 2011, where work is undertaken on the Network Rail Infrastructure.

NR/L2/RSE/02009/	Module	Issue	Issue Date
01	Assessment for Project Engineering Roles	2	Mar 21
02	The Management and Review of Engineering Deliverables	2	Mar 21

NR/L2/RSE/30041	**Electromagnetic Compatibility (EMC) Assurance Process** Issue 2; Jun 12	**Compliance** 01/09/12	**Replaces** NR/L2/RSE/30041 Iss 1; Sep 08

This standard specifies how Network Rail manages the risks of asset failure associated with known uncontrolled electromagnetic phenomena. It supports the Network Rail policy requirements as specified in NR/L1/RSE/30040, Electromagnetic Compatibility (EMC) Strategy for Network Rail, and its legal obligations under the EMC Regulations (2006).

4.22 TELECOMS ENGINEERING

Company Standards

NR/CS/TEL/30101 **Telecoms Assurance and Compliance** Issue 1; Feb 06 — **Replaces**

This company standard sets out the process which Network Rail shall use to ensure compliance of telecoms assets with regulations and the requirements of the service and that staff working on the assets are competent to do so.

Specifications

NR/SP/TEL/30024 **Fault Priority and Response Times for Operational Telecommunications Services** Issue 4; Dec 06 — **Compliance** 03/03/07 — **Replaces** RT/E/S/30024 Iss 3; Jun 05

This document defines the fault priority and associated response and target corrective action times which shall be applied as a minimum requirement for Operational Telecommunications Services.

NR/SP/TEL/30032 **Positioning and Labelling of Lineside Telephones** Issue 3; Apr 06 — **Replaces** RT/E/S/30032 Iss 2; Aug 03

This specification defines how the requirements of the Railway Group Standard GE/RT8048 issue 1 - Positioning and Labelling of Lineside Telephones, are to be applied to Network Rail controlled infrastructure. It revises the emergency issue of RT/E/S/30032 to include retrospective actions to bring the position of telephones installed since April 02 into compliance and to bring the labelling of all telephones irrespective of age up to date

NR/SP/TEL/30035 **Telecoms Network Terminating Points** Issue 2; Dec 05 — **Replaces** RT/E/S/30035 Iss 1; Jun 03

This specification defines the boundaries between different parts of the telecoms network. It sets out a clear demarcation of maintenance responsibilities. In particular, it provides clear direction when failures arise as to what extent a contractor needs to investigate to establish whether their equipment is working normally.

NR/SP/TEL/50016 **Methodology for the Demonstration of Compatibility with Telecoms Systems** Issue 3; Apr 06 — **Replaces** NR/GN/TEL/50016 Iss 2; Dec 05

The purpose of this document is to provide a methodology to demonstrate electro-magnetic compatibility with operational telecommunications equipment and systems on the ac and dc electrified railway on Network Rail controlled infrastructure.

RT/E/S/11189 **Testing Telephones at Level Crossings** Issue 3; Jun 05 — **Replaces** RT/E/S/11189 Iss 2; Aug 01

This instruction details the tests and inspection required for the commissioning of new and altered level crossing installations equipped with a level crossing telephone system.

Product Specifications

NR/PS/TEL/00014 **Telecommunications Optical Fibre Cable** Issue 4; Apr 06 — **Replaces** RT/E/PS/00014 Iss 3; Jun 03

This document is for use in procuring polyethylene sheathed ZHLS sheathed optical fibre trunk telecommunications cables.

NR/PS/TEL/00015 **Unit Twin Copper Telecommunications Cable** Issue 3; Apr 06 — **Replaces** RT/E/PS/00015 Iss 2; Jun 03

This document is for use in procurement contracts for polyethylene sheathed and ZHLS sheathed external copper telecommunications cables.

NR/PS/TEL/00025 **Synchronous Digital Hierarchy Multiplexing Equipment** Issue 2; Apr 06 — **Replaces** RT/E/PS/00025 Iss 1; Feb 02

This product specification states the minimum requirements for synchronous digital hierarchy multiplexing equipment forming part of telecommunications systems providing services for operational railway and business applications.

NR/PS/TEL/00026 **Primary PCM Multiplex Equipment** Issue 2; Apr 06 — **Replaces** RT/E/PS/00026 Iss 1; Feb 02

This product specification states the minimum requirements for primary PCM multiplex equipment forming part of telecommunications systems providing services for operational railway and business applications.

NR/PS/TEL/00027 **Digital Subscriber Line Transmission Equipment** Issue 2; Apr 06 — **Replaces** RT/E/PS/00027 Iss 1; Feb 02

This product specification states the minimum requirements for digital subscriber line transmission equipment forming part of telecommunications systems providing services for operational railway and business applications.

NR/PS/TEL/00028	**Controlled Climate Trackside Housing for Telecommunications Equipment** Issue 2; Apr 06	**Replaces** RT/E/PS/00028 Iss 1; Feb 02

This Product Specification states the minimum requirements for Controlled Climate Trackside Housings for Telecommunications Equipment supporting operational railway and business services.

NR/PS/TEL/30107	**Telecoms Lineside Copper Cable Enclosures** Issue 1; Jun 06	**Replaces**

To specify the core requirements for non-climate controlled, non power fed lineside telecom copper cable enclosures. The primary function of these enclosures is to accommodate copper cable terminations, and as such the enclosures may be in the form of cabinets or small distribution boxes mounted on their associated posts.

NR/PS/TEL/31102	**Screening Conductor for the Immunisation of Telecommunications Cables** Issue 1; Dec 06	**Replaces**

A product specification which shall be used when procuring a screening conductor for the immunisation of telecommunications cables on Network Rail infrastructure.

Level 1

NR/L1/TEL/30029	**Telecoms Installation** Issue 4; Mar 10	**Compliance** 06/03/10	**Replaces** NR/L1/TEL/30029 Iss 3; Aug 08

This company standard details the process which shall be used for the installation of telecoms assets on Network Rail infrastructure.

NR/L1/TEL/30092	**Telecoms Testing and Commissioning Procedure** Issue 4; Dec 16	**Compliance** 04/03/17	**Replaces** NR/L1/TEL/30092 Iss 3; Mar 10

The purpose of the standard is to detail the procedure for testing and commissioning of telecoms equipment and systems installed on Network Rail controlled infrastructure.
The testing and commissioning activity is essential for validating and verifying the design meets the requirements.

NR/L1/TEL/30099	**Telecoms Asset Management** Issue 4; Mar 10	**Compliance** 06/03/10	**Replaces** NR/L1/TEL/30099 Iss 3; Aug 08

This standard sets out the process which Network Rail shall use to manage its telecoms assets.

NR/L1/TEL/30100	**Telecoms Design** Issue 3; Mar 10	**Compliance** 06/03/10	**Replaces** NR/L1/TEL/30100 Iss 2; Aug 08

This company standard details the procedure for the design of telecoms equipment and systems on Network Rail controlled infrastructure. It also details the procedure for the management, control and safety requirements of the design process.

NR/L1/TEL/30102	**Network Rail Asset Management Policy - Telecommunications Engineering** Issue 2; Sep 21	**Compliance** 04/12/21	**Replaces** NR/L1/TEL/30102 Iss 1, Sep 09

The Network Rail Telecommunications Asset Policy provides a consistent approach to telecommunications on behalf of Network Rail:
a) To optimise Network Rail's telecommunications asset use.
b) Minimise the risk of service loss
c) Reduce the risk of high asset lifecycle costs.
d) Manage safety and security risk
e) Improve sustainability

Level 2

NR/L2/TEL/00013	**Specification for Cable Troughing** Issue 4; Mar 16	**Compliance** 04/06/16	**Replaces** NR/L2/TEL/00013 Iss 3; Mar 10

This document is to provide a performance specification for cable troughing products. The specification recognises that apart from the traditional reinforced concrete troughing, troughing can be made from a wide range of materials.

NR/L2/TEL/013	**Competence in Telecommunications Engineering** Issue 3; Mar 20	**Compliance** 06/06/20	**Replaces** NR/L2/CTM/013 Iss 2; Sep 10

This document sets out the minimum requirements for the training and competency assessment of individuals who undertake telecoms engineering activities on Network Rail managed infrastructure to confirm that individuals who undertake telecoms engineering work are competent and have the individual role profile to perform the work safely and correctly.

NR/L2/TEL/30002	**Operational Concentrator System (OCS)** Issue 5; Mar 20	**Compliance** 06/06/20	**Replaces** NR/SP/TEL/30002 Iss 4; Apr 06 NR/SP/TEL/30031 Iss 2; Apr 06

This document defines the minimum technical requirements for new Operational Internet Protocol Concentrator System (OCS) concentrators using IP technology. These systems are used in Network Rail to facilitate communications and mitigate the risk of communications being directed to the incorrect person.

NR/L2/TEL/30003	**Immunity Test Requirements for Lineside Communications Systems** Issue 4; Dec 16	**Compliance** 04/03/17	**Replaces** NR/L2/TEL/30003 Iss 3; Jun 09

Network Rail's overhead AC electrification infrastructure can induce interference into lineside copper telecommunications cables. This process provides the methodology to test telecommunications equipment and systems for performance suitability when connected to these copper cables with induced interference.

NR/L2/TEL/30022	**Engineering Assurance Arrangements for Communications Engineering Schemes and Services** Issue 8; Mar 22	**Compliance** 05/03/22	**Replaces** NR/L2/TEL/30022 Iss7; Jun 11

The purpose of this specification is to support the control of risk to Network Rail's operations that may arise because of any changes to Telecom's assets and services by mandating a Telecoms specific engineering assurance process in support of the main engineering assurance process described in NR/L2/RSE/02009

NR/L2/TEL/30025	**Standby Power Supply Requirements for Telecommunications Equipment** Issue 5; Dec 17	**Compliance** 03/03/18	**Replaces** NR/L2/TEL/30025 Iss 4; Sep 09

This specification sets out requirements for the provision of a standby power supply to enable Network Rail owned operational telecommunications equipment to continue to operate for a given period after the loss of the normal or primary power supply source.

NR/L2/TEL/30028	**Installation of Operational Telecommunications Equipment** Issue 3; Mar 10	**Compliance** 06/03/10	**Replaces** NR/SP/TEL/30028 Iss 2; Oct 05

This specification in support of NR/L1/TEL/30029 sets out the minimum requirements for the management of installation of Operational Telecommunications equipment on Network Rail Infrastructure. These requirements are based on Railway Group Standard GK/RT0208.

NR/L2/TEL/30033	**Inspection and Surveillance of Telecommunications Engineering Activities** Issue 7; Mar 10	**Compliance** 06/03/10	**Replaces** NR/L2/TEL/30033 Iss 6; Jun 08

This specification is intended to verify that maintenance contractors are effective in the application of group and company standards and have a suitable understanding of the maintenance requirements

NR/L2/TEL/30034	**Radio Mast Lightning Protection and Earthing Systems** Issue 4; Mar 10	**Compliance** 06/03/10	**Replaces** NR/L2/TEL/30034 Iss 3; Aug 08

This standard details the design requirements for a lightning protection and earthing system (LP&ES) for permanent radio mast or tower structures located on Network Rail land, property or TOC leased land to minimise the risk to personnel and equipment.

NR/L2/TEL/30036	**Booster Transformer Outages: Managing the Consequences for Telecommunication Systems** Issue 4; Aug 08	**Compliance** 26/08/08	**Replaces** NR/SP/TEL/30036 Iss 3; Apr 06

This specification details the actions to be taken during a booster transformer outage to protect staff from the possibility of receiving an electric shock from contact with telecoms cables or circuits connected to them.

NR/L2/TEL/30066	**Clearance from Fixed Radio Frequency Transmitters** Issue 8; Dec 20	**Compliance** 06/03/21	**Replaces** NR/L2/TEL/30066 Iss 7; Mar 10

This standard specifies the maximum allowable radio frequency field strength of fixed installation of radio frequency transmitters to:
a) Protect Network Rail workers and contractors on Network Rail property
b) Protect passengers, and
c) Limit Radio Frequency (RF) interference for the operation of trackside systems.

NR/L2/TEL/30067	**The Transmission of Safety Related Information** Issue 2; Dec 11	**Compliance** 03/03/12	**Replaces** NR/L2/TEL/30067 Iss 1; Jun 11

This standard specifies control measures to reduce risks associated with the transmission of Safety Related Information across Network Rail Communications Infrastructure and independently owned infrastructure so far as is reasonably practicable (SFAIRP).

NR/L2/TEL/30069	**Specification for the Inspection and Minor Maintenance of Lineside S&T Cable Routes** Issue 2; Mar 09	**Compliance** 05/09/09	**Replaces** NR/WI/TEL/30069 Iss 1; Jun 06

This telecoms maintenance instruction defines the inspection and minor maintenance requirements for S&T lineside cable routes so that they can be kept in good order to suitably protect the cables within.

NR/L2/TEL/30070	**Specification for the Maintenance of Telecoms Copper Cables** Issue 2; Mar 09	**Compliance** 05/09/09	**Replaces** NR/WI/TEL/30070 Iss 1; Jun 06

This telecoms maintenance instruction defines the maintenance requirements for copper cables in use on Network Rail infrastructure.

NR/L2/TEL/30072	**Specification for the Maintenance of DOO(P) CCTV, Guard-Assisted CCTV and DOO Mirror Systems** Issue 3; Dec 12	**Compliance** 02/03/13	**Replaces** NR/L2/TEL/30072 Iss 2; Mar 09

This standard defines the maintenance requirements for DOO CCTV(Driver Only Operated Closed Circuit television) guard-assisted and DOO mirror systems used on Network Rail infrastructure.

NR/L2/TEL/30075	**Specification for the Maintenance of Electro-mechanical Concentrators** Issue 2; Mar 09	**Compliance** 05/09/09	**Replaces** NR/WI/TEL/30075 Iss 1; Jun 06

This instruction defines the maintenance requirements for electro-mechanical concentrators used by Network Rail.

NR/L2/TEL/30078	**Specification for the Maintenance of Network Control Processor Systems** Issue 2; Mar 09	**Compliance** 05/09/09	**Replaces** NR/WI/TEL/30078 Iss 1; Jun 06

This instruction defines the maintenance requirements for Network control processor systems in use on Network Rail infrastructure.

NR/L2/TEL/30085	**Specification for the Maintenance of Electronic PABX Concentrators** Issue 2; Mar 09	**Compliance** 05/09/09	**Replaces** NR/WI/TEL/30085 Iss 1; Jun 06

This instruction defines the maintenance requirements for Electronic PABX concentrators used by Network Rail.

NR/L2/TEL/30086	**Specification for the Maintenance of Telecoms Digital Transmission Systems** Issue 3; Dec 12	**Compliance** 02/03/13	**Replaces** NR/L2/TEL/30086 Iss 2; Mar 09

This telecoms maintenance instruction defines the maintenance requirements form telecoms digital transmission systems in use on Network Rail infrastructure.

NR/L2/TEL/30087	**Specification for the Maintenance of UHF Spot Scheme and Marine Radio Systems** Issue 2; Mar 09	**Compliance** 05/09/09	**Replaces** NR/WI/TEL/30087 Iss 1; Jun 06

This instruction defines the maintenance requirements for UHF spot and marine radio system in use on Network Rail infrastructure.

NR/L2/TEL/30094	**Installation of Telecommunications Equipment and Systems** Issue 2; Mar 10	**Compliance** 06/03/10	**Replaces** NR/SP/TEL/30094 Iss 1; Jun 06

This specification, in support of Company Standard NR/L1/TEL/30029 - Telecoms Installation, details the minimum acceptable requirements for the installation of Telecommunications equipment on Network Rail infrastructure through the use of associated business process documents.

NR/L2/TEL/30095	**Specification for the Maintenance of Radio Electronic Token Block Telecoms Equipment** Issue 2; Mar 09	**Compliance** 05/09/09	**Replaces** NR/WI/TEL/30095 Iss 1; Jun 06

This instruction defines the telecoms maintenance requirements for Radio Electronic Token Block in use on Network Rail infrastructure.

NR/L2/TEL/30097	**Specification for the Maintenance of Lineside Plug Points and Tunnel Emergency Communication Systems (Pinch Wires)** Issue 2; Mar 09	**Compliance** 05/09/09	**Replaces** NR/WI/TEL/30097 Iss 1; Jun 06

This telecoms maintenance instruction defines the maintenance and functional testing that Network Rail requires for their lineside telephone plug points and tunnel emergency communications systems (excludes Severn Tunnel installations).

NR/L2/TEL/30098	**Testing and Commissioning of Telecommunications Equipment and Systems** Issue 2; Aug 08	**Compliance** 26/08/08	**Replaces** NR/SP/TEL/30098 Iss 1; Feb 06

This specification, in support of Company Standard NR/CS/TEL/30092 Telecommunication Testing and Commissioning Procedure, expands upon the requirements for the testing and commissioning of telecoms assets on Network Rail controlled infrastructure.

NR/L2/TEL/30105	**Compliance with Fixed Telecoms Network Design Criteria** Issue 2; Dec 10	**Compliance** 04/12/10	**Replaces** NR/SP/TEL/30105 Iss E1; Feb 07

This specification mandates the use of Fixed Telecoms Network design criteria for projects supplying telecoms cables and transmission equipment for use as Network Rail infrastructure

NR/L2/TEL/30121	**Specification for the Maintenance of Recorded Announcement Equipment** Issue 2; Mar 09	**Compliance** 05/09/09	**Replaces** NR/WI/TEL/30121 Iss 1; Aug 06

This instruction defines the requirements for an inspection regime by the telecoms maintainers of recorded announcement equipment used by Network Rail and/or the SFO.

NR/L2/TEL/30122	**Specification for the Maintenance of Electronic PABX Switches** Issue 2; Mar 09	**Compliance** 05/09/09	**Replaces** NR/WI/TEL/30122 Iss 1; Aug 06

The purpose of maintaining PABX switches is to decrease the incidence of failures through deterioration and to identify potential failures before they become service affecting.

NR/L2/TEL/30124	**Specification for the Maintenance of GSM-R Radio BTS, BSC, TCU, Repeater & IVRS Equipment** Issue 2; Dec 12	**Compliance** 02/03/13	**Replaces** NR/L2/TEL/30124 Iss 1; Mar 09

The purpose of maintaining and testing these radio systems is to decrease the incidence of failures through deterioration and to identify potential failures before they become service affecting.

NR/L2/TEL/30125	**Communications with Electrical Control Rooms - ETD Network Testing Specification** Issue 1; Mar 09	**Compliance** 05/09/09	**Replaces** New at Issue 71

This document defines the requirements for the functional testing of the 17x short code dialling service provided on the railway voice communications system either by Network Rail's own operational switches or those provided to Network Rail under contractual agreements by third parties.

NR/L2/TEL/30126	**Specification for the Maintenance of Analogue Transmission Systems** Issue 1; Mar 10	**Compliance** 06/03/10	**Replaces** New at Issue 75

This telecoms maintenance instruction defines the maintenance requirements for Telecoms Analogue Transmission systems in use on Network Rail infrastructure.

NR/L2/TEL/30127	**GSM-R Air Interface Functionality, Availability Management and Compliance Validation** Issue 4; Jun 18	**Compliance** 02/09/18	**Replaces** NR/L2/TEL/30127 Iss 3; Mar 10

This specification defines how the technical and operational functionality of the Global System for Mobile Communications (Rail) (GSM-R) system air interface will be assured throughout its operational life.

NR/L2/TEL/30130	**Electronic Visual Customer Information Systems** Issue 3; Sep 09	**Compliance** 02/11/09	**Replaces** NR/L2/TEL/30130 Iss 2; Aug 08

This standard sets out the minimum requirements that shall be met by electronic visual customer information systems installed on stations. These minimum standards have been defined to meet statutory requirements and to ensure that there is some consistency between installations undertaken in different locations and by different contractors/suppliers.

NR/L2/TEL/30132	**Asset Management of Station Information and Surveillance Systems (SISS)** Issue 1; Jun 11	**Compliance** 03/09/11	**Replaces** New at Issue 80

The purpose of this standard is to define the process to be undertaken when a change is made to any part of the 'Station Information Security Systems' (SISS) owned by Network Rail on any Franchised or managed station.

NR/L2/TEL/30134	**Design and Installation Requirements for Public Announcement, Voice Alarm and Long Line Public Announcement Systems** Issue 2; Sep 09	**Compliance** 05/12/09	**Replaces** NR/L2/TEL/30134 Iss 1; Dec 07

This standard details the requirements for public announcement, voice alarm and long line public announcement systems on Network Rail infrastructure.

NR/L2/TEL/30135	**Video Surveillance Systems (VSS)** Issue 6; Sep 21	**Compliance** 04/12/21	**Replaces** NR/L2/TEL/30135 Iss 5; Sep 20

This standard provides a minimum performance level for high quality Video Surveillance Systems (VSS) to improve passenger safety, station operation and to combat crime, terrorism and disorder.

NR/L2/TEL/30136	**Testing Requirements - Security CCTV** Issue 1; Jun 09	**Compliance** 05/09/09	**Replaces** New at Issue 72

This Standard, in support of NR/L2/TEL/30098 – Testing and Commissioning of Telecommunications Equipment and Systems, details the tests that are required to be carried out on a Security CCTV installation that falls under the scope of NR/L1/TEL/30092, Telecommunication Testing and Commissioning Procedure.

NR/L2/TEL/30141	**Tunnel Emergency Communication Wire Product Specification** Issue 1; Jun 10	**Compliance** 04/09/10	**Replaces** New at Issue 76

This document details the parameters which Tunnel Emergency Communication wires shall be assessed to demonstrate their suitability to be used on Network Rail's infrastructure.

NR/L2/TEL/30143	**Line Side Telephones Product Specification** Issue 1; Jun 10	**Compliance** 04/09/10	**Replaces** New at Issue 76

Provides a reference for line side telephone product specification proposed for operational communications.

NR/L2/TEL/30146	**Product Specification for UMTS, GSM and GSM-R Modems** Issue 2; Dec 10	**Compliance** 04/12/10	**Replaces** NR/L2/TEL/30146 Iss 1; Sep 10

Provides requirements and guidance for the selection of a UMTS/GSM/GSM-R modem capable of transmitting speech and/or data to a defined control point via the public UMTS/GSM/GPRS networks, or via Network Rail's GSM-R network.

NR/L2/TEL/30147	**Product Specification for Wireless Connectivity Solutions** Issue 1; Sep 10	**Compliance** 04/09/10	**Replaces** New at Issue 77

Provides requirements and guidance for the selection of wireless devices exempt of product acceptance requirements.

NR/L2/TEL/30151	**Design and Installation of Station Cabling** Issue 1; Dec 10	**Compliance** 05/03/11	**Replaces** New at Issue 78

The purpose of this standard is to promote better cabling standards on stations. Its aims are to deploy best practice, to encourage standardisation, to promote fitness for purpose and longevity, to provide for future needs and to produce visually pleasing station cabling. Through this standard, Network Rail as the Infrastructure Manager or Landlord sets out the telecom cabling requirements for all stations owned by Network Rail, including franchised stations.

NR/L2/TEL/30156	**Functional Requirements for Safety Related Communications Equipment for On Track Plant Working** Issue 1; Dec 11	**Compliance** 03/03/12	**Replaces** New at Issue 82

Provides technical requirements and guidance for the selection of a full duplex voice communication system to allow conference style communication, which can be utilised during On Track Plant (OTP) activities, such as Tandem Lifting. There is a requirement for such a system during safety critical OTP operations where constant communication between machinery & its operators are essential.
The specification must be used as a part of wider suite of documentation describing the equipment and processes forming a safe system of work.

NR/L2/TEL/30160	**Specification for Optical Fibre Network Design** Issue 2; Mar 17	**Compliance** 03/09/11	**Replaces** NR/L2/TEL/30160 Iss 1; Jun 11

The purpose of this standard is to set out the principles and considerations to be taken into account for additions to, or modifications of, Network Rail's optical fibre infrastructure with the objectives of maximise its potential capacity and applying a consistent approach that will perpetuate reliability, availability and maintainability.

NR/L2/TEL/30161	**Supply of Optical Fibre Patchcord and Pigtail Assemblies** Issue 1; Jun 11	**Compliance** 03/09/11	**Replaces** New at Issue 80

This standard sets out the technical requirements that optical patchcords and pigtails procured for use in Network Rail's optical fibre telecommunications network shall meet.

NR/L2/TEL/30175	**Ethernet Services Commissioning Tests** Issue 1; Mar 20	**Compliance** 06/06/20	**Replaces** New at Issue 115

This document details the tests which enable Ethernet transport circuits and Ethernet services on Network Rail's packet-based transmission networks to be commissioned uniformly and provide assurance that the services are fit for handover to operations.

NR/L2/TEL/30176	**Telecoms Asset Data Requirements** Issue 1; Jun 21	**Compliance** 04/09/21	**Replaces** New at Issue 120

This standard sets out Network Rail's strategy to:
- Manage telecommunication asset data; and
- Its specification, collection and use.

NR/L2/TEL/30179	**Design of Fibre Distribution Systems and Fibre End-User Connections** Issue 1; Dec 21	**Compliance** 05/03/21	**Replaces** New at Issue 122

The purpose of this standard is to set out the principles and considerations that Designers and builders are to be applied when designing, constructing, adding to, or modifying fibre distribution systems, Network Termination Points (NTPs) and end-user connections that connect services to Network Rail's Fixed Telecoms Network (FTN), extended Fixed Telecoms Network (FTNx) or high capacity fibre cable (HCFC) fibre networks

NR/L2/TEL/30182	**Specification for Secure Configuration and Management of Network Rail Telecom Internet Protocol (IP) Networks, Systems and Devices** Issue 2; Mar 19	**Compliance** 01/06/19	**Replaces** NR/L2/TEL/30182 Iss 1; Mar 17

The purpose of this standard is to specify the application of security controls required to protect Network Rail Telecom Internet Protocol (IP) networks in order to manage security risks to IP networks, network devices and connected systems throughout their operational lifecycle.

NR/L2/TEL/30184	**Specification for Network Rail Telecoms Systems Architecture, Technical Design and Test Assurance** Issue 1; Jun 17	**Compliance** 02/09/17	**Replaces** New at Issue 104

The purpose of this L2 Specification is to set the necessary standards and controls to be applied to all Systems Architecture, Technical Design and Test Assurance activities required for business capability deployment, capability uplift, changes to current Business Support Systems (BSS), Operations Support Systems (OSS) applications and/or IT infrastructure.

NR/L2/TEL/30185	**Principles for Operational Telecommunications, Signalling and E&P Sub-Access Internet Protocol Networks** Issue 1; Jun 19	**Compliance** 07/09/19	**Replaces** New at Issue 112

This principles document defines a set of consistent rules for the design of sub-access telecommunication networks to support Operational Railway Systems or Applications allowing:

- consistent end-to-end architecture and configuration;
- remotely managed and monitored networks;
- consistent Internet Protocol (IP) address usage and management;
- consistent products and product life cycles; and
- modelled end-to-end services and infrastructure in a Telecommunications Network Assets tool.

NR/L2/TEL/31001	**Telecom Maintenance Testing & Fault Investigation Process** Issue 4; Mar 18	**Compliance** 02/06/18	**Replaces** NR/L2/TEL/31001 Iss 3; Dec 09

The purpose of the Telecom Maintenance Testing & Fault Investigation Process handbook (TMT&FIP) is to manage and minimise risks associated with Moving Train / Loss of /miscommunication of voice and data transmission for Safety and Operational Critical Services (e.g. SSI, Axle Counters, SCADA) by making certain the fundamental causes of safety related telecommunications failures are identified and through maintenance testing, equipment is returned to service in a safe and controlled manner and that any replacements are working correctly

NR/L2/TEL/31002	**Maintenance of Telecommunications Equipment** Issue 5; Jun 18	**Compliance** 01/09/18	**Replaces** NR/L1/TEL/30093 Iss 3; Mar 10, NR/L2/TEL/31002 Iss 4; Mar 10

This specification sets out the maintenance and management responsibilities for persons engaged in the maintenance of telecommunication equipment used by Network Rail.

NR/L2/TEL/31107	**Limits and Test Method of Induced Voltages on Telecommunications Cables due to Electrification Systems** Issue 2; Mar 10	**Compliance** 06/03/10	**Replaces** NR/L2/TEL/31107 Iss 1; Jun 09

This standard defines the test limits and test methods for induced voltages on copper telecommunications cables due to AC electrification systems in normal and credible failure modes.

NR/L2/TEL/31108	**Specification for B.T. Circuits – Procurement Requirements** Issue 3; Mar 10	**Compliance** 06/03/10	**Replaces** NR/L2/TEL/31108 Iss 2; Aug 08

This standard defines the requirements to be used when BT circuits are procured by Network Rail for use in signalling, operational telecommunications or traction electrification control systems.

NR/L2/TEL/31111	**Design and Installation Requirements for Driver Only Operation (Passenger) Systems** Issue 3; Jun 11	**Compliance** 02/07/11	**Replaces** NR/L2/TEL/31111 Iss 2; Dec 09

This standard in support of NR/L1/TEL/30100 – Telecoms Design, mandates the requirements for the design of Driver Only Operation (DOO) viewing systems on Network Rail infrastructure when this is the chosen method of train dispatch.

NR/L2/TEL/31114	**Product Specification For Telecoms Jumper Wire** Issue 1; Dec 08	**Compliance** 01/03/09	**Replaces** New at Issue 70

This specification details the requirements for single twisted pair telecommunications jumper wire which is suitable for use on Network Rail's infrastructure.

NR/L2/TEL/31200	**Design of High-Capacity Fibre Cable Systems** Issue 1; Dec 21	**Compliance** 05/03/22	**Replaces** New at Issue 122

This standard sets out Network Rail's design principles and guidance for constructing High Capacity Fibre Cable Systems (HCFC). HCFC is defined as fibre cables with 432 or more fibres and of a spider web ribbon format.

Level 3

NR/L3/TEL/0022	**Preventive Maintenance of Operational Telecoms Assets** Issue 3; Mar 10	**Compliance** 06/03/10	**Replaces** NR/L3/MTC/TE0022 Iss 2; Aug 08

The purpose of this document is to define the roles and responsibilities in the planning of routine maintenance activities of telecom assets to fit in with the national planning process and timescales. It applies to Network Rail maintenance staff.

NR/L3/TEL/0023	Management of SINCS Records for Telecoms Assets Issue 3; Mar 10	Compliance 26/08/08	Replaces NR/L3/MTC/TE0023 Iss 2; Aug 08

The purpose of this procedure is to define the management of the SINCS sign off process for telecoms assets maintained by Network Rail maintenance staff.

NR/L3/TEL/0092	Process for the Disconnection and at Risk Process for Telecom Bearer Circuits and Systems Issue 5; Jun 17	Compliance 02/09/17	Replaces NR/L3/TEL/0092 Iss 4; Jun 11

The purpose of this standard is to define the processes to be followed and the requirement to reach a clear understanding when applying for and agreeing the method of temporary handover/ hand-back of Network Rail telecom assets or on any other equipment that can affect operational telecoms equipment that may carry safety critical circuits between NRT and authorised site engineer. Application of the process minimises the risk to the safety of the operational railway and personal injury to staff and customers of the railway.

NR/L3/TEL/30005	Working at Height When Accessing Telecoms Assets Issue 1; Dec 19	Compliance 07/03/2020	Replaces New at Issue 114

This instruction defines the maintenance requirements for optical fibre cables and fibre terminations in use on Network Rail telecoms infrastructure.

NR/L3/TEL/30071	Specification for the Maintenance of Telecoms Optical Fibre Cables Issue 3; Sep 11	Compliance 03/09/11	Replaces NR/L2/TEL/30071 Iss 2; Mar 09

The purpose of this standard is to provide a process for safe access and working practices when working on telecom assets where Working at Height Regulations 2005 apply.

NR/L3/TEL/30074	Specification for the Maintenance of Telecommunication Earths and Screening Systems Issue 3; Sep 11	Compliance 03/09/11	Replaces NR/L2/TEL/30074 Iss 2; Mar 09

This instruction defines the maintenance requirements for telecoms earths and screening systems in use on Network Rail infrastructure.

NR/L3/TEL/30076	The Maintenance of Processor Controlled Concentrators Issue 3; Mar 18	Compliance 02/06/18	Replaces NR/L2/TEL/30076 Iss 2; Mar 09

This instruction directs the maintainer to the requirements for the maintenance of processor controlled concentrators in use within Network Rail. It is intended to maintain the required availability and manage the asset life efficiently; this is intended to mitigate the risk of loss of or miscommunication at level crossings.

NR/L3/TEL/30077	Specification for the Maintenance of Cable Distribution Frames and Location Cases Issue 3; Sep 11	Compliance 03/09/11	Replaces NR/L2/TEL/30077 Iss 2; Mar 09

This telecoms maintenance instruction defines the maintenance and inspection requirements for telecommunications cable distribution frames, distribution cases and location cases used for cable terminations in use on Network Rail infrastructure.

NR/L3/TEL/30081	Work Instruction for the Maintenance of Telecommunication Power Plant, Batteries, Inverters and Uninterruptible Power Supplies Issue 4; Dec 17	Compliance 03/03/18	Replaces NR/L2/TEL/30081 Iss 3; Jun 14

The purpose of the document is to set out the requirements for maintaining and testing telecoms power plant, inverters, batteries and uninterruptible power supplies in order to decrease the incidence of failures through deterioration and to identify potential failures before they become service affecting.

NR/L3/TEL/30082	Work Instruction for the Maintenance of Voice Recorders Issue 4; Jun 17	Compliance 02/09/17	Replaces NR/L2/TEL/30082 Iss 3; Jun 11

The purpose of this standard is to mandate the maintenance requirements for voice recorders in use on Network Rail telecoms infrastructure.

NR/L3/TEL/30088	Radio Structure Inspections and Maintenance of Antenna Systems and Feeders Issue 5; Dec 19	Compliance 06/06/2020	Replaces NR/L3/TEL/30088 Iss 4; Dec 16

The purpose of this document is to specify a set of maintenance requirements designed to provide assurance to the asset owners that the equipment will achieve its required availability and asset life.

NR/L3/TEL/30090	Inspection of Telecoms Equipment Rooms Issue 4; Jun 18	Compliance 01/09/18	Replaces NR/L3/TEL/30090 Iss 3; Sep 11

The purpose of this standard is to mitigate the risks associated with the condition and environment in which Network Rail Telecom (NRT) assets are housed by mandating checks and methods of recording to allow better visibility and rapid rectification.

NR/L3/TEL/30105	**Installation of Operational Voice Recorders** Issue 3; Mar 10	**Compliance** 06/03/10	**Replaces** NR/L3/TEL/30105 Iss 2; Aug 08

This work instruction in support of NR/SP/TEL/30094 - “Installation of telecoms equipment and systems”, mandates the requirements for the installation of operational voice recorders on Network Rail infrastructure which are used to record operational voice circuits.

NR/L3/TEL/30106	**Installation of Lineside Telephones** Issue 2; Aug 08	**Compliance** 26/08/08	**Replaces** NR/WI/TEL/30106 Iss 1; Jun 06

This work instruction in support of NR/SP/TE/30094 – “Installation of telecommunications equipment and systems”, mandates the installation requirements for the installation of lineside telephones on Network Rail infrastructure.

NR/L3/TEL/30108	**Work Instruction for the Manual Installation of Telecommunications Cables** Issue 1; Aug 07	**Compliance** 01/10/07	**Replaces**

This document sets out the principles to be adopted when installing all types of telecommunications cables by hand pulling techniques or the use of motorised winches.

NR/L3/TEL/30123	**Communications with Emergency Services - ETD Network Testing Procedure** Issue 2; Jun 19	**Compliance** 07/09/19	**Replaces** NR/WI/TEL/30123 Iss 1; Dec 06

This instruction defines the requirements for the functional testing of the emergency facilities provided on Network Rail telecoms infrastructure or that provided to Network Rail under contractual agreements. The testing of emergency calls assures connection to the emergency operator can be successfully established and the correct location of calling party is recorded on the emergency operator database.

NR/L3/TEL/30133	**Asset Condition Assessments for Telecoms Renewals & Enhancement Planning** Issue 2; Jun 18	**Compliance** 01/09/18	**Replaces** NR/SP/TEL/30133 Iss 1; Apr 07

The purpose of this business process is to define the methodology by which information is to be gathered during asset condition assessment of Telecoms Assets to mitigate the risk associated with management of a large portfolio of assets by considering the asset maintainability, operability, condition, reliability, policy and Route requirements in prioritisation of renewal interventions across the portfolio.

NR/L3/TEL/30162	**Work Instruction for Jointing, Terminating and Testing Optical Fibre Cables** Issue 2; Mar 17	**Compliance** 03/06/17	**Replaces** NR/L2/TEL/30162 Iss 1; Jun 11

This standard sets out the specific requirements and parameters for jointing, terminating and site acceptance testing of optical fibre cables that comprise, or connect to, Network Rail’s optical fibre infrastructure.

NR/L3/TEL/30170	**Work Instruction for the Maintenance of Public Address Voice Alarm (PAVA) Equipment** Issue 2; Sep 19	**Compliance** 07/12/19	**Replaces** NR/L3/TEL/30170 Iss 1; Dec 16

The purpose of this document is to manage the risk arising from the failure of Public Address Voice Alarm (PAVA) equipment by providing a process for a set of periodic tests to assure that the asset is fit for purpose.

NR/L3/TEL/30175	**Ethernet Services Commissioning Tests** Issue 1; Mar 20	**Compliance** 06/06/20	**Replaces** New at Issue 115

This document details the tests which enable Ethernet transport circuits and Ethernet services on Network Rail’s packet-based transmission networks to be commissioned uniformly and provide assurance that the services are fit for handover to operations.

NR/L3/TEL/30181	**Telecoms Maintenance Work Instructions Handbook** Issue 7; Mar 22	**Compliance** 04/06/2022	**Replaces** NR/L3/TEL/30181 Iss 6; Jun 21

This handbook specifies work instructions for maintenance activities on Network Rail telecoms equipment. This contributes to reducing the risk of equipment failure and prolonging the operational life of the asset.

NR/L3/TEL/30181/	Title	Issue	Issue Date
001	Netrix Switch	1	Mar 2016
002	Thameslink Cisco Layer 2/3 Switches	1	Mar 2016
004	FTNx Infinera Maintenance	1	Mar 2016
005	Northgate Call Touch	1	Mar 2016
006	GSM-R/GSM Lineside Telephones	1	Jun 2018
007	CISCO Unified Communications Manager and BT Trader Turret Server System	2	Sep 2020
008	BT Trader Board and HMI backup telephone Maintenance	2	Sep 2020
009	Maintenance of Telecoms Cable/Equipment Housings	1	Dec 2019
011	Maintenance of Operational Telephones	2	Mar 2022
012	Maintenance of GSM-R Fixed Terminal Sub-system (Dicora)	1	Sep 2020
013	Maintenance of Whiteley PETS	1	Sep 2020
015	Maintenance of Closed Circuit Television Cameras	1	Jun 2021
016	Maintenance of Closed Circuit Television Monitoring Equipment	1	Jun 2021
018	Maintenance of Clocks	1	Sep 2020

NR/L3/TEL/30181/	Title	Issue	Issue Date
019	Maintenance of Customer Information System Control Equipment	1	Sep 2020
020	Maintenance of Closed Circuit Television Video Recorders	1	Jun 2021
021	Maintenance of Help Points	1	Dec 2020
022	Maintenance of Customer Information Displays	1	Sep 2020
023	Maintenance of Public Address PCs and Recorded Announcement Equipment	1	Dec 2020
024	Maintenance of Public Address Systems	1	Dec 2020

NR/L3/TEL/31103 **Energisation of Commercial and Operational Radio Antenna Systems** Issue 3; Mar 10 | **Compliance** 06/03/10 | **Replaces** NR/L3/TEL/31103 Iss 2; Aug 08

This Work Instruction specifies the requirements for testing new and upgraded radio antenna systems for compliance with the electric field limits specified in NR/L2/TEL/30066 prior to introducing the system into service.

NR/L3/TEL/31104 **Process for Managing Telecoms Software/Hardware Changes** Issue 4; Mar 21 | **Compliance** 05/06/21 | **Replaces** NR/L3/TEL/31104 Iss 3; Mar 10

The standard mandates a process for all software and hardware changes to existing telecommunications equipment and services. These changes need to be carried out in a structured, controlled manner to minimise the risks to safety and performance.

NR/L3/TEL/33000 **Document Index for In-sourcing of Thales** Issue 3; Jun 10 | **Compliance** 05/06/10 | **Replaces** NR/L3/TEL/33000 Iss 2; Jun 09

This document lists the master index of former Thales documentation that has been transferred into Network Rail as part of the in-sourcing project.

NR/L3/TEL/33001 **Document Index for Transfer of Stoke Telecoms Engineering Centre Staff from the FTN/GSM-R Project** Issue 1; Mar 10 | **Compliance** 06/03/10 | **Replaces** New at Issue 75

This document lists the master index of former FTN/GSM-R documentation that has been transferred into Infrastructure Maintenance. These documents have been updated and are presently published on the Telecoms Technical Documentation pages of Connect.

NR/L3/TEL/40047 **Process for the Management of Safety Related Reports for Telecoms Failures** Issue 5; Dec 21 | **Compliance** 04/12/21 | **Replaces** NR/L3/TEL/40047 Iss 4; Mar 21

This process contains the hazard index system of safety related failures of telecommunications equipment and services, owned by Network Rail or provided by third parties for railway operational purposes.

Work Instructions

NR/WI/TEL/30102 **Testing Requirements – Operational Voice Recorders** Issue 1; Feb 06 | **Replaces**

This work instruction, in support of NR/SP/TEL/30098 – “Testing and commissioning of telecommunications equipment and systems”, details the tests that are required to be carried out on a voice recorder installation that falls under the scope of NR/CS/TEL/30092, “Telecommunication testing and commissioning procedure”.

NR/WI/TEL/30103 **Testing Requirements – Public Emergency Telephone Systems** Issue 1; Apr 06 | **Replaces**

This work instruction in support of NR/SP/TEL/30098 – “Testing and commissioning of telecommunications equipment and systems” details the tests that are required to be carried out on a public emergency telephone system installation that falls under the scope of NR/CS/TEL/30092 - “Telecommunication testing and commissioning procedure”.

NR/WI/TEL/30104 **Testing Requirements – Signal Box Concentrator** Issue 1; Apr 06 | **Replaces**

This work instruction in support of NR/SP/TEL/30098 – “Testing and commissioning of telecommunications equipment and systems” details the tests that are required to be carried out on a telephone concentrator installation that falls under the scope of NR/CS/TEL/30092, “Telecommunication testing and commissioning procedure.

RT/E/WI/00113 **Wiring of Copper Telecoms Terminations** Issue 1; Apr 05 | **Replaces**

The purpose of this standard is to ensure that all Network Rail employees, contractors and maintenance employees who are responsible for the installation and maintenance of infrastructure telecommunications cables are aware of the fundamental principles that shall be adhered to regarding: cable terminations, distribution frame labelling and circuit jumpering.

Guidance Notes (including Codes of Practice)

NR/GN/TEL/30037 **Office Telephone System Installations** Issue 2; Apr 06 — **Replaces** RT/E/C/30037 Iss 1; Aug 03

This Code of Practice provides information on details to be considered when designing, configuring and installing telephone systems in Network Rail offices. Its purpose is to provide comprehensive advice on all aspects of telephone system design and installation and to recommend a standardised approach from initial work requests to complete telephone system and peripheral equipment installations.

NR/GN/TEL/30065 **Guidance Note for the Management of Safety Related Reports for Telecoms Failures** Issue 3; Jun 08 — **Replaces** Iss 2; Dec 05

The purpose of this guidance note is to provide information, help and worked examples to Network Rail and its contractors to ensure compliance with Network Rail specification NR/SP/TEL/30047.

NR/GN/TEL/30137 **Loudspeaker Selection for PA and VA Systems** Issue 1; Dec 09 — **Replaces** New at Issue 74

This document provides guidance for the selection of loudspeakers for PA and VA. It does not provide any detailed design guidance for system installation. It supports NR/L2/TEL/30134 which mandates the Design and Installation requirements.

NR/GN/TEL/30138 **Buried Cable Route and Cable Route Through Station Platform** Issue 1; Mar 10 — **Replaces** New at Issue 75

This document provides guidance to the Principal Contractor for the provisioning of new lineside cable routes buried in the cess as well as cable routes through station platforms.

NR/GN/TEL/30139 **The Survey and Design of Telecoms Cable and Route** Issue 1; Mar 10 — **Replaces** New at Issue 75

This document provides guidance to the design and surveying of telecom cables and telecoms cable route.

NR/GN/TEL/30140 **Telecom Cable and Route Installation** Issue 1; Jun 10 — **Replaces** New at Issue 76

This document provides guidance to the installation of telecom cables and telecoms cable route.

NR/GN/TEL/31106 **Overview of Electromagnetic Coupling Between Traction Systems and Telecommunications Cables** Issue 1; Jun 09 — **Replaces** New at Issue 72

This guidance note provides an overview of the coupling between traction current and induced voltages on lineside cables and the effects this has on personal safety, and equipment malfunction.

NR/GN/TEL/31109 **Telecoms Back Up Power Selection Guidance** Issue 1; Aug 08 — **Replaces** New at Issue 69

This document aims to explain at a fairly generic level the functions of the various different power plant systems used by telecoms and provide some guidance in compiling the required systems from the approved modules.

Special Inspection Notices

NR/SIN/092 **STS Concentrator Auto Line Card** Issue 2; Aug 08 — **Compliance** 26/08/08 — **Replaces** NR/SIN/092 Iss 1; Apr 06

To address two separate technical issues affecting the STS Auto Line card when used to terminate either a Whiteley PETS system or BT exchange lines.

4.23 TRACK ENGINEERING

Specifications (including Procedures)

NR/SP/TRK/0133	**Control of Wheel Impact Forces** Issue 3; Jun 06	**Compliance**	**Replaces** RT/LS/P/030 Iss E2; Dec 00

This specification mandates the action to be taken when vertical wheel-rail forces exceed 200kN due to wheel flats or other vehicle irregularities.

NR/SP/TRK/1110	**Qualification and Certification of NDT Personnel Written Practice – Ultrasonic Testing** Issue 1; Feb 06	**Compliance** 01/06/07	**Replaces**

This Written Practice establishes the control and administration system for the training, examination and certification programme for personnel who perform non-destructive testing (NDT) on Network Rail infrastructure.
Responds to BS EN 473 / ISO 9712 and guidelines laid down in SNT-TC-1A (01).

NR/SP/TRK/8011	**Management of Pan 8 and Lockspiked Track** Issue 1; Dec 05	**Compliance**	**Replaces**

The failure of the lockspike is difficult to detect as it tends to occur beneath the baseplate. Therefore the following specification must be applied to the management of Pan 8 and other lockspiked track.

NR/SP/TRK/9003	**Installation and Maintenance of Longitudinal Timbers** Issue 1; Dec 05	**Compliance**	**Replaces**

This specification provides direction on the installation, maintenance and inspection of longitudinal timber systems on Network Rail infrastructure. It also provides requirements on design matters. Requirements for the installation, maintenance and inspection of supporting structures is not provided

RT/CE/P/018	**Requirements for the Operation of the Dynamic Track Stabiliser on or Adjacent to Structures** Issue 1; Aug 97	**Replaces**

This procedure defines the procedures to be followed to permit the use of the dynamic track stabiliser and the limitations on its use over or adjacent to structures to ensure the integrity of structures is safeguarded.
Responds to GC/RT5100

RT/CE/P/027	**Use of Ballast Gluing to Increase the Lateral Resistance of Track** Issue 1; Jan 96	**Replaces**

This procedure sets out the Network Rail's policy on ballast gluing as means of providing increased lateral restraint of the permanent way.
Responds to GC/RT5014

RT/CE/S/002	**Serviceable Rail for use in Running Lines and Sidings** Issue 2; Aug 99	**Replaces** RT/CE/S/002 Iss 1A; Oct 97

This specification gives the requirements for the selection and use of serviceable rail in jointed and welded applications, and for replacement of isolated defects.
Responds to GC/RT5019

RT/CE/S/008	**Saw and Disc Cutting and Drilling of Rail** Issue 2; Feb 98	**Replaces** RT/CE/S/008 Iss 1; Feb 95

This specification gives the quality of finish and dimensional tolerance requirements for saw- or disc-cut rail ends and for holes drilled in rails, both factory and site situation.
Responds to GC/RT5019, GC/RT5020

RT/CE/S/009	**Track Ballast Returned by Automatic Ballast Cleaners** Issue 1; Jul 96	**Replaces**

This specification gives the requirements for track ballast returned directly to the track by use of ontrack automatic ballast cleaners, including physical properties and test.
Material specification. Responds to GC/RT5014

RT/CE/S/014	**Rail Testing – Detection Criteria** Issue 1A; Oct 97	**Replaces**

This document defines the performance specification for non – destructive testing of normal (pearlitic) rail and is expressed in terms of defect size thresholds and their probabilities of detection.
Responds to GC/RT5019

RT/CE/S/034	**Requirements for Processes for Cold-expanding Fishbolt Holes by the Split Sleeve Method** Issue 1; Aug 97	**Replaces**

This specification gives the requirements for processes to be used for the cold-expansion of fish bolt holes in railway rails and cast crossings using the split sleeve method. Responds to GC/RT5020

RT/CE/S/037	**Requirements for Maintenance of Trackwork in Depots by Depot Facility Operators** Issue 3; Dec 00	**Replaces** RT/CE/S/037 Iss 2; Jun 98

This document specifies the requirements for inspection and maintenance of trackwork within depots by depot facility operators having depot leasing agreements with Network Rail.
Can only mandate through terms of lease.

RT/CE/S/042	**Track Geometry Recording** Issue 1; Apr 95	**Replaces**

This specification gives the requirements for the provision of a track geometry recording service. It defines the parameters to be recorded, the types of report to be produced and the mode of up – loading recording data to the mainframe Track Quality System. It is intended to accord with, but in some respects enhance, Railway Group standard GC/HE038 “Track recording handbook”.
Responds to GC/RT5010, GC/RT5017.

RT/CE/S/050	**Process for Cold-expanding New Fishbolt Holes by the Split Sleeve Method Using FTI Tooling and Consumables** Issue 1; Jan 96	**Replaces**

This specification gives the procedure to be used for the cold-expansion of new fishbolt holes in railway rails and cast crossings using the split sleeve method and FTI tooling and consumables.
Responds to GC/RT5019, GC/RT5020

RT/CE/S/051	**Process for Cold-expanding Existing Fishbolt Holes by the Split Sleeve Method Using FTI Tooling and Consumables** Issue 1; Jan 96	**Replaces**

This specification gives the method to be used for the coldexpansion of existing fishbolt holes in railway rails by the split sleeve process, using FTI tooling and consumables.
Responds to GC/RT5019, GC/RT5020

RT/CE/S/056	**Rail Testing: Non-ultrasonic Procedures** Issue 1; Mar 96	**Replaces**

This specification defines the procedures to be adopted for the testing of rail by nonultrasonic means. The methods described are magnetic particle inspection, dye penetrant inspection, visual examination and rail measurement using calipers.
Responds to GC/RT5019

RT/CE/S/057	**Rail Failure Handbook** Issue 4; Oct 01	**Replaces** RT/CE/S/057 Iss 3; Aug 01

This specification defines reporting requirements for rail failures and the different types of rail failure that may occur.
Responds to GC/RT5019

RT/CE/S/064	**Assembly of BR Mk111 4-and 6-hole insulated Joints** Issue 2; Dec 03	**Replaces** RT/CE/S/064 Iss 1; Mar 96

To set out the process for the assembly of BR MkIII glued insulated rail joints, so that when installed in Network Rail’s infrastructure they are reliable and durable.

RT/CE/S/077	**Storage, Installation & Testing of TSR & ESR AWS Magnets** Issue 1; Oct 03	**Replaces**

This specification defines the storage, installation and testing requirements for AWS speed restriction magnets. It is primarily aimed at front line staff responsible for the correct installation of speed restriction magnets.
(Contains NR/BS/LI/101)

Product Specifications

RT/CE/S/001	**Flash-weld Rails: Depot-welded Strings** Issue 3; Aug 03	**Replaces** RT/CE/S/001 Iss 2; Dec 98

This specification covers long welded strings manufactured by the flash welding of new rails at fixed plant. Only joints between rails of the same grade are covered.

RT/CE/S/005	**Rail Testing: Portable Ultrasonic Equipment** Issue 1; Aug 96	**Replaces**

This document defines the performance specification for portable ultrasonic rail flaw detector units used for testing rail on Network Rail owned permanent way. This document applies to all portable ultrasonic rail flaw detectors used to carry out the procedures defined in Network Rail line specification RT/CE/S/055 “Railtesting: ultrasonic procedures”.
Responds to GC/RT5019

RT/CE/S/010	**Geotextiles** Issue 2; Oct 96	**Replaces** RT/CE/S/010 Iss 1; Nov 95

This specification gives the requirements for geotextiles, including physical properties and tests.
Responds to GC/RT5014

RT/CE/S/013 **Electroslag Welded Vees for Part-welded Crossings** Issue 1; Jun 96 **Replaces**

This specification gives the requirements for welded crossings manufactured using the electroslag welding process.
Responds to GC/RT5011

RT/CE/S/016 **33C1 Check Rails** Issue 1; Oct 97 **Replaces**

This specification lays down the requirements for new check rails of the 33C1 profile (previously known as U69 or UIC33) to be supplied to Network Rail or for use on Network Rail's infrastructure.
Responds to GC/RT5019

RT/CE/S/019 **Cast Chairs, Baseplates and Blocks** Issue 1; Apr 95 **Replaces**

This specification gives the requirements for the material and dimensions of cast chairs, baseplates and blocks for use in Network Rail's permanent way.
Responds to GC/RT5015

RT/CE/S/021 **Steel Sleepers** Issue 2; Feb 03 **Replaces** RT/CE/S/021 Iss 1; Aug 97

This material specification gives the requirements for the performance of steel sleepers which are to be installed for use in Network Rail's permanent way.
Responds to GC/RT5015

RT/CE/S/023 **Insulated Rail Joints** Issue 1; Mar 96 **Replaces**

This specification gives the requirements for the geometry and the mechanical and electrical performance of insulated rail joints for use in Network Rail.
Responds to GC/RT5020

RT/CE/S/024 **Component Kits for BR MkIII 4- and 6-Hole Glued Insulated Joints** Issue 1; Mar 96 **Replaces**

This specification defines the items required (excluding rails, bolts, MGL pins and adhesive) to make up a component kit for the production of glued insulated rail joints of the BR MkIII 4- or 6-hole design.
Responds to GC/RT5020

RT/CE/S/025 **Steel Keys for Bullhead Rail** Issue 1A; Oct 97 **Replaces**

This specification gives the requirements for the material and dimensions (by reference to drawings) of steel rail keys for use in Network Rail's permanent way.
Responds to GC/RT5013

RT/CE/S/026 **Oak Keys For Bullhead Rail** Issue 1; May 95 **Replaces**

This specification gives the requirements for the material and dimensions of oak rail keys for use in Network Rail's permanent way.
Responds to GC/RT5013

RT/CE/S/027 **Plastic Ferrules** Issue 1; Apr 95 **Replaces**

This material specification gives the requirements for the materials and dimensions of plastic ferrules for use in Network Rail's permanent way.
Responds to GC/RT5013

RT/CE/S/028 **Insulators for Concrete Sleepers with Pandrol Shoulders** Issue 1; Apr 95 **Replaces**

This specification gives the requirements for the material and dimensions of thermoplastic insulators for use with concrete sleepers with 'Pandrol' shoulders.
Responds to GC/RT5013

RT/CE/S/033 **Track Blanketing Sand** Issue 2; Feb 98 **Replaces** RT/CE/S/033 Iss 1; Jan 95

This specification gives the requirements for blanketing sand, including physical properties and tests, for use as filter layers in track substructures.
Responds to GC/RT5014

RT/CE/S/043 **Rail Anchors** Issue 1A; Oct 97 **Replaces**

This specification gives the performance requirements for rail anchors.
Responds to GC/RT5010, GC/RT5013.

RT/CE/S/130 **Flash-welded Rails: Site-welded Strings** Issue 1; Aug 03 **Replaces**

This specification is to ensure the serviceability of flash welded strings installed in Network Rail's permanent way.
(Contains NR/BS/LI/163)

RT/CE/S/131	**Flash-welded Rails: Crossings, Switch Rails and Transition Rails** Issue 1; Aug 03	**Replaces**

This specification is to ensure the serviceability of flash welded joints incorporated in cast austenitic manganese steel crossings, switch rails and transition rails.

Level 1

NR/L1/TRK/002	**Categorisation of Track** Issue 1; Mar 11	**Compliance** 05/03/11	**Replaces** New at Issue 79

This standard specifies the process for categorising track in running lines by usage and speed.

NR/L1/TRK/100	**Management of Track Assets** Issue 1; Mar 20	**Compliance** 07/03/20	**Replaces** New at Issue 115

This standard sets out the high level requirements to be followed when undertaking any activity as part of the life cycle management of the track asset.

Level 2

NR/L2/OTK/5100	**Boundary Measure Management Manual** Issue 4; Mar 21	**Compliance** 04/09/21	**Replaces** NR/L2/OTK/5100 Iss 3; Mar 20

The management of the boundary measure is a process using risk assessment that contributes to the safe performance of the railway infrastructure and our duty of care to the public. Loss of an effective boundary measure affects the safety and performance of the railway.

NR/L2/OTK/5100/	Title	Issue	Issue Date
01	Boundary Measure Inspection and Risk Assessment	4	Mar 2021
02	Boundary Measure Repair by Maintenance or Renewal	2	Mar 2021
03	Boundary Measure Specification	1	Mar 2021

NR/L2/OTK/5201	**Lineside Vegetation Management Manual** Issue 5; Dec 20	**Compliance** 05/06/21	**Replaces** NR/L2/OTK/5201 Iss 4; Mar 20

Lineside vegetation management is a process that uses risk assessment to contribute to the safe running of the railway infrastructure.

NR/L2/OTK/5201/	Title	Issue	Issue Date
01	Lineside Vegetation Inspection and Risk Assessment	4	Dec 2020
02	Lineside Vegetation Management Requirements	3	Sep 2019
03	Route Vegetation Management Plans	1	Mar 2020
04	Tree Management	1	Dec 2020

NR/L2/TRK/001	**Inspection and Maintenance of Permanent Way** Issue 22; Mar 22	**Compliance** 04/06/2022	**Replaces** NR/L2/TRK/001 Iss 21; Dec 21

The purpose of this standard is to prescribe the inspections, limits and actions required to prevent track caused derailments, and
To describe the inspections, limits and actions required to optimise track performance, cost and asset life.
(Contains NR/BS/LI/440)

NR/L2/TRK/001/	Title (*and any applicable Letters of Instruction*)	Issue	Issue Date
mod01	Glossary	8	Sep 2021
mod02	Track Inspection *(Contains NR/BS/LI/440)*	7	Sep 2015
mod03	Plain Line Track	8	Sep 2016
mod04	Rail Joints *(Contains NR/BS/LI/440)*	8	Jun 2021
mod05	Switches and Crossings (S&C)	8	Dec 2020
mod06	Visual Inspection and Ultrasonic and Eddy Current Testing of Rails	10	Dec 2020
mod07	Management of Rail Defects	9	Dec 2020
mod08	Broken or Damaged Rails	6	Dec 2012
mod09	Loss of Rail Section	6	Dec 2012
mod10	Rail Profile Management	6	Dec 2012
mod11	Track Geometry - Inspections and Minimum Actions	11	Mar 2022
mod12	Track Geometry - Maintenance Design Requirements	8	Sep 2019
mod13	Track Hand Back; Confirming Track Is Safe for Selected Line Speed after Engineering Work *(Contains NR/BS/LI/440)*	8	Sep 2019
mod14	Managing Track in Hot Weather	7	Mar 2021
mod15	Managing Track in Cold Weather	6	Dec 2012
mod16	Adjustment Switches *(Contains NR/BS/LI/440)*	7	Sep 2014
mod17	Sidings	6	Dec 2012

NR/L2/TRK/001/	Title (*and any applicable Letters of Instruction*)	Issue	Issue Date
mod18	Buffer Stops and Train Arresting Devices Inspection, Maintenance and Risk Assessment	7	Sep 2021
mod19	Track Inspection Handbook	6	Dec 2012
mod20	Plain Line Pattern Recognition Management	2	Dec 2021

NR/L2/TRK/012 **Railway Crossings** Issue 3; Mar 19 | **Compliance** 07/09/19 | **Replaces** RT/CE/S/012 Iss 2; Feb 02

The purpose of this module is to define the product specification and requirements that control safety and performance risks associated with cast Austenitic Manganese Steel crossings. Compliance with this specification supports mitigation of the risks associated with in-service failure of cast crossing components.

NR/L2/TRK012/	Title	Issue	Issue Date
01	Production Process for Cast Austenitic Manganese Steel Crossings	1	Mar 2019
02	Fatigue Life Evaluation and Structural Integrity	1	Mar 2019

NR/L2/TRK/029 **Wood Sleepers, Bearers and Longitudinal Bearer Systems** Issue 6; Mar 22 | **Compliance** 05/03/22 | **Replaces** NR/L2/TRK/029 Iss 5; Sep 15

The purpose of this product specification is to define Network Rail's requirements for the supply of wood sleepers, wood S&C bearers and wood longitudinal bearers.

NR/L2/TRK/030 **Specification: Concrete Sleepers and Bearers** Issue 4; Mar 16 | **Compliance** 05/03/16 | **Replaces** NR/L2/TRK/030 Iss 3; Dec 15

The purpose of this product specification is to define Network Rail's requirements for the supply of concrete sleepers and bearers.

NR/L2/TRK/0032 **Joining of Rails by Aluminothermic Welding** Issue 7; Mar 18 | **Compliance** 02/06/18 | **Replaces** NR/L2/TRK/0032 Iss 6; Jun 17

This specification defines the standards to be achieved when aluminothermic welding is carried out, whether in or out of the track, and defines the welding procedures to be used. By adhering to the specifications and standards within this document, the risk of weld failure/break is reduced. The quality of the weld cast is improved and kept within the process supplier's parameters. The safety of the traveling public and staff undertaking aluminothermic welding activities is maintained to the highest levels.

NR/L2/TRK/035 **Track Asset Management Strategies** Issue 1; Sep 21 | **Compliance** 04/09/21 | **Replaces** New at Issue 121

This document provides a process for the production of track asset policy, strategies and plans that are aligned with corporate objectives, and to provide assurance against the principles of risk management and whole life costs.

NR/L2/TRK/036 **Gauge Compatibility Certification and Gauging Delegated Authority** Issue 3; Sep 19 | **Compliance** 07/12/19 | **Replaces** NR/L2/TRK/036 Iss 2; Dec 17

This standard specifies the process to be used to certify gauge compatibility of rail vehicles, the required levels of delegated authority (gauging) and applicable ruleset for Out of Gauge load movements applied to RIS-2773-RST compliant static vehicle models. This ties into the design/ install/renew optimised track system, non-track infrastructure infringement and vehicle compatibility process controls on the gauging bowtie NR/GN/TRK/8001/0701.

NR/L2/TRK/038 **Track Geometry: Management of Recording and of Intervention and Immediate Actions Limits** Issue 8; Sep 21 | **Compliance** 04/09/21 | **Replaces** NR/L2/TRK/038 Iss 7; Jun 21

The purpose of this document is to describe the control process to prevent the risk of derailment caused by track faults of a severity known as 'Immediate Action Level' & 'Intervention Level' faults. This document specifies process to be taken where sub-standard track is identified. It is the prequel to actions undertaken by NR/L2/TRK/001/mod11; so that the safety of the line can be maintained until any necessary track repair is completed.

NR/L2/TRK/038/	Module	Issue	Issue Date
01	Train Borne Recording	3	Sep 2021
02	Manual Track Geometry Recording	1	Jun 2018

NR/L2/TRK/052 **Rail, Baseplate and Under-Sleeper/Bearer Pads** Issue 4; Jun 20 | **Compliance** 05/09/20 | **Replaces** RT/CE/S/052 Iss 3; Oct 02

The purpose of this document is to improve the performance, longevity and suitability for use on UK infrastructure of rail, baseplate and under sleeper/bearer pads.

NR/L2/TRK/053 **Inspection and Repair to Control the Risk of Derailment at Switches** Issue 9; Mar 20 | **Compliance** 07/03/20 | **Replaces** NR/L2/TRK/053 Iss 8; Sep 19

This specification describes the inspection and monitoring procedures and essential maintenance to be undertaken at switches to reduce the risk of derailment. It identifies the potential derailment hazards associated with switch wear and damage and the remedial measures necessary.

Contains (NR/BS/LI/441);

NR/L2/TRK/053/	Module	Issue	Issue Date
Mod01	Glossary and Tooling	3	Mar 2020
Mod02	Inspection (*Contains NR/BS/LI/441)*	4	Mar 2020
Mod03	Repair of Switches	3	Sep 2019
Mod04	Technical Information	3	Sep 2019

NR/L2/TRK/061 **Pearlitic Rails** Issue 3; Sep 15 | **Compliance** 05/09/15 | **Replaces** RT/CE/S/061 Iss 2; Aug 02

The purpose of this product specification is to define Network Rail's requirements for the manufacture of pearlitic rails and the properties required of the rail.

NR/L2/TRK/070 **S&C System Specification for the Design of Switches and Crossings** Issue 1; Aug 07 | **Compliance** 31/08/07 | **Replaces**

To define the system specification for the design of S&C systems This is a high level document which defines the interface arrangements for S&C components between the Track, Signalling and Electrification and Plant functions.

NR/L2/TRK/0132 **Maintenance Arc Welding of Rails, Switches and Crossings** Issue 7; Mar 22 | **Compliance** 04/06/22 | **Replaces** NR/L2/TRK/0132 Iss 6; Dec 10

This specification defines the safe methods for weld repairs to:
a) control the risk of defective and broken rails; and
b) restore condition and maximise asset life.

NR/L2/TRK/0132/	Title	Issue	Issue Date
01	Weld Repair of Plain Line Rail	1	Mar 2022
02	Weld Repair of Crossings	1	Mar 2022
03	Weld Repair of Switches	1	Mar 2022

NR/L2/TRK/1019 **Lighting Requirements for Visual Track Inspection** Issue 1; Mar 18 | **Compliance** 01/09/18 | **Replaces** New at Issue 107

This standard defines the minimum lighting required:
- for effective visual track inspection so defects are detectable and can be reported; and
- to comply with legislation, European standards and NR/L2/TRK/001.

NR/L2/TRK/1054 **Inspection, Maintenance and Repair Procedures for Cast, Welded and Fabricated Crossings in the Track** Issue 5; Oct 14 | **Compliance** 31/10/14 | **Replaces** NR/L2/TRK/1054 Iss 4; Jun 12

The majority of defects and wear detected in crossings are repairable if detected at an early enough stage. The identification and timely rectification of crossing wear, or associated track condition issues, will reduce the risk of crossing failure or premature replacement.
The early detection of a crack in all steel grades is paramount.
The benefits of this standard are the early identification and rectification of defects which, when discovered in a timely manner, will prevent costly replacement of crossings. Risks of crossing failure will also be reduced as a result.
This Network Rail standard specifies the requirements for the inspection and identification of defects and wear in crossings. The specification now includes guidance for maintenance arc weld repair with appropriate minimum actions and also gives details of minimum actions to be taken when significant defects are discovered.
This standard is intended to be read in conjunction with other standards concerning the inspection and rectification of defects in crossings.
(Contains NR/BS/LI/442)

NR/L2/TRK/2102 **Design and Construction of Track** Issue 10; Jun 21 | **Compliance** 05/06/21 | **Replaces** NR/L2/TRK/2102 Iss 9; Mar 21

This standard is intended to control the risk of incorrect materials and components being specified and to control the required quality of installation of track. It specifies the design principles and minimum standards for the construction of new or relayed track, including the materials to be used. It also specifies acceptance criteria for new or relayed track in terms of workmanship and the track geometry requirements for both newly installed and existing track.

NR/L2/TRK/2500 **Engineering Assurance Arrangements for the Design and Construction of Track** Issue 4; Dec 20 | **Compliance** 06/03/21 | **Replaces** NR/L2/TRK/02500 Iss 3; Jun 11

This document describes the engineering assurance processes that apply to the design and construction of track assets on Network Rail owned infrastructure.

NR/L2/TRK/3011 **Continuous Welded Rail (CWR) Track** Issue 7; Dec 12 | **Compliance** 01/12/12 | **Replaces** NR/L2/TRK/3011 Iss 6; Jun 08

This specification defines the requirements for the design, installation and maintenance of continuous welded rail (CWR) track (for the purposes of this specification "design" means "configuration"). It also specifies the methods to be used when stressing CWR in plain line and switches and crossings.

NR/L2/TRK/3038	**Longitudinal Bearer Systems – Inspection, Maintenance and Design** Issue 7; Mar 20	**Compliance** 30/06/20	**Replaces** NR/L2/TRK/3038 Iss 6; Sep 14

The purpose of this manual is to prescribe:
a) the inspections required to support prevention of derailments caused by longitudinal bearer systems;
b) the inspections, limits and actions required to support optimisation of longitudinal bearer performance, cost and asset life; and
c) the survey and design requirements for the replacement of a Longitudinal Bearer System (LBS).

NR/L2/TRK/3038/	Title	Issue	Issue Date
01	Definitions, Types and Responsibilities	1	Mar 2020
02	Management Plans, Inspections and Examinations of Longitudinal Bearer Systems	1	Mar 2020
03	Survey, Design and Replacement of a Longitudinal Bearer System	1	Mar 2020

NR/L2/TRK/3100	**Topographic, Engineering, Land and Measured Building Surveying – Strategy and General** Issue 5; Mar 19	**Compliance** 01/06/19	**Replaces** NR/L2/TRK/3100 Iss 4; Dec 17

The standard sets out requirements for the project manager and engineer to specify topographic survey work, by identifying key stages to deliver good quality work for current and future needs. This lowers the risks associated with poor survey work for projects. “Survey once and use many times” also provides better value for the money spent.

NR/L2/TRK/3100/	Title	Issue	Issue Date
Mod 01	Topographic, Engineering, Land and Measured Building Surveying – Track	2	Sep 2017
Mod 03	Topographic, Engineering, Land and Measured Building Surveying – Survey and Mapping Techniques	2	Sep 2017
Mod 04	Asset Data Extraction and Topographic Surveying – Signalling (formerly NR/L3/TRK/3104)	3	Dec 2017
Mod 05	Topographic, Engineering, Land and Measured Building Surveying - Overhead Line Electrification	1	Mar 2019

NR/L2/TRK/3201	**Management of Tight Clearances and Track Position** Issue 3; Dec 10	**Compliance** 04/12/10	**Replaces** NR/L2/TRK/3201 Iss 2; Jun 08

This document sets out the activities and control mechanisms which shall be applied across the network to define, monitor, assess, correct and advise gauge and clearances on routes to enable the safe passage of prescribed rolling stock.

NR/L2/TRK/3203	**Structure Gauge Recording** Issue 1; Sep 11	**Compliance** 03/12/11	**Replaces** New at Issue 81

This system specification gives the minimum requirements for Gauging Surveying and the data within Network Rail’s National Gauging Database (NGD). This Standard specifies detail of Network Rail compliance with GC/RT5212 Sections E and K.

NR/L2/TRK/3419	**Lifting, Storing and Transporting Track Materials** Issue 1; Dec 21	**Compliance** 03/12/22	**Replaces** New at Issue 122

This document is intended to control the risk of damage to track materials during lifting, storage and transportation.

NR/L2/TRK/4040	**Level Crossing Surface Systems** Issue 2; Dec 10	**Compliance** 04/06/11	**Replaces** RT/CE/S/040 Iss 1; Dec 97

This standard specifies the performance of manufactured proprietary level crossing surface systems so that they are fit for purpose and have an adequate life expectancy.

NR/L2/TRK/4100	**Serviceable Concrete Sleepers for use in Running Lines and Sidings** Issue 4; Sep 11	**Compliance** 03/09/11	**Replaces** RT/CE/S/062 Iss 3; Oct 01

This specification is for use in the selection of serviceable concrete sleepers for installation in Network Rail Infrastructure’s running lines and sidings.

NR/L2/TRK/4239	**Track Bed Investigation, Design and Installation** Issue 2; Sep 20	**Compliance** 05/12/20	**Replaces** NR/L2/TRK/4239 Iss 1; Dec 15

The document sets out a consistent technical approach to track bed diagnosis, investigation and design to reduce the risk of premature track bed failures and high frequency of maintenance interventions following track renewals work. This standard is a key control for the risk of loss of geometry (cyclic top/twist fault) beyond safety limits as illustrated in NR/GN/TRK/8001/0203.

NR/L2/TRK/4900	**Inspection Gauges for Plain Line Track and S&C** Issue 2; Mar 20	**Compliance** 04/09/21	**Replaces** NR/L3/TRK/4900 Iss 1; Mar 11

This standard facilitates consistent and quality manufacture of track gauges which allows for accurate recording of elements of the track system so that any identified corrective maintenance work can be planned and actioned accordingly.

NR/L2/TRK/6001	**Renewals Workbank Management** Issue 2; Aug 08	**Compliance** 26/08/08	**Replaces** NR/PRC/TRK/6001 Iss 1

To define the *pr*ocesses for the management of work items to create annual workbanks which reflect our customers needs, business priorities and the asset policy.

NR/L2/TRK/6100	**The Installation and Maintenance of Stretcher Bars** Issue 5; Dec 21	**Compliance** 04/12/21	**Replaces** NR/L2/TRK/6100 Iss 4; Dec 20

This standard provides one reference document for stretcher bars. It details the limits and actions required to prevent derailments associated with stretcher bar components.

NR/L2/TRK/6100/	Title	Issue	Issue Date
mod01	Glossary of Stretcher Bar Terminology	1	Mar 2015
mod02	Roles and Responsibilities for Installation, Inspection and Maintenance of Stretcher Bars	1	Mar 2015
mod03	Installing Stretcher Bars and Setting Them to the Correct Length	5	Dec 2021
mod04	Tubular Stretcher Bars	4	Dec 2020
mod05	Fixed Stretcher Bars	2	Dec 2020
mod06	35mm Adjustable Stretcher Bars	2	Dec 2020
mod07	Lock Stretcher Bars	1	Mar 2015
mod08	Action Tables	3	Dec 2020
mod09	Stretcher Bar Equipment Catalogue	2	Jun 2016

NR/L2/TRK/7014	**Standardised Risk Based Maintenance Regime (RBM) for the Inspection and Maintenance of the Permanent Way** Issue 2; Mar 22	**Compliance** 05/03/22	**Replaces** NR/L3/TRK/7014 Iss 1; Mar 21

This standard defines alternative inspection and maintenance regimes to those mandated in NR/L2/TRK/001 based on the application of Risk Based Maintenance (RBM). This simplifies the implementation of Risk Based Maintenance regimes detailed in NR/L2/MTC/10662/05.

NR/L2/TRK/8100	**Railway Ballast and Stoneblower Aggregate** Issue 4; Jun 09	**Compliance** 06/06/09	**Replaces** RT/CE/S/006 Iss 3; Aug 00

This product specification gives the requirements for Railway Ballast and Stoneblower Aggregate.

NR/L2/TRK/9016	**Assessment of Strength of Rails with Localised Head Loss** Issue 2; Dec 09	**Compliance** 05/12/09	**Replaces** NR/SP/TRK/9016 Iss 1; Dec 05

This specification sets out a recommended procedure for assessing rail strength where localised head loss has occurred, so that the appropriate decision can be taken regarding rail replacement.

NR/L2/TRK/9020	**Structural Expansion Joints - Design, Installation and Maintenance** Issue 2; Mar 20	**Compliance** 07/03/20	**Replaces** NR/L2/TRK/9020 Iss 1; Sep 19

The purpose of this standard is to provide requirements and guidance on the design, installation, inspection and maintenance of structural expansion joints on Network Rail infrastructure to control primarily the risk around the track system buckling.

NR/L2/TRK/9020/	Title	Issue	Issue Date
01	Design and Installation of Structural Expansion Joints	1	Sep 2019
02	Inspection and Maintenance of Structural Expansion Joints	1	Sep 2019

Level 3

NR/L3/TRK/002	**Track Maintenance Handbook** Issue 7; Jun 11	**Compliance** 04/06/11	**Replaces** NR/L3/TRK/002 Iss 6; Sep 10

This Work Instruction introduces the Track Maintenance Handbook (TMH). The handbook is a collection of Track and Off Track Work Instructions some of which existed in previous forms as Network Rail Standard Operating Procedures. The issue of the preface establishes consistent content and format for all areas

Ref	Title	Issue	Issue Date
Inspection			
NR/L3/TRK/002/A01	Track Patrol (Foot & Mechanised)	5.0	Sep 2010
NR/L3/TRK/002/A02	Track Inspection – Supervisor	4.0	Sep 2010
NR/L3/TRK/002/A03	Track Inspection – Engineer	2.0	Aug 2007
NR/L3/TRK/002/A04	Cab Riding	2.0	Aug 2007
NR/L3/TRK/002/A05	S&C – Crossing – Inspect	2.0	Aug 2007
NR/L3/TRK/002/A06	S&C – Detailed Inspection of Switches	3.0	Mar 2008
NR/L3/TRK/002/A07	Longitudinal Timber Detailed Inspection	2.0	Aug 2007
NR/L3/TRK/002/A08	Flood Warning Inspection	2.0	Aug 2007
NR/L3/TRK/002/A09	Visual Inspection of Stretcher Bars and Lock Stretcher Bars	1.0	Jun 2011
Ballast			
NR/L3/TRK/002/B01	Ballast – Unload – Other	2.0	Aug 2007
NR/L3/TRK/002/B02	Ballast – Unload by Train	2.0	Aug 2007
NR/L3/TRK/002/B03	Ballast – Regulate – Manual	2.0	Aug 2007

Ref	Title	Issue	Issue Date
NR/L3/TRK/002/B04	Ballast – Regulate – Mechanical	2.0	Aug 2007
NR/L3/TRK/002/B05	Ballast – Shoulder Clean – Manual	2.0	Aug 2007
NR/L3/TRK/002/B06	Ballast – Shoulder Clean – Mechanical	2.0	Aug 2007
NR/L3/TRK/002/B07	Ballast – Dig Out Contaminant	2.0	Aug 2007
NR/L3/TRK/002/B08	Track – Dig Wet Bed – Manual	2.0	Aug 2007
NR/L3/TRK/002/B09	Track – Dig Wet Bed – Mechanical	2.0	Aug 2007
NR/L3/TRK/002/B10	Track – Glue Ballast	2.0	Aug 2007
Maintenance			
NR/L3/TRK/002/C01	Fit & Remove Tie Bar	2.0	Aug 2007
NR/L3/TRK/002/C02	Fit End Restraint Plate	2.0	Aug 2007
NR/L3/TRK/002/C03	Drilling of Rail	2.0	Aug 2007
NR/L3/TRK/002/C04	Saw and Disc Cutting	2.0	Aug 2007
NR/L3/TRK/002/C05	Track – Cold Bolt Hole Expansion	2.0	Aug 2007
NR/L3/TRK/002/C06	Track – Grind Rails	2.0	Aug 2007
NR/L3/TRK/002/C07	Track – Fix Gauge Stops	2.0	Aug 2007
Off Track			
NR/L3/TRK/002/D01	Lift/Replace Foot Crossing Wooden Unit	2.0	Aug 2007
NR/L3/TRK/002/D02	Lift/Replace Foot Crossing Sleeper Based	2.0	Aug 2007
NR/L3/TRK/002/D07	Open Channels and Ditch Maintenance	1.0	Aug 2007
~~NR/L3/TRK/002/D08~~	~~Piped Drainage and Catchpit Maintenance~~	~~1.0~~	~~Aug 2007~~
NR/L3/TRK/002/D09	Pest And Vermin Control	1.0	Aug 2007
NR/L3/TRK/002/D10	Maintain Fencing And Boundary Measures	1.0	Aug 2007
NR/L3/TRK/002/D11	Vegetation ~ Inspection	1.0	Aug 2007
NR/L3/TRK/002/D12	Vegetation Clearance ~ Manual	2.0	Aug 2008
NR/L3/TRK/002/D13	Vegetation Clearance ~ Mechanical	2.0	Aug 2008
NR/L3/TRK/002/D14	Off Track – Management of Invasive and Hazardous Weeds	1.0	Mar 2008
NR/L3/TRK/002/D15	Access Points – Inspect	1.0	Aug 2007
NR/L3/TRK/002/D16	Lineside Facilities – Maintain	1.0	Aug 2007
NR/L3/TRK/002/D17	Boundary – Inspection	1.0	Aug 2007
NR/L3/TRK/002/D18	Drainage Inspection	1.0	Aug 2007
NR/L3/TRK/002/D20	Sign Maintenance And Renewal	1.0	Aug 2007
NR/L3/TRK/002/D21	Waste And Flytipping Clearance	1.0	Aug 2007
On Track Machines			
NR/L3/TRK/002/E01	Plain Line Tamping	1.0	Mar 2008
NR/L3/TRK/002/E02	Dynamic Track Stabiliser	1.0	Mar 2008
NR/L3/TRK/002/E03	S&C Tamping	1.0	Mar 2008
NR/L3/TRK/002/E04	TRAMM Works	1.0	Mar 2008
NR/L3/TRK/002/E06	Mechanical Stoneblower	1.0	Mar 2008
Plain Line			
NR/L3/TRK/002/F01	Replace Jointed Rail	2.0	Aug 2007
NR/L3/TRK/002/F02	Insulated Block Joint (Dry) Renew	2.0	Aug 2007
NR/L3/TRK/002/F03	Track – Renew Fishplates	2.0	Aug 2007
NR/L3/TRK/002/F04	Track – Pl – Fit Fishplate Shims	2.0	Aug 2007
NR/L3/TRK/002/F05	Track – Lubricate Fishplates	2.0	Aug 2007
NR/L3/TRK/002/F06	Track – Adjust Rail Expansion Gaps	2.0	Aug 2007
NR/L3/TRK/002/F07	Adjustment Switch – Reset Overlap	2.0	Aug 2007
NR/L3/TRK/002/F08	Adjustment Switch – Maintain	2.0	Aug 2007
NR/L3/TRK/002/F09	Track – Stress Monitoring (NDT CWR)	2.0	Aug 2007
NR/L3/TRK/002/F10	Track – Preliminary Survey for CWR Stressing	2.0	Aug 2007
NR/L3/TRK/002/F11	Track – Stress Restoration	2.0	Aug 2007
NR/L3/TRK/002/F12	Track – PL – Tensor Stressing	2.0	Aug 2007
NR/L3/TRK/002/F13	Track – CWR – Natural Stressing	2.0	Aug 2007
NR/L3/TRK/002/F14	Track – CWR – Renew Due to Wear or Rail Defects	2.0	Aug 2007
NR/L3/TRK/002/F15	Track – PL – Renew Check Rail	2.0	Aug 2007
NR/L3/TRK/002/F16	Track – Pull Through/Turn & Plug Timber	2.0	Aug 2007
NR/L3/TRK/002/F17	Track – PL – Straighten Rail End	2.0	Aug 2007
NR/L3/TRK/002/F18	Track – PL – Manual Slueing	2.0	Aug 2007
NR/L3/TRK/002/F19	Track – PL – Lift and Pack	2.0	Aug 2007
NR/L3/TRK/002/F20	Track – PL – Lift and Pack Joint	2.0	Aug 2007
NR/L3/TRK/002/F21	Track – PL – Stoneblowing – Handheld	2.0	Aug 2007
NR/L3/TRK/002/F22	Track – Rail Mounted Lubricators	2.0	Aug 2007

Ref	Title	Issue	Issue Date
NR/L3/TRK/002/F23	Track Geometry Markings – Paint	2.0	Aug 2007
NR/L3/TRK/002/F24	Track – PL – Replace Sleeper	1.0	Aug 2007
NR/L3/TRK/002/F25	Guard Board Maintenance	1.0	Mar 2008
NR/L3/TRK/002/F26	Conductor Rail Maintenance	1.0	Mar 2008
NR/L3/TRK/002/F27	Turning Rails Within Jointed Track	1.0	Mar 2008
NR/L3/TRK/002/F28	Inspection of Buffer Stops	1.0	Mar 2008
Switch and Crossings			
NR/L3/TRK/002/G01	S&C – Cast Crossing – Crack Monitoring	2.0	Aug 2007
NR/L3/TRK/002/G02	S&C – Renew Half Set of Switches	2.0	Aug 2007
NR/L3/TRK/002/G03	S&C – Renew Crossing	2.0	Aug 2007
NR/L3/TRK/002/G04	S&C – Renew Check Rail	2.0	Aug 2007
NR/L3/TRK/002/G05	Track – CWR – S&C Tensor Stressing	2.0	Aug 2007
NR/L3/TRK/002/G06	S&C – Change Timber Bearer	2.0	Aug 2007
NR/L3/TRK/002/G07	S&C – Pack Timber / Bearer	2.0	Aug 2007
NR/L3/TRK/002/G08	S&C – Change Concrete Bearer	2.0	Aug 2007
NR/L3/TRK/002/G09	S&C – Stoneblowing – Handheld	2.0	Aug 2007
NR/L3/TRK/002/G10	S&C – Manual Alignment	2.0	Aug 2007
NR/L3/TRK/002/G11	S&C – RCF Prevention – Hand Grind	2.0	Aug 2007
NR/L3/TRK/002/G12	S&C – Switch Diamond – White Paint	2.0	Aug 2007
NR/L3/TRK/002/G13	Renew Heater Pads	1.0	Mar 2008
NR/L3/TRK/002/G14	Switch Slide Plate Lubrication	1.0	Mar 2008
NR/L3/TRK/002/G15	Switch Roller Installation Set Up and Maintenance	1.0	Mar 2008
NR/L3/TRK/002/G16	Replace Slide Chair Bolts	1.0	Mar 2008
NR/L3/TRK/002/G17	Hand Levers	1.0	Mar 2008
Welding			
NR/L3/TRK/002/H01	Track – AL Thermic Weld	2.0	Aug 2007
NR/L3/TRK/002/H02	Track – Arc Weld Repair	2.0	Aug 2007
Non Destructive Testing			
NR/L3/TRK/002/J01	Track – Ultrasonic Testing	2.0	Aug 2007
NR/L3/TRK/002/J02	Track – Magnetic Particle Testing (MPT)	2.0	Aug 2007
NR/L3/TRK/002/J03	Track – Liquid Penetrant Testing (LPT)	2.0	Aug 2007

NR/L3/TRK/003 **Index of Track Engineering Forms** Issue 38; Mar 22 **Compliance** 04/06/22 **Replaces** NR/L3/TRK/003 Iss 37; Sep 21

This standard provides the index and version control to the Track Engineering Forms (TEFs) which shall be applied to meet the inspection, maintenance and renewals requirements of Network Rail track standards and the associated Standard Maintenance Procedures and Method Statements.

Number	Title	Issue	Issue Date
TEF3001	Plain Line Wheelburns and Squats Assessment Form	4	Dec 2008
TEF3002	Wheelburn Removal Assessment Form	4	Dec 2008
TEF3003	Wheelburn And Squat Removal Assessment Form	4	Dec 2008
TEF3004	Welders Work Return - Plain Line Repairs	4	Mar 2022
TEF3005	Aluminothermic Welding Worksite Planning Form	6	Jun 2010
TEF3006	Aluminothermic Welding Installation Form	3	Jun 2008
TEF3007	Aluminothermic Welding Non-Conformance Form	3	Jun 2008
TEF3008	Welders Work Return - Switch Repairs	5	Mar 2022
TEF3009	Welders Work Return - Crossing Repairs	4	Mar 2022
TEF3010	Record of Stressing - Restressing	4	Jun 2008
TEF3011	Record of Stress Restoration	2	Jun 2008
TEF3012	Notification of CWR Stress Disturbance	3	Jun 2008
TEF3013	Record of Verse Testing and Certificate	2	Jun 2008
TEF3014	Detailed Inspection of Longitudinal Timber System Report	6	Mar 2020
TEF3015	Basic Visual Inspection Report	3	Sep 2010
TEF3016	New Very Poor Eighth Inspection Report	4	Sep 2013
TEF3017	Engineer Visual Track Inspection Report	2	Jun 2008
TEF3018	New Super-Red Eighths Inspection Report	4	Sep 2013
TEF3019	Inspection of Switches Secured Out of Use	2	Jun 2008
TEF3020	Sidewear Inspection Record (Forms A and B)	5	Mar 2019
TEF3021	Supervisor’s Visual Inspection of Longitudinal Timbers	6	Sep 2013
TEF3022	Supervisor’s Visual Inspection Report	3	Sep 2010
TEF3023	Engineer Cab Ride Report	2	Jun 2008
TEF3024	Supervisor Cab Ride Report	2	Jun 2008

Number	Title	Issue	Issue Date
TEF3027	Cast Crossing Repair Report	2	Jun 2008
TEF3028	Inspection of Buffer Stops	4	Sep 2021
TEF3029	Switch Inspection Form	13	Mar 2020
TEF3030	Tie Bar Record	3	Jun 2008
TEF3031	Crossing Inspection Report	6	Mar 2013
TEF3032	Track Buckle Report	3	Dec 2015
TEF3033	Hot Weather Preparation Report Consolidation	1	Aug 2008
TEF3034	Platforms And Clearances	3	Jun 2008
TEF3035	Rail Head Weld Repair Installation Form	1	Dec 2008
TEF3037	Report of A Rail Defect Found / Repaired / Removed	6	Dec 2020
TEF3038	Daily Report of Ultrasonic Testing of Rails	6	Sep 2010
TEF3039	Broken Rail Incident Report	5	Jun 2009
TEF3040	Rail Lubricator / Friction Modifier / TGA Inspection, Filling And Maintenance Record	4	Sep 2011
TEF3041	Manual Measurement of Track Geometry Recording Sheet	4	Jun 2017
TEF3042	Hand Grinding Record Form (Hg1)	5	Dec 2016
TEF3043	Level Crossing Rail Corrosion Inspection	3	Sep 2013
TEF3044	Record of Ultrasonic Experience (Level 1)	2	Jun 2008
TEF3045	Record of Ultrasonic Experience (Level 2 Supervisor)	2	Jun 2008
TEF3046	Record of Continuous Employment	2	Jun 2008
TEF3047	Assessment of Service Stress of Rail	4	Sep 2013
TEF3048	Management of Gauge: Periodic Hand Operated Points Inspection Inspection	5	Dec 2013
TEF3049	Upper Sector Survey	2	Jun 2008
TEF3050	Datum Monitoring Sheet	3	Dec 2015
TEF3051	Dip Angle Site Inspection	3	Sep 2013
TEF3052	Check List for Dip Angle Outputs From Track Geometry Recording	2	Jun 2008
TEF3053	Risk Assessment for Visual Inspection of Track In Darkness	4	Sep 2013
TEF3054	Switches and Crossings Weld Repair/Replacement Form	8	Mar 2017
TEF3056	Hot Weather Site Monitoring Record	4	Dec 2015
TEF3057	Report of Utrasonic Testing of UTU Suspect	4	Mar 2020
TEF3058	GEOGIS Update Form (Plain Line)	3.1	Nov 2010
TEF3059	GEOGIS Update Form (S&C)	3.1	Nov 2010
TEF3060	Management of Gauge: Periodic Inside Slip Inspection	4	Dec 2013
TEF3061	Management of Gauge: Periodic Switch Diamond Inspection	4	Dec 2013
TEF3062	Management of Gauge: Periodic Outside Slip Inspection	4	Dec 2013
TEF3063	Management of Gauge: Periodic Fixed Diamond Inspection	2	Dec 2013
TEF3064	Hazard Report for Track Assets	8	Mar 2019
TEF3067	Site Verification Proposal Form	1	Jun 2008
TEF3068	Management of Gauge: Periodic Switches & Crossings Inspection	7	Dec 2018
TEF3069	Pesticide Application Record Form	1	Jun 2008
TEF3070	Crossing Monitoring Report	1	Jun 2008
TEF3071	OTM Site Check and Handback	3	Dec 2020
TEF3072	Report of Inspection / Test of New RCF Site: Site Summary	4	Dec 2020
TEF3073	RCF Walkout Inspection and Test Form	5	Dec 2020
TEF3074	SM[T] Points Gauge FWC and RSO Measurements	5	Dec 2014
TEF3075	Proposal to Reduce Basic Visual Inspection Frequency – Record of Decisions Taken	1	Sep 2008
TEF3078	Record of Decision to Alter Vegetation Inspection Method	1	Sep 2009
TEF3080	Aluminothermic Weld Inspection Report	1	Jun 2017
TEF3084	Immediate Action Limit Geometry Faults Block the Line and Repeat Report Form	3	Mar 2016
TEF3090	Risk Assessment for Reduction in Basic Visual Track Inspection Frequencies for CWR Plain Line Only	1	Dec 2009
TEF3091	Approval of Reduction in Visual Inspection Frequency Certificate	2	Sep 2013
TEF3092	Use of Vehicles for Basic Visual Track Inspection	2	Sep 2013
TEF3096	Mobile Flashbutt Weld Inspection Report	3	Dec 2010
TEF3097	Record of Stressing / Restressing Using Mobile Flash Butt Welding	1	Jul 2011
TEF3098	Record of Stress Restoration Using Mobile Flash Butt Welding	1	Jul 2011
TEF3099	Fixed Stretcher Bar Assembly Defect Form	3	Dec 2014
TEF3105	Plain Line Trial Hole and Soils Data Logging Schedule	1	Feb 2007
TEF3121	S&C Track Renewals Particular Requirements Specification	2	Jun 2012
TEF3122	Track Asset Management - Technical Query Notice and Response	2	Dec 2019
TEF3202	Level 1 Handback / Speed Raising Form	3	Sep 2019
TEF3203	Infrastructure Conformance Certificate	6	Jun 2019
TEF3204	Inspection of Adjustment Switches	2	Sep 2013
TEF3205	Inspection of Insulated Rail Joints (Irjs) / Insulated Block Joints (Ibjs)	1	Sep 2010

Number	Title	Issue	Issue Date
TEF3206	Jointed Track Rail Gap Survey Form	1	Dec 2010
TEF3207	Record of Site Details For Critical Rail Temperature Calculation	4	Sep 2021
TEF3208	Record of Critical Rail Temperature Calculation – Continuously Welded Track	5	Sep 2021
TEF3209	Record of Critical Rail Temperature Calculation – Jointed Track	3	Sep 2021
TEF3213	Ultrasonic Testing Request Form (for Rail Defects Found By Visual Inspection)	2	Sep 2013
TEF3214	Level Crossing Renewal / Refurbishment Risk Priority Assessment	1	Mar 2011
TEF3215	Level Crossing Renewal / Refurbishment Form	1	Mar 2011
TEF3216	Layout Quality Assurance Inspection	2	Mar 2018
TEF3217	Authorisation to use Train Based Rail Wear Measurements	1	Mar 2011
TEF3218	Mobile Flashbutt Weld Production Report	2	Mar 2017
TEF3219	Network Rail Application Form for Rail Friction Management Equipment Site Specific Assessment	2	Sep 2011
TEF3220	Form A: Approval In Principle	2	Dec 2020
TEF3221	Form B: Approval of Detailed Design And Checking	2	Dec 2020
TEF3222	Form C: Approval of Manufacturing Drawings	2	Dec 2020
TEF3223	Ultrasonic Calibration Block Visual Check Result Sheet	1	Dec 2011
TEF3224	Sperry RTS-RSU Pump Gauge Calibration Result Sheet	1	Dec 2011
TEF3225	Omnivision BVI Report	1	Apr 2015
TEF3226	Omnivision Asset Management Report.	1	Apr 2015
TEF3227	Omnivision Ballast Report	1	Apr 2015
TEF3228	Introduction of PLPR inspection	7	Mar 2018
TEF3229	Contingency Measures Following Omnivision Recording Error - Record of Decisions Taken	6	Sep 2015
TEF3230	Assessment of Stress Unknown Sites	1	Sep 2013
TEF3231	No Fault Found Investigation Report	1	Sep 2013
TEF3238	Notification of Proposed PLPR Inspection Sites	7	Mar 2018
TEF3239A	Management of gauge: field face to field face dimensions of inclined curved chamfered switches B - E	1	Jun 2012
TEF3239B	Management of Gauge: Field Face to Field Face Dimensions of Inclinded Straight Chamfered Switches B - E	1	Jun 2012
TEF3239C	Management of Gauge: Field Face to Field Face Dimensions of Vertical Shallow Depth Switches AVS - DVS	1	Jun 2012
TEF3239D	Management of gauge: field face to field face dimensions of vertical shallow depth switches EVS - GVS	2	Feb 2015
TEF3239E	Management of Gauge: Field Face to Field Face Dimensions of Vertical Full Depth Switches AV - DV	2	Feb 2015
TEF3239F	Management of Gauge: Field Face to Field Face Dimensions of Vertical Full Depth Switches EV - GV	1	Jun 2012
TEF3239G	Management of Gauge: Field Face to Field Face Dimensions of RT/NR60 switches C - E	1	Jun 2012
TEF3239H	Management of Gauge: Field Face to Field Face Dimensions of NR60 switches F - G	1	Jun 2012
TEF3240	Assessment of Minimum Permitted Rail Depth	1	Sep 2013
TEF3242	Level Crossing Vertical Profile Inspection Sheet (LXi29)	1	Jun 2012
TEF3243	Level crossing Inspection Record Form	1	Jun 2012
TEF3246	Certificate of Competence – Authorised Persons Levels 2, 3 and 4	3	Mar 2021
TEF3247	Mobile Flashbutt Weld Worksite Planning Form	1	Dec 2012
TEF3248	Drainage Inspection Form	2	Feb 2015
TEF3249	Arc Welding Worksite Planning and Resource Request Form	1	Jun 2013
TEF3250	Post U15 Course Mentorship Form	1	Aug 2013
TEF3251	Phoenix Probe Performance Checks	1	Jun 2015
TEF3252	Temporary Rail Joint Installation and Inspection Form	1	Mar 2021
TEF3253	Switch Inspection Interval Risk Assessment	2	Jun 2019
TEF3254	Proposal for Track Refurbishment/Reactive Renewal S&C	1	Sep 2015
TEF3255	Specification for Track Refurbishment / Reactive Renewal S&C	3	Sep 2021
TEF3256	Train Borne Inspection RAM(T) Authorisation	2	Jun 2017
TEF3258	Risk Assessment Following Loss of Planned UTU inspection - Record of Decisions Taken and Mitigation Implemented	2	Mar 2020
TEF3260	Periodic PLPR Review	1	Mar 2016
TEF3261	PLPR Exclusion File Change Request	3	Jun 2020
TEF3262	S&C Design - Risk Categorisation Tool	3	Dec 2019
TEF3263	Track Geometry Recording RAM[T] Authorisation	1	Jul 2016
TEF3264	Assessment of Fusion Face Defects In Aluminothermic Welds	1	Dec 2016
TEF3265	Certificate of Gauging Compatibility	2	Sep 2019
TEF3267	Manual Track Geometry Measurement – Method Selection Tool	2	Jun 2017
TEF3268	Cyclic Top Faults:scope, Check, Prevent and Signoff Form	2	Jun 2017
TEF3272	Initial ESR Calculation Form	2	Jun 2021
TEF3273	Initial Emergency Speed Restriction Installation Form	2	Jun 2021
TEF3274	UTU Investigation Request	1	Mar 2020
TEF3275	Recovery Request Form	1	Mar2020
TEF3276	Structural Expansion Joint Inspection Form	2	Mar 2020
TEF3277	Structural Expansion Joint Installation Form	2	Mar 2020

Number	Title	Issue	Issue Date
TEF3278	Modular S&C Risk Assessment Tool	1	Sep 2019
TEF3279	Longitudinal Bearer Management Plan	1	Mar 2020
TEF3280	Press Crossing Adjustment Form	1	Dec 2020
TEF3281	Press Switch Adjustment Form	1	Dec 2020
TEF3282	Expansion Switch Adjustment Form	1	Dec 2020
TEF3283	Application to Go Live: Plain Line CWR RBM Regime	1	Mar 2021
TEF3284	Declaration of CRT Management Intent	2	Jun 2021
TEF3285	CRT Competency Matrix	2	Jun 2021
TEF3286	SFT Assessment	2	Jun 2021
TEF3287	CRT Assessment Form 1	3	Dec 2021
TEF3288	CRT Assessment Form 2	3	Dec 2021
TEF3289	CRT Assessment Form 3A	3	Dec 2021
TEF3290	CRT Assessment Form 3B	3	Dec 2021
TEF3291	CRT Assessment Form 4	3	Dec 2021
TEF3292	Short Term CRT Management Suspension Authorisation	1	Dec 2020
TEF3293	Long Term CRT Management Suspension Authorisation	1	Dec 2020
TEF3294	Stillage Rail Temperature Log Sheet	1	Dec 2020
TEF3295	Site Rail Temperature Log Sheet	1	Dec 2020
TEF3297	Balfour Beatty RT60 Elevated Housing Inspections	1	Dec 2020
TEF3298	Excavation and Ballast As Built	2	Dec 2021
TEF3299	Track Materials Calculator	1	Mar 2021
TEF3301	Welders Work Return - Tri-Metal Weld Repair	1	Mar 2022

NR/L3/TRK/0027 **Excavation and Ballast As Built** Issue 3; Mar 21 **Compliance** 06/06/21 **Replaces** NR/L3/INI/TK0027 Iss 2; Jun 08

This document sets out the requirements and process for measuring and recording hidden works including the excavation and reinstatement of track bed layers and the installation of geosynthetics compliance to Network Rail standards, Site Particular Specifications and the Contract Technical Specification (or equivalent). This document controls the risk of inadequately or incorrectly recording hidden works.

NR/L3/TRK/0030 **Reinstatement of Absolute Track Geometry (ATG) West Coast Main Line (WCML) Routes** Issue 2; Jun 17 **Compliance** 02/09/17 **Replaces** NR/L3/TRK/0030 Iss 1; Jun 08

This procedure defines how Infrastructure Projects (IP) and other approved suppliers:
- Manage the reinstatement of the ATG track alignment for plain line and Switch & Crossing (S&C)
- Will manage changes to the ATG Design
- Design track adjacent to ATG alignments

NR/L3/TRK/055 **Work Instructions for Ultrasonic Rail Testing** Issue 4; Dec 20 **Compliance** 05/12/20 **Replaces** NR/L3/TRK/055 Iss 3; Mar 20

This document defines the ultrasonic inspection procedures to be used to inspect track as specified in NR/L2/TRK/001 Inspection and Maintenance of Permanent Way to detect cracks in the rail and prevent rail breaks

NR/L3/TRK/055/	Title	Issue	Issue Date
U1	Ultrasonic Inspection of Fishplated Joints and Holes in Plane Line Using Hand Held Transducers.	1	Sep 2016
U5	Ultrasonic Assessment of Rail Head Defects to Determine Horizontal Length and Vertical Depth of Reported Discontinuity.	1	Sep 2016
U6	Ultrasonic Inspection for Lack of Fusion of Aluminothermic Welds.	1	Sep 2016
U7	Rail Measurement	1	Sep 2016
U8	Conformation and Examination of Vertical Longitudinal Defects.	1	Sep 2016
U10	Ultrasonic Inspection of Adjustment Switches	1	Sep 2016
U15	Ultrasonic Testing of Rail Using a Roller Search Unit Rail Testing System Including Identification & Sizing of 37° Suspects Reported by the UTU	3	Dec 2020
U16	Ultrasonic inspection of Fishplated Rail Joints and Bolt Holes Using the Sperry Roller Search Unit Rail Testing System.	1	Sep 2016
U17	Ultrasonic Inspection of Rail Foot for Transverse Cracks Using Sperry Roller Search Unit Rail Testing System.	1	Sep 2016
U19	Ultrasonic Inspection of Switches and Crossings Including Bolt Holes Not at the Rail End.	1	Sep 2016
U20	Ultrasonic Testing Procedure for Bolted IsolierstoB IVB 30° Scarf Joints	1	Sep 2016

NR/L3/TRK/063 **Recycling and Reuse of Switches & Crossings** Issue 2; Dec 20 **Compliance** 05/12/20 **Replaces** RT/CE/S/063 Iss 1; Oct 96

This document specifies the criteria for the reuse of switches and crossings (S&C) to:
a) control the specification of the re-production of used switch and crossing (S&C) units;
b) ascertain their suitability for reuse;
c) define permitted remedial work which economically maximises their viability; and
d) identify restrictions of reuse in certain circumstances.

NR/L3/TRK/063/	Title	Issue	Issue Date
01	Scoping and Assessment of S&C Units for Recycling	1	Dec 2020
02	Removal, Handling and Storage of S&C Units for Recycling	1	Dec 2020
03	Rectification and Inspection of Recycled S&C Units	1	Dec 2020

NR/L3/TRK/1010 **Management of Responses to Extreme Weather Conditions at Structures, Earthworks and Other Key Locations** Issue 2; Aug 08 | **Compliance** 26/08/08 | **Replaces** NR/L3/MTC/TK0167 Iss 1; Oct 07

This process outlines the roles and responsibilities for the maintenance organisation to manage the necessary actions in order to protect the line as a result of extreme weather conditions including water action (including flooding, storm, wave action, scour) at structures, earthworks and other key locations.
(Contains NR/BS/LI/292)

NR/L3/TRK/1011 **Management of Permanent Way Inspections** Issue 3; Aug 08 | **Compliance** 26/08/08 | **Replaces** See below

Replaces: NR/PRC/MTC/TK0070 Iss 1, NR/PRC/MTC/TRK/0075 Iss 2, NR/PRC/MTC/TK0135 Iss 1
This Procedure defines the standard process, roles and responsibilities for Permanent Way inspections on the network in accordance with Inspection and Maintenance of Permanent Way NR/L2/TRK/001 and Track Inspection Handbook NR/WI/TRK/001 and lineside standards as detailed in the references.

NR/L3/TRK/1012 **Management of Manual Ultrasonic Weld Testing** Issue 2; Aug 08 | **Compliance** 26/08/08 | **Replaces** NR/PRC/MTC/TK0084 Iss 1; Feb 06

This Procedure defines the standard process, roles and responsibilities for manual ultrasonic rail testing on the network in accordance with:
- NR/L2/TRK/001 Inspection and Maintenance of Permanent Way
- NR/L2/TRK/055 Rail Testing: Ultrasonic Procedures
- NR/SP/TRK/1110 Qualification and Certification of NDT personnel written practice – Ultrasonic Testing

The procedure covers the initial creation of the testing programme through to removal or further management of the defect.
The procedure includes the monitoring and review of the programme.

NR/L3/TRK/1013 **Maintenance of Track Assets** Issue 2; Aug 08 | **Compliance** 26/08/08 | **Replaces** NR/PRC/MTC/TK0136 Iss 1 NR/PRC/MTC/TK0127 Iss 2

The purpose of this document is to define the roles and responsibilities in the planning and undertaking of routine maintenance activities of track and lineside assets to fit in with the national planning process and timescales.

NR/L3/TRK/1014 **Management of Broken Rails** Issue 3; Aug 08 | **Compliance** 26/08/08 | **Replaces** NR/L3/MTC/TK0068 Iss 2; Oct 07

This document defines the process to be adopted for the management of broken rails, including the recording of details and trend monitoring.

NR/L3/TRK/1015 **Management of Basic Visual Inspection** Issue 7; Mar 22 | **Compliance** 04/06/22 | **Replaces** NR/L3/TRK/1015 Iss 6; Dec 21

This modularised standard describes the management of Basic Visual Inspection by patrolling or other recognised alternative methods of providing tier 1 Safety Inspections

NR/L3/TRK/1015/	Description	Issue	Issue Date
01	Track Patrolling	1	Sep 2015
02	Plain Line Pattern Recognition Introduction and Support	4	Dec 2021
03	Inspection for RBM Regimes	1	Mar 2022

NR/L3/TRK/1016 **Managing the Raising / Removing of Track Speed Restrictions and Inspecting the Line After Track Engineering Work** Issue 1; Dec 10 | **Compliance** 05/03/11 | **Replaces** New at Issue 78

This document details the requirements for the management of competence, including training and certification, for persons who will be inspecting the track for the purpose of raising / removing speed restrictions and inspecting the line after track renewal, maintenance and refurbishment work.

NR/L3/TRK/1017 **Inspection for Raising/removing Speed Restrictions and Inspecting the Line After Track Renewal Work** Issue 1; Dec 10 | **Compliance** 05/03/11 | **Replaces** NR/L3/INI/CP0023 Iss 2; Jun 08

Track work affects each of the primary components of the Railway System: track, signalling, telecommunication, electrification systems, plant, and structures. This Network Rail standard specifies the process for inspecting track renewals work undertaken on Network Rail infrastructure. It specifies a structured, comprehensive and consistent approach that achieves compliance with the requirements of NR/L2/TRK/001/A01 Inspection and maintenance of permanent way - Inspection.

NR/L3/TRK/1018	**Inspection for Raising / Removing Speed Restrictions And Inspecting the Line After Track Maintenance and Refurbishment Work** Issue 1; Dec 10	**Compliance** 05/03/11	**Replaces** New at Issue 78

This document details the requirements for persons who will be inspecting the permanent way for the purpose of raising / removing speed restrictions and inspecting the line after track maintenance and refurbishment work and gives the process to be applied when these activities are undertaken.

NR/L3/TRK/1101	**The Management of Rail Defect Removal Timescales** Issue 3; Sep 10	**Compliance** 04/09/10	**Replaces** NR/L3/TRK/1101 Iss 2; Aug 08

This Procedure defines the process, roles and responsibilities in the management of occasional short term dispensations for the exceedance of maximum allowable timescales for the removal of discrete rail defects.

NR/L3/TRK/1102	**Management of Rail Defects** Issue 2; Aug 08	**Compliance** 26/08/08	**Replaces** NR/PRC/MTC/TK0069 Iss 1; Oct 06

This document details the procedure to be adopted for the management of rail defects.

NR/L3/TRK/2049	**Track Design Handbook** Issue 14; Jun 17	**Compliance** 02/09/17	**Replaces** NR/L2/TRK/0049 Iss 13; Mar 16

This specification gives the requirements for the design of track alignments and layouts. Information provided on track geometry, the mathematics of track layouts, switch and crossing (S&C) assemblies, sleepers and rail fastenings is intended to ensure that designs take proper account of the speed of traffic.

NR/L3/TRK/2049/	Title	Issue	Issue Date
mod01	Guidance and Principles	1	Mar 2016
mod02	Mathematics	1	Mar 2016
mod03	Assembly	1	Mar 2016
mod04	Components	1	Mar 2016
mod05	System Interfaces	2	Jun 2017
mod06	Miscellaneous	1	Mar 2016
mod07	Gauging	2	Jun 2017

NR/L3/TRK/2070	**Design Specification S&C System:- NR60/HPSS and NR60/ Hydrive Configurations** Issue 1; Aug 07	**Compliance** 31/08/07	**Replaces**

To define the design specifications for NR60 / HPSS and NR60 / Hydrive configurations This document defines the interface dimensions for S&C components between the Track, Signalling and Electrification and Plant functions for these configurations.

NR/L3/TRK/02201	**Management of Risk Arising from Deferred Renewals (Track)** Issue 1; Mar 17	**Compliance** 03/06/17	**Replaces** New at Issue 103

This standard sets out how to manage the deferred renewal process and the actions required during each stage

NR/L3/TRK/3001	**Standard Maintenance Procedure: Ordering of Switch and Crossing Components** Issue 3; Aug 08	**Compliance** 26/08/08	**Replaces** NR/L3/MTC/TK0122 Iss 2; Dec 07

The purpose of this document is to advise all parties within the maintenance function of their roles and responsibilities in the planning and ordering process for maintenance switch & crossing Units.

NR/L3/TRK/3011	**Management of Rail Stress and Critical Rail Temperatures** Issue 3; Aug 08	**Compliance** 26/08/08	**Replaces** NR/L3/MTC/TK0077 Iss 2; Oct 07

This Procedure defines the standard process, rolses and responsibilities related to the management of stress in rails.

NR/L3/TRK/3012	**Management of Hot Weather Precautions (Track)** Issue 2; Aug 08	**Compliance** 26/08/08	**Replaces** NR/L3/MTC/TK0074 Iss 1; Dec 07

This Standard Maintenance Procedure details the roles and responsibilities within the Maintenance organisation in the management of weather precautions relating to hot weather situations.

NR/L3/TRK/3013	**Management of Cold Weather Precautions (Track)** Issue 1; Oct 07	**Compliance** 26/08/08	**Replaces** NR/L3/MTC/TK0174 Iss 1; Oct 07

This Standard Maintenance Procedure details the roles and responsibilities within the maintenance organisation in the management of weather precautions relating to cold weather situations.

NR/L3/TRK/3122	**Management of Coal Mining Subsidence Affecting Track Infrastructure** Issue 1; Dec 09	**Compliance** 06/03/10	**Replaces** New at Issue 74

This document gives direction and information to technicians, engineers and managers who are engaged in the management of coal mining subsidence affecting track infrastructure. Information includes how to interpret mining reports and other information provided by the Network Rail Principal Mining Engineer (PME).

NR/L3/TRK/3201	**Management of Tight Clearances and Track Position** Issue 2; Aug 08	**Compliance** 26/08/08	**Replaces** NR/L3/MTC/TK0071 Iss 1; Mar 08

This process outlines the requirements of the maintenance organisation to manage the monitoring and survey of track position relative to fixed structures, manage and undertake the work associated with the process in accordance with:

- NR/L2/TRK/001 Inspection and Maintenance of Permanent Way
- NR/L2/TRK/3201 Management of Tight Clearances and Track Position

NR/L3/TRK/3202	**Management of Track Geometry Recording and Remedial Actions** Issue 3; Aug 08	**Compliance** 26/08/08	**Replaces** NR/PRC/MTC/TK0072 Issue 2; Apr 06

This procedure details how the Maintenance Organisation is to manage its responsibility for measurement of track geometry and for identifying and undertaking work arising.

NR/L3/TRK/3220	**Planning of On-track Machines** Issue 3; Aug 08	**Compliance** 26/08/08	**Replaces** NR/PRC/MTC/TK0002 Iss 1; Jun 06

The purpose of this document is to standardise the process, roles and responsibilities for the planning of On Track Machine (OTM) operations on the Network Rail network.

NR/L3/TRK/3230	**Control of On-track Machines** Issue 2; Aug 08	**Compliance** 26/08/08	**Replaces** NR/PRC/MTC/TK0003 Iss 1; Jun 06

This procedure defines the standard process, roles and responsibilities for the control on site of on track machine operations in maintenance worksites.
(Contains NR/BS/LI/305)

NR/L3/TRK/3240	**Preparation for use of On-track Machines** Issue 2; Aug 08	**Compliance** 26/08/08	**Replaces** NR/PRC/MTC/TK0004 Iss 1; Jun 06

To ensure that tamping, stone blowing, dynamic track stabilisers and ballast regulating works deliver the required results in terms of agreed outputs, productivity, track geometry and longevity by mandating activities in the preparation of track for treatment with on-track machines (OTM). This maintenance procedure shall be used when planning, preparing & delivering OTM works and links to standard maintenance procedure NR/PRC/MTC/TK0002: “Planning of ‘On-track’ Machines”.

NR/L3/TRK/3241	**Marking of Track for Tamping Machines** Issue 3; Dec 19	**Compliance** 07/03/2020	**Replaces** NR/L3/TRK/3241 Iss 2; Mar 19

This document is one of two related control documents, the other being NR/L3/TRK/3242, that specify correct and accurate track marking for On Track Machines (OTM). Consistent track marking:
a) helps to avoid confusion between the operators and Network Rail (NR) Technical Staff about the work required;
b) helps to reduce or remove damage to infrastructure and prevents delays;
c) enables tamping closer to obstructions where previously whole sleepers may otherwise have been missed by the On Track Machine which leads to better quality, and more accurately tamped track; and
d) provides intangible benefits of:

- increased engagement of the Track Geometry Supervisor (TGS) on site;
- improved relationships and communication between NR and operators (external contractors) on site; and
- greater “buy-in” to the pre-site preparation and design process.

NR/L3/TRK/3242	**Marking of Track for Stoneblowing Machines** Issue 1; Dec 11	**Compliance** 01/04/12	**Replaces** New at Issue 82

This standard is part of a pair of related standards, the other being NR/L3/TRK/3241, Marking of track for tamping machines, that specify correct and accurate track marking. Consistent track marking will:
a) avoid confusion between the operators and Network Rail Technical Staff about the work required;
b) reduce or remove damage to infrastructure, preventing delays caused due to overrun as the damage is repaired. Sometimes such damage necessitates planning of further shifts which further reduce access for other works;
c) provide intangible benefits of:

- increased engagement of the TQS on site;
- improved relationships and communication between NR and operators (external contractors) on site;
- greater “buy-in” to the pre-site preparation and design process.

NR/L3/TRK/3250	**Post-work Activities Following Works Using On-track Maintenance Machines** Issue 2; Aug 08	**Compliance** 26/08/08	**Replaces** NR/PRC/MTC/TK0005 Iss 1; Jun 06

To ensure that on track machine treatment works deliver the required results in terms of agreed outputs, productivity, track geometry and longevity by mandating activities after treatment has been completed.

NR/L3/TRK/3260	**Maintenance of an EPS (Enhanced Permissible Speed) Railway** Issue 1; Mar 09	**Compliance** 07/03/09	**Replaces** New at Issue 71

This document defines the roles, responsibilities and proces within the track maintenance delivery units for the maintenance of Enhanced Permissible (EPS) routes.

NR/L3/TRK/3261	**ATG (Absolute Track Geometry) Maintenance Process Using 'ATG Geometry Methods'** Issue 1; Mar 09	**Compliance** 07/03/09	**Replaces** New at Issue 71

This document defines the roles, responsibilities and process within the track maintenance delivery unit to maintain track alignment using 'ATG Geometry methods.

NR/L3/TRK/3262	**ATG (Absolute Track Geometry) Maintenance Process Using 'ATG Lite Method'** Issue 1; Mar 09	**Compliance** 07/03/09	**Replaces** New at Issue 71

This document defines the roles, responsibilities and process within the track maintenance delivery units to maintain track alignment using the 'ATG Lite method'.

NR/L3/TRK/3310	**Re-gauging of Switch Units – Field Face to Field Face Method** Issue 1; Jun 12	**Compliance** 31/06/12	**Replaces** New at Issue 84

This document defines the roles, responsibilities and process within the track maintenance delivery units to maintain track alignment using the 'ATG Lite method'.

NR/L3/TRK/3402	**Welding Process – Repair of Wheelburns and Squats** Issue 3; Dec 08	**Compliance** 01/03/09	**Replaces** NR/WI/TRK/03402 Iss 2; Aug 06

The equipment and processes described in this Work Instruction are to be used by Network Rail and Contractor's welding staff when carrying out welding repairs to wheelburn and squat type defects in track.

NR/L3/TRK/3405	**Recording on Site Derailment Information** Issue 2; Aug 08	**Compliance** 26/08/08	**Replaces** NR/L3/TRK/3405 Iss 1; Feb 07

The purpose of this standard is to confirm the standardised track information requirements to be collected after a derailment occurs.

NR/L3/TRK/3406	**Design, Installation and Maintenance of Modular Bearer Joints** Issue 5; Mar 21	**Compliance** 05/06/21	**Replaces** NR/L3/TRK/3406 Iss 4; Sep 19

This standard gives requirements for the design, installation and maintenance of modular Switch and Crossing systems.
The standard is split into modules for each aspect. The purpose of the document is to control the risk of the following failure modes occurring in modular S&C layouts:
a) wide gauge;
b) damaged and ineffective thread on dowels at the bearer joint;
c) bearers cracking;
d) screws breaking (in shear at end of thread or head breaking off);
e) loose screws; and
f) twist faults around joints.

NR/L3/TRK/3406/	Title (*and any applicable Letters of Instruction*)	Issue	Issue Date
01	Design and Positioning of Bearer Joints in Modular Switch and Crossing Layouts	2	Mar 2021
02	Installation of Modular S&C	1 ¤	Sep 2018
03	Inspection and Maintenance of Modular Switch and Crossing Bearer Joints	2	Mar 2021

NR/L3/TRK/3407	**Management of Rail Welding** Issue 3; Aug 08	**Compliance** 26/08/08	**Replaces** NR/L3/MTC/TK0081 Iss 2; Oct 07

This procedure applies to all aluminothermic and arc welding activities. It sets out the arrangements through which Network Rail complies with the minimum requirements for the management of rail welding on the permanent way, and of any consequent actions.

NR/L3/TRK/3415	**Refurbishment of Switches and Crossings** Issue 2; Mar 21	**Compliance** 06/03/21	**Replaces** NR/L3/TRK/3415 Iss 1; Dec 19

This document provides a process for the refurbishment of S&C assets. The aim of this process is to:
a) increase levels of workforce safety during construction on S&C refurbishment sites;
b) improve scoping and planning of S&C refurbishment works;
c) improve quality of S&C refurbishment works;
d) improve reliability of S&C assets following refurbishment works; and
e) deliver life extension of S&C assets and lower whole life cost in accordance with the Track Asset Policy.

NR/L3/TRK/3416	**Management of Rails Ultrasonically Tested by the Ultrasonic Test Unit (UTU)** Issue 1; Mar 20	**Compliance** 06/06/2020	**Replaces** NR/L2/TRK/1120 Iss 2; Aug 08

This document provides a process for the management of UTU ultrasonic suspects and UTU ultrasonically untested track sections.
This supports:
a) the requirements outlined in NR/L2/TRK/001/06; and
b) the Non-Actionable Repeat Marked Object (NARMO) process.

NR/L3/TRK/3417	**Specification, Installation and Maintenance of Managed Track Position** Issue 1; Dec 19	**Compliance** 07/03/2020	**Replaces** New at Issue 114

There are safety and performance benefits to retaining track to an approved design alignment.
The purpose of this document is to provide:
a) a more robust means of control for controlling track position and clearances; and
b) a process for specifying, installing and maintaining track to a Managed Track Position (MTP).

NR/L3/TRK/3418	**Repair of Concrete Bearer and Sleeper Fastening Systems and Bearer Joints** Issue 1; Dec 20	**Compliance** 06/03/21	**Replaces** New at Issue 118

The purpose of this standard is to:
a) mitigate the risk of derailment through wide gauge,
b) control the methods used to repair concrete sleeper and bearer housings;
c) control methods of replacing dowels; and d) document stakeholders' responsibilities in the integrity or the repair..

NR/L3/TRK/3510	**Rail Friction Management** Issue 3; Sep 21	**Compliance** 30/11/21	**Replaces** NR/L3/TRK/3510 Iss 2; Sep 11

This standard gives the minimum requirements for the installation, inspection, filling and maintenance of rail-mounted rail head friction management systems designed and approved for Network Rail's permanent way.

NR/L3/TRK/3510/	Title (*and any applicable Letters of Instruction*)	Issue	Issue Date
A01	Lubrication of Plain Line Running Rails, Check Rails and S&C	2	Sep 2021
B01	Use of Top of Rail Friction Modifiers	1	Mar 2011
C01	Use of Traction Gel Applicators	1	Sep 2011

NR/L3/TRK/3530	**Track Lubricants** Issue 1; Jun 12	**Compliance** 01/09/12	**Replaces** New at Issue 84

Correct selection and use of track lubricants contributes to delivery of asset safety, reliability and life cycle cost reduction, by managing the friction at key track component interfaces and at the wheel-rail interface.
This product specification defines the minimum requirements for track lubricants used by Network Rail to lubricate:
- Running rails and check rails in plain line curves / switches and crossings;
- Switch and crossing slidechairs;
- Fishplated joints.

NR/L3/TRK/3530/	Title	Issue	Issue Date
A01	Curve Lubricants	1	Jun 2012
B01	S&C Slidechair Lubricants	1	Jun 2012
C01	Fishplated Joint Lubricants	1	Jun 2012

NR/L3/TRK/3701	**Preparation of Site Specific Method Statement for Rail Delivery** Issue 2; Aug 08	**Compliance** 26/08/08	**Replaces** NR/PRC/MTC/TK0060 Iss 1; Oct 05

To provide a site specific method statement to complement national delivery service's generic method statements for the delivery of rail to maintenance worksites.

NR/L3/TRK/4004	**Switch & Crossing Assemblies** Issue 3; Dec 19	**Compliance** 07/03/2020	**Replaces** NR/L3/TRK/4004 Iss 2; Mar 11

This standard is intended to control the risk of incorrect components and processes being specified during the manufacture and assembly of switches and crossings (S&C).
It refers to component specifications and controls found in other Network Rail standards. It specifies the components and processes that are subject to individual and collective product acceptance. It specifies the controls in place intended to minimise the risk from non-standard designs of S&C.

NR/L3/TRK/4041	**Maintaining Track Assets at Level Crossings** Issue 1; Jun 12	**Compliance** 01/09/12	**Replaces** New at Issue 84

This standard specifies the requirements for managing the installation, inspection, maintenance of track assets at operational level crossing infrastructure. It demonstrates that level crossing systems are compliant with legislation, reliable and safe.

NR/L3/TRK/6001	**Management of a Problem Statement** Issue 2; Aug 08	**Compliance** 26/08/08	**Replaces** NR/SP/TRK/6001 Iss 1; Feb 07

The purpose of the document is to define:
- the process for the identification and development of a problem statement
- the information which must be presented to support a problem statement.

NR/L3/TRK/6002	**The Specification and Design of Plain Line Track Renewals** Issue 2; Aug 08	**Compliance** 26/08/08	**Replaces** NR/L3/TRK/6002 Iss 1; Oct 07

The purpose of the document is to define the procedure to be used for the specification and design of plain line track renewals that are required to address asset condition.

NR/L3/TRK/7002	**Reporting of Permanent Way Failures and Incidents** Issue 2; Aug 08	**Compliance** 26/08/08	**Replaces** NR/L3/TRK/7002 Iss 1; Mar 08

This document describes a numerical system for Hazard Ranking of Permanent Way failures and incidents. The system is based on the principles of the Network Rail Standard RT/E/S/10047: Management of Safety Related Reports for Signalling and Operational Telecom (S&T), which ranks failures and incidents on a scale of 0 to 228 based on impact to operational safety.

NR/L3/TRK/7004	**Track Standard Drawings (RE/PW Series)** Issue 3; Mar 11	**Compliance** 04/06/11	**Replaces** NR/L2/TRK/7004 Iss 2; Aug 08

The purpose of this standard is to specify a consistent presentational style for the production of Network Rail Standard Track Component and General Arrangement Drawings.

NR/L3/TRK/7005	**Track Quality Requirements at Wheel Impact Load Detection System Locations** Issue 1; Dec 17	**Compliance** 02/06/18	**Replaces** New at Issue 106

Wheel Impact Load Detection systems, such as Gotcha, identify vehicles with significant wheel defects and produce real-time information. This allows the risk of track damage or derailment to be reduced through identifying trains with wheel defects which are then run at slower speed or, in extreme cases, stopped.
Failure to maintain the track in accordance with this document will result in equipment being switched off, and track damaging wheelsets going undetected, which could result in broken rails and derailment.

NR/L3/TRK/7006	**Creation and Application of ESR Design** Issue 2; Jun 21	**Compliance** 04/09/21	**Replaces** NR/L3/TRK/7006 Iss 1; Mar 19

This document provides a process for completing an initial emergency speed restriction to support the control of the hazards associated with a train exceeding an emergency speed restriction, allowing the safe passage of rail traffic.

NR/L3/TRK/7012	**Critical Rail Temperature Management for Projects** Issue 1; Dec 20	**Compliance** 06/03/21	**Replaces** NR/PRC/MPI/TK0022 Iss 1

The purpose of this standard is to provide procedures for the identification, recording and management of sites requiring Critical Rail Temperature (CRT) determined by NR/L2/TRK/001/mod14, to manage track in hot weather and mitigate the risk of track buckle given in the bow tie NR/GN/TRK/8001/0403 whilst undertaking activities covered in scope of this standard

NR/L3/TRK/7013	**Planning and Installation of Temporary Rail Joints** Issue 1; Sep 21	**Compliance** 03/09/23	**Replaces** New at Issue 121

This standard is intended to control the risk of the following failure modes occurring at temporary rail joints following installation:
a) poor running band alignment including sidewear;
b) clamps / plates not installed correctly;
c) clamping system coming loose whilst open to traffic;
d) poor vertical support to joint (e.g. sleeper/ballast conditions);
e) installation of poor-quality components (e.g. plates/clamps);
f) installation plan changes (e.g mitigation plan invoked, not welding as planned);
g) rail end gap (too wide);
h) track buckle (rail end gap too tight);
i) track circuit failures.

NR/L3/TRK/9022	**Weld Procedure Specifications** Issue 1; Mar 22	**Compliance** 04/06/22	**Replaces** New at Issue 123

To provide an official catalogue of welding procedure specifications for the arc welding of steels and track component types contained within Network Rail infrastructure.

Work Instructions

NR/WI/TRK/03401	**Welding Process – Use of Welding Tents** Issue 2; Feb 07	**Compliance**	**Replaces** NR/WI/TRK/03401 Iss 1; Jan 06

The equipment and processes described in this Business Process Document are to be used by Network Rail and Contractors welding staff for the protection from the weather of staff, materials and worksites whilst installing aluminothermic welds.

NR/WI/TRK/03404	**Welding Process – Use of Welding Umbrella and Support Clamp** Issue 1; Feb 07	**Compliance**	**Replaces**

The equipment and processes described in this work instruction are to be used by Network Rail and Contractor's welding staff for the protection from the weather of staff, materials and worksites whilst installing aluminothermic welds and carrying out maintenance arc welding.

Guidance Notes

NR/GN/OTK/5000	**Index of Off-Track and Drainage Drawings** Issue 3; Dec 21	**Compliance** N/A	**Replaces** NR/GN/OTK/5000 Iss 2; Mar 21

This guidance note provides the index and version control for:
a) drainage and off-track standard drawings; and
b) drainage and off-track bowtie risk management diagrams

NR/GN/OTK/6201	**How to Manage Invasive, Non-Native and Harmful Plants** Issue 1; Mar 19	**Compliance** N/A	**Replaces** New at Issue 111

This work instruction provides the methods and techniques for identifying, recording and managing infestations of invasive, non- native species (INNS) and harmful plants for those who undertake vegetation management activities on or near Network Rail Infrastructure.

NR/GN/OTK/6202	**Protecting Railway Assets During Vegetation Work** Issue 1; Mar 19	**Compliance** N/A	**Replaces** New at Issue 111

Wood waste generated from vegetation management can become hazardous when left on the lineside and when large amounts of cut material is collected or processed in one location.

NR/GN/TRK/058	**S&C Track Design Good Practice Guide** Issue 1; Dec 16	**Compliance** N/A	**Replaces** New at Issue 102

This guidance note enables better specification and design of S&C, leading to a significant improvement in layout performance, reliability, longevity and safety.
It also forms part of Infrastructure Projects - Track's 'Safe by Design' initiative to
a) Drive safety by design across the National S&C Programme
b) Lead the optimal specification for S&C renewals and refurbishment
c) Evolve design philosophy nationwide and
d) Drive S&C system reliability.

NR/GN/TRK/059	**Delivering High Quality S&C Renewals** Issue 1; Jun 17	**Compliance** N/A	**Replaces** New at Issue 104

This document forms part of a comprehensive set of resources available to the Supply Chain Community involved in the Specification, Design, Manufacture and Installation of Switch and Crossings on Network Rail Controlled Infrastructure. Its aim is to provide instruction, reference, guidance and training in the fulfilment of providing a consistent and quality service in the delivery of Switch and Crossings to our customers.

NR/GN/TRK/060	**A Guide to Track Geometry Trend Analysis as a Precursor to Speed Restrictions** Issue 1; Jun 17	**Compliance** N/A	**Replaces** New at Issue 104

This guidance document enables the identification of potential speed restriction and track safety related risks, through data analysis so that appropriate remedial or preventative actions can be applied (short/medium/long-term) to manage poor track conditions and reduce the likelihood of an unsafe condition or a speed restriction being imposed.

Associated Document

NR/GN/TRK/060/PG	**A Guide to Track Geometry Trend Analysis as a Precursor to Speed Restrictions** Issue 1; Jun 17	**Compliance** N/A	**Replaces** New at Issue 104

Best practice guide to track geometry trend analysis

NR/GN/TRK/065	**NR 60 Mark 2 Standardised S&C – Assembly and Maintenance** Issue 2; Sep 19	**Compliance** N/A	**Replaces** NR/GN/TRK/065 Iss 1; Sep 18

The purpose of this document is to provide guidance on the NR60 Mark 2 Standardised S&C System to:
a) improve confidence in the system;
b) increase reliability and productivity; and
c) mitigate risks caused by installation errors introduced during assembly.

NR/GN/TRK/7001	**Index of Track Work Information Sheets (TWI)** Issue 17; Sep 21	**Compliance** N/A	**Replaces** NR/GN/TRK/7001 Iss 16; Sep 19

This Guidance Note provides the index and version control to the Track Work Information Sheets (TWIs) to be used in connection with Standard Maintenance Procedures, Method Statements, Work Instructions and Track Training Framework training documentation.

NR/GN/TRK/7001	Title	Issue	Issue Date
TWI 2B001	How to Open out and Box in	1	Mar 2005
TWI 2B002	How to Recognise Wet Bed Formation	1	Mar 2005
TWI 2B003	How to Prepare Trial Holes	1	Mar 2005
TWI 2B004	How to Regulate Ballast by Hand	2	Feb 2013
TWI 2B005	How to Prevent Wet Bed Formation	1	Mar 2005
TWI 2B006	How to Treat Wet Beds Manually	3	Jul 2013
TWI 2B007	How to Dig Out Contaminated Ballast	1	Mar 2005
TWI 2B008	How to Recognise Ballast Type	1	Mar 2005

NR/GN/TRK/7001	Title	Issue	Issue Date
TWI 2B016	How to Maintain Ash Ballasted Track	1	Mar 2005
TWI 2C001	How to Change Fishplates	1	Mar 2005
TWI 2C002	How to Replace a Baseplate Plain Line	1	Mar 2005
TWI 2C003	How to Remove and Fit Screw Type Fastenings	1	Mar 2005
TWI 2C004	How to Remove and Fit Spike Fastenings	1	Mar 2005
TWI 2C007	How to Remove Seized Fastenings	1	Mar 2005
TWI 2C008	How to Install Maintenance Fastenings	1	Mar 2005
TWI 2C009	How to Fit an Insulator	1	Mar 2005
TWI 2C010	How to Install and Maintain Bullhead Keys	1	Mar 2005
TWI 2C012	How to Replace Pads	1	Mar 2005
TWI 2C013	How to Install a Standard AS Chairscrew	1	Mar 2005
TWI 2C014	How to Referrule	1	Mar 2005
TWI 2C015	How to Install Long Chairscrews	1	Mar 2005
TWI 2C016	How to Install a Maintenance Screw	1	Mar 2005
TWI 2C018	How to Recognise Inclined and Vertical Rail	1	Mar 2005
TWI 2C020	How to Replace a Fishbolt	1	Mar 2005
TWI 2C021	How to Recognise Fishbolt Types	1	Mar 2005
TWI 2C023	How to Recognise Fishplate Types	1	Mar 2005
TWI 2C024	How to Recognise Joint Types	1	Mar 2005
TWI 2C025	How to Change a Check Block Bolt	1	Mar 2005
TWI 2C027–2G032	How to Maintain Insulated Block Joints	2	Jun 2013
TWI 2C030	How to Fit a Multi-Groove Locking (MGL) Pin	1	Mar 2005
TWI 2C031	How to Recognise a Broken Chair or Baseplate	1	Mar 2005
TWI 2C032	How to Maintain Direct Fastenings	1	Mar 2005
TWI 2C033	How to Install Maintenance Coils or Inserts	1	Mar 2005
TWI 2C036	How to Prevent Rail Creep	1	Mar 2005
TWI 2C037	How to Carry out a Gap Survey and Rail Adjusting on Jointed Track	5	Apr 2015
TWI 2C038	How to Recognise Pad Failure	1	Mar 2005
TWI 2C040	How to Fit and Remove Rail Anchors	2	Mar 2012
TWI 2C043	How to Recognise Fastenings	1	Mar 2005
TWI 2C044	How to Carry out Basic Maintenance of Track Fastenings	1	Mar 2005
TWI 2C045	How to Maintain Tight Joints	1	Mar 2005
TWI 2C046	How to Recognise, Specify and Order Rail Pads	1	Mar 2005
TWI 2G001	How to Use a Track Jack	1	Mar 2005
TWI 2G002	How to Understand Critical Rail Temperature (CRT)	1	Mar 2005
TWI 2G003	How to Recognise and Use Insulated Tools	1	Mar 2005
TWI 2G004	How to Measure Voids	1	Mar 2005
TWI 2G005	How to Use an Ironman	1	Mar 2005
TWI 2G006	How to Use a Trolley	1	Mar 2005
TWI 2G007	How to Detect and Avoid Cables	1	Mar 2005
TWI 2G008	How to Recognise and Avoid Traction Return Bonds	1	Mar 2005
TWI 2G009	How to Identify Types of Welds	1	Mar 2005
TWI 2G010	How to Use a Rail Saw	1	Mar 2005
TWI 2G011	How to Use a Rail Drill	1	Mar 2005
TWI 2G012	How to Replace a Pot	1	Mar 2005
TWI 2G013	How to Avoid Detection Failure	1	Mar 2005
TWI 2G014	How To Use a Cross Level Transfer Gauge	1	Mar 2005
TWI 2G015	How to Use a Sighting Board	1	Mar 2005
TWI 2G016	How to Install Emergency Bridging Pieces	1	Mar 2005
TWI 2G017	How to Recognise a Potential Buckle Site	1	Mar 2005
TWI 2G018	How to Install an Emergency Indicator	3	Apr 2015
TWI 2G019	How to Apply a Speed Restriction in an Emergency	1	Mar 2005
TWI 2G020	How to Install and Remove a Temporary AWS Magnet	3	Apr 2015
TWI 2G022	How to Erect Speed Restriction Boards	2	Nov 2013
TWI 2G028	How to Use a Vibrating Plate Compactor	1	Mar 2005
TWI 2G029	How to Cold Expand Fishbolt Holes in Rail	2	Aug 2017
TWI 2G030	How to Deal with Cracked or Broken Fishplates	1	Mar 2005
TWI 2G033	How to Install or Replace an end Post in Jointed Track	1	Mar 2005
TWI 2G035	How to Recognise Types of Insulated Joints	1	Mar 2005
TWI 2G036	How to Lift and Pack a Rail Joint	3	Sep 2014
TWI 2G037	How to Install Emergency Clamped Fishplates	1	Mar 2005
TWI 2G040	How to Repair Lipping at an IBJ	1	Mar 2005
TWI 2G041	How to Install a Temporary Joint	2	Sep 2021

NR/GN/TRK/7001	Title	Issue	Issue Date
TWI 2G042	How to Carry out Flame Cutting (Burning)	1	Mar 2005
TWI 2G043	How to Carry out Disc Cutting Rail	1	Mar 2005
TWI 2G044	How to Deal with a Defective Rail	2	May 2007
TWI 2G045	How to Recognise Rolling Contact Fatigue (RCF)	1	Mar 2005
TWI 2G046	How to Move Rail Manually	1	Mar 2005
TWI 2G047	How to Measure Rail Depth	1	Mar 2005
TWI 2G048	How to Recognise Rail Wear	1	Mar 2005
TWI 2G049	How to Carry out Rail End Preparation	1	Mar 2005
TWI 2G050	How to Measure and Define Rail Temperature	1	Mar 2005
TWI 2G052	How to Recognise Wheel Burns	1	Mar 2005
TWI 2G055	How to Recognise a Twist Rail	1	Mar 2005
TWI 2G056	How to Dig a Cutter Bar Trench	1	Mar 2005
TWI 2G057	How to Use Track Circuit Operating Clips	1	Mar 2005
TWI 2G061	How to Recognise Gauge Spread	1	Mar 2005
TWI 2G063	How to Install a Gauge Stop	1	Mar 2005
TWI 2G064	How to Regauge Plain Line	1	Mar 2005
TWI 2G065	How to Install and Maintain a Tie Bar	1	Mar 2005
TWI 2G066	How to Remove an AD or BJB Sleeper	1	Mar 2005
TWI 2G068	How to Secure Sleepers at the Lineside	1	Mar 2005
TWI 2G070	How to Determine and Carry out Torque Settings	1	Mar 2005
TWI 2G071	How to Maintain Buffer Stops	1	Mar 2005
TWI 2G072	How to Remove and Dispose of Scrap and Debris	1	Mar 2005
TWI 2G073	How to Inspect a Conductor Rail	1	Mar 2005
TWI 2G074	How to Maintain Slab Track	1	Mar 2005
TWI 2G075	How to Maintain a Sand Drag	1	Mar 2005
TWI 2G076	How to Manage Sidewear	1	Mar 2005
TWI 2G077	How to Lubricate a Continuous Check Rail	1	Mar 2005
TWI 2G078	How to Work with DC Electrification	1	Mar 2005
TWI 2G079	How to Work with AC Electrification	1	Mar 2005
TWI 2G082	How to Use Rail Skates	1	Mar 2005
TWI 2G084	How to Use Rail Scooters	1	Mar 2005
TWI 2G085	How to Record Track Defects and Other Problems	1	Mar 2005
TWI 2G086	Competency Requirements	1	Mar 2005
TWI 2G092	How to Use a Dynamic Track Gauge	1	Mar 2005
TWI 2G093	Erection / Dismantling of Fusion Welding Tent	2	Dec 2006
TWI 2G094	Erection / Dismantling of Sheerspeed Welding Tent	2	Dec 2006
TWI 2G095	Erection / Dismantling of Welding Umbrella and Support	2	Dec 2006
TWI 2L001	How to Clean a Ballast Shoulder	1	Mar 2005
TWI 2L002	How to Maintain a Cess	1	Mar 2005
TWI 2L003	How to Install a Fence	2	Nov 2014
TWI 2L004	How to Maintain a Fence	2	Dec 2014
TWI 2L005	How to Carry out Weedkilling	1	Mar 2005
TWI 2L007	How to Maintain Signs	1	Mar 2005
TWI 2L008	How to Inspect Class III Boundary Measures	1	Mar 2017
TWI 2P002	How to Drill Other Than Normal Grade Rail	1	Mar 2005
TWI 2P003	How to Lubricate Fishplates	5	Oct 2015
TWI 2P004	How to Turn Rail Upright	1	Mar 2005
TWI 2P005	How to Recognise Sleeper Types	1	Mar 2005
TWI 2P006	How to Tighten Plain Line Rail Fastenings	1	Mar 2005
TWI 2P007	How to Identify Rail Section and Steel	1	Mar 2005
TWI 2P008	How to Recognise Rail Defects by Visual Inspection	1	Mar 2005
TWI 2P009	How to Maintain a Rail Flange Lubricator	1	Mar 2005
TWI 2P010	How to Move Rail	1	Mar 2005
TWI 2P011	How to Install Rail (in CWR)	1	Mar 2005
TWI 2P012	How to Inspect, Adjust and Maintain Adjustment Switches	3	Feb 2014
TWI 2P013	How to Understand Stressing	1	Mar 2005
TWI 2P014	How to Use Sidearms And Rollers	1	Mar 2005
TWI 2P015	How to Carry out Stressing Plain Line	1	Mar 2005
TWI 2P016	How to Use a Rail Tensor	1	Mar 2005
TWI 2P017	How to Carry out Unclipping and Clipping up of Flat Bottom Rail	1	Mar 2005
TWI 2P018	How to Recognise Track Type	1	Mar 2005
TWI 2P020	How to Measure the Switch Toe Opening	1	Mar 2005

NR/GN/TRK/7001	Title	Issue	Issue Date
TWI 2P021	How to Recognise Longitudinal Timber Deterioration	1	Mar 2005
TWI 2P023	How to Recognise Seized Joints	1	Mar 2005
TWI 2P024	How to Repair Seized (Frozen) Joints	1	Mar 2005
TWI 2P025	How to Recognise Plain Line Joint Defects	1	Mar 2005
TWI 2P026	How to Carry out Joint Straightening	2	Jun 2017
TWI 2P027	How to Maintain Joints	1	Mar 2005
TWI 2P029	How to Change a Rail in Jointed Plain Line Track	1	Mar 2005
TWI 2P030	How to Carry out Resleepering	1	Mar 2005
TWI 2P031	How to Recognise Centre Bound Sleepers	1	Mar 2005
TWI 2P032	How to Recognise the Types of Concrete Sleeper	1	Mar 2005
TWI 2P033	How to Square Sleepers	1	Mar 2005
TWI 2P035	How to Maintain Steel Sleepered Track	1	Mar 2005
TWI 2P036	How to Change a Plain Wooden Sleeper by Hand	2	Mar 2012
TWI 2P037	How to Pull Through a Timber Sleeper	1	Mar 2005
TWI 2P038	How to Turn a Timber Sleeper	1	Mar 2005
TWI 2P040	How to Shim a Joint	2	Sep 2014
TWI 2P041	How to Adjust Sleeper Spacing	1	Mar 2005
TWI 2P042	How to Renew Adjustment Switch	1	Mar 2005
TWI 2P043a	How to Change a Concrete Sleeper by Hand	2	Mar 2012
TWI 2P043b	How to Change a Concrete Sleeper Using an RRV	4	Apr 2015
TWI 2P044	How to Maintain Guard Rail	1	Mar 2005
TWI 2P046	How to Move Short Rail Lengths	1	Mar 2005
TWI 2P047	How to Recognise End Bound Sleepers	1	Mar 2005
TWI 2P048	How to Change a Plain Line Baseplate or Chair	3	Feb 2013
TWI 2S002	How to Recognise and Describe S&C Bearers	1	Mar 2005
TWI 2S003	How to Recognise Switch Types	1	Mar 2005
TWI 2S004	How to Lubricate Switches	1	Mar 2005
TWI 2S005	How to Change Blocks in S&C	1	Mar 2005
TWI 2S006	How to Tighten S&C Fastenings	1	Mar 2005
TWI 2S007	How to Recognise Strengthened S&C	1	Mar 2005
TWI 2S008	How to Use De-Icer	1	Mar 2005
TWI 2S009	How to Replace Baseplates in S&C	1	Mar 2005
TWI 2S010	How to Replace Slide Baseplates or Chairs in S&C	1	Mar 2005
TWI 2S013	How to Change a Crossing Timber	1	Mar 2005
TWI 2S014	How to Pull through S&C Timbers	1	Mar 2005
TWI 2S015	How to Recognise Bolt Failure	1	Mar 2005
TWI 2S016	How to Replace a Single Stud Bolt	1	Mar 2005
TWI 2S018	How to Replace a Fishplated Common Crossing	1	Mar 2005
TWI 2S019	How to Maintain Built up Crossings	1	Mar 2005
TWI 2S021	How to Recognise Types of Crossing	1	Mar 2005
TWI 2S026	How to Maintain Catchpoints and Spring Points	1	Mar 2005
TWI 2S031	How to Replace a Check Rail in S&C	1	Mar 2005
TWI 2S032	How to Change a Rail in CWR	1	Mar 2005
TWI 2S033	How to Carry out a Complete Treatment of Switches on Timber Bearers	4	Jun 2014
TWI 2S037	How to Maintain Dry Slide Inserts	1	Apr 2005
TWI 2S038	How to Install End Plates	1	Apr 2005
TWI 2S040	How to Maintain Hand Points	1	Mar 2005
TWI 2S044	How to Treat a Hogged Switch Rail	1	Mar 2005
TWI 2S048	How to Regauge a Turnout	1	Mar 2005
TWI 2S049	How to Assess Basic S&C Maintenance Needs	1	Mar 2005
TWI 2S052	How to Secure Points out of Use – Selecting and Fitting the Correct Clip and Scotch	2	Aug 2014
TWI 2S055	How to Fit the Balfour Beatty Scotch Assembly to Secure Switches out of Use	1	Mar 2005
TWI 2S056	How to Maintain Switch Diamonds	1	Mar 2005
TWI 2S057	How to Replace a Switch Heater Pad or Cartridge	1	Mar 2005
TWI 2S059	How to Inspect Switch Heaters	1	Mar 2005
TWI 2S071	How to Maintain a Swing Nose Crossing	1	Mar 2005
TWI 2S072	How to Handle S&C	1	Mar 2005
TWI 2S073	How to Maintain a Continuous Check Rail	1	Mar 2005
TWI 2S074	How to Replace an S&C Check Chair	1	Mar 2005
TWI 2S075	How to Install a Rail Seating Pad in S&C	1	Mar 2005
TWI 2S077	How to Recognise Baseplates and Chairs in S&C	1	Mar 2005

NR/GN/TRK/7001	Title	Issue	Issue Date
TWI 2S079	How to Provide Manual Assistance to S&C Tamping	1	Mar 2005
TWI 2S080	How to Stoneblow S&C Using Hand-Held Stoneblowers	1	Mar 2005
TWI 2S081	How to Change a Half Set of Switches on Timber Bearers	2	Feb 2013
TWI 2S082	How to Repair a Common Crossing Nose and Wingrail Using BV1000	1	Aug 2013
TWI 2S083	How to Repair a Switch Blade Using BV1000	2	Sep 2014
TWI 2T001	How to Permanently Mark out a Curve for Tamping	1	Mar 2005
TWI 2T003	How to Link Site Conditions to Alignment	1	Mar 2005
TWI 2T007	How to Carry out Measured Shovel Packing (MSP)	5	Feb 2014
TWI 2T008	How to Prepare Track for Tamping	1	Mar 2005
TWI 2T009	How to Recognise Cyclic Top	1	Mar 2005
TWI 2T010	How to Carry out Kango Packing	2 ¤	Mar 2012
TWI 2T010a	How to Carry out Orbital Tamper Packing	1	Jun 2013
TWI 2T012	How to Carry out Lift and Pack Plain Line	2	Sep 2021
TWI 2T013	How to Lift and Pack Plain Line	1	Mar 2005
TWI 2T014	How to Lift and Pack S&C	1	Mar 2005
TWI 2T018	How to Prepare Track for Stoneblowing	1	Mar 2005
TWI 2T019	How to Lower Track Under Traffic	1	Mar 2005
TWI 2T020	How to Look After Track After Lifting and Packing or Tamping	1	Mar 2005
TWI 2T023	How to Repair Misalignments by Hand	1	Mar 2005
TWI 2T024	How to Measure and Define Twist	1	Mar 2005
TWI 2T025	How to Carry out Hand-Held Stoneblowing on Plain Line	2	Jan 2016
TWI 2T026	How to Repair a Level 2 Exceedence	1	Mar 2005
TWI 3B002	How to Decide on Ballast Depth	1	Mar 2005
TWI 3B003	How to Understand Blanket Design	1	Mar 2005
TWI 3B004	How to Plan Ballast Regulation	1	Mar 2005
TWI 3B006	How to Manage Multiple Wet Bed Formation	1	Mar 2005
TWI 3B007	How to Carry out a Maintenance Ballast Drop	1	Mar 2005
TWI 3B008	How to Order Ballast	1	Mar 2005
TWI 3B009	How to Assess the Suitability of Stone	1	Mar 2005
TWI 3B010	How to Assess the Condition of Ballast	1	Mar 2005
TWI 3B011	How to Carry out Machine Reballasting	1	Mar 2005
TWI 3B013	How to Manage Subsidence	1	Mar 2005
TWI 3B014	How to Prepare Track for the Ballast Regulator	1	Mar 2005
TWI 3B015	How to Glue Ballast	1	Mar 2005
TWI 3B016	How to Regulate Ballast by Machine	1	Mar 2005
TWI 3B017	How to Assess the Quantity of Ballast Required for Maintenance	1	Mar 2005
TWI 3B018	How (& when) to Use Geotextiles	1	Mar 2005
TWI 3B019	How to Maintain a Syphon	1	Mar 2005
TWI 3B020	How to Clear a Culvert	1	Mar 2005
TWI 3B021	How to Manage Sub-Standard Ballast Depths	1	Mar 2005
TWI 3B022	How to Carry out Mechanical Ballast Cleaning	1	Mar 2005
TWI 3C003	How to Specify and Order Baseplates	1	Mar 2005
TWI 3C008	How to Order Pandrol Clips	1	Mar 2005
TWI 3C011	How to Specify the Correct Type of Insulator	1	Mar 2005
TWI 3C015	How to Manage Rail Creep	1	Mar 2005
TWI 3C025	How to Assess the Condition of Timber Sleepers and Bearers	1	Mar 2005
TWI 3C026	How to Manage Dynamic Gauge Spread in Sleepered Track	1	Mar 2005
TWI 3C029	How to Decide Whether To Use Serviceable Material	1	Mar 2005
TWI 3C031	How to Assess and Manage the Life of Concrete Sleepers	1	Mar 2005
TWI 3C032	How to Specify the Correct Type of Sleeper	1	Mar 2005
TWI 3C034	How to Manage Concrete Sleepered Track	1	Mar 2005
TWI 3C035	How to Repair a Concrete Sleeper or Slab Fastening	1	Mar 2005
TWI 3C038	How to Order Large Track Components	1	Mar 2005
TWI 3G002	How to Decide on an Appropriate “Condition of Track” Speed Restriction	1	Mar 2005
TWI 3G003	How Line Speeds Are Determined	1	Mar 2005
TWI 3G006	How to Manage Permanent Increases in Line Speed	1	Mar 2005
TWI 3G008	How to Manage a Change in Traffic	1	Mar 2005
TWI 3G010	How to Decide on Whether to Use Steel Sleepers	1	Mar 2005
TWI 3G012	How to Install Cross-Track Ducts	1	Mar 2005
TWI 3G013	How to Manage Track with 3rd Rail Electrification	1	Mar 2005
TWI 3G014	How to Manage Track under OLE	1	Mar 2005
TWI 3G015	How to Order Fastenings	1	Mar 2005
TWI 3G016	How to Manage BR1 Track	1	Mar 2005

NR/GN/TRK/7001	Title	Issue	Issue Date
TWI 3G017	How to Order and Plan a Materials Train	1	Mar 2005
TWI 3G018	How to Maintain a Foot Crossing	2	Sep 2005
TWI 3G019	How to Maintain Track Through Level Crossings	1	Mar 2005
TWI 3G020	How to Manage Sidings and Depots	1	Mar 2005
TWI 3G023	How to Manage Cold Weather	1	Mar 2005
TWI 3G024	How to Manage Exceptionally Low Temperatures	1	Mar 2005
TWI 3G025	How to Manage Exceptionally Hot Weather	1	Mar 2005
TWI 3G026	How to Manage Hot Weather	1	Mar 2005
TWI 3G027	How to Manage Snow	1	Mar 2005
TWI 3G028	How to Manage Hot Weather Patrolling	1	Mar 2005
TWI 3G030	How to Manage a Reported Buckle	1	Mar 2005
TWI 3G031	How to Prevent Track Buckles	1	Mar 2005
TWI 3G032	How to Repair a Buckle	1	Mar 2005
TWI 3G033	How to Manage Alignment Faults	1	Mar 2005
TWI 3G034	How to Manage a Minor Derailment	1	Mar 2005
TWI 3G038	How to Manage a Blockade	1	Mar 2005
TWI 3G040	How to Plan a Blockade of the Line	1	Mar 2005
TWI 3G044	How to Manage a Watchman	1	Mar 2005
TWI 3G045	How to Manage a Bad Ride Report	1	Mar 2005
TWI 3G046	How to Manage Cab Riding	1	Mar 2005
TWI 3G047	How to Inspect a Closed Railway Prior to Re-opening to Traffic	1	Mar 2005
TWI 3G048	How to Inspect a Culvert	1	Mar 2005
TWI 3G053	How to Manage Track Geometry	1	Mar 2005
TWI 3G055	How to Carry out Reprofiling of the Railhead	1	Mar 2005
TWI 3G059	How to Assess the Number of Wagons Needed to Contain Spent Ballast	1	Mar 2005
TWI 3G060	How to Relay by Hand	1	Mar 2005
TWI 3G063	How to Relay Between Platforms	1	Mar 2005
TWI 3G065	How to Design Temporary Track Alignment	1	Mar 2005
TWI 3G066	How to Install a Built up S&C Layout	1	Mar 2005
TWI 3G070	How to Plan and Carry out Propelling	1	Mar 2005
TWI 3G073	How to Decide on Whether to Use a Wide Gap Weld	1	Mar 2005
TWI 3G077	How to Maintain Non-Ballasted Track	1	Mar 2005
TWI 3G079	How to Manage Maintenance on a Single Line	1	Mar 2005
TWI 3G082	How to Manage Rapid Response	1	Mar 2005
TWI 3G083	How to Decide on Whether to use a Watchman	1	Mar 2005
TWI 3G084	How to Plan the Use of Road/Rail Machinery	1	Mar 2005
TWI 3G086	How to Carry out Loose Sleeper Relaying	1	Mar 2005
TWI 3G089	How to Relay on a Single Line	1	Mar 2005
TWI 3G090	How to Use PUMs, PLUMS, PEMs and LEMs	1	Mar 2005
TWI 3G091	How to Use Sandite	1	Mar 2005
TWI 3G093	How to Remove an Emergency TSR	1	Mar 2005
TWI 3G094	How to Recognise a Bank Fire	1	Mar 2005
TWI 3G097	How to Manage the Operation of Manually Powered Points	1	Mar 2005
TWI 3G099	How to Understand Rail Welding Techniques	1	Mar 2005
TWI 3G101	How to Carry out a Cat Scan of a Site	1	Mar 2005
TWI 3G109	How to Plan Mobile Flash Butt Welding	1	Mar 2005
TWI 3G114	How to Determine the Minimum Permissible Rail Depth	1	Mar 2005
TWI 3G115	How to Plan a Trackside Access	1	Mar 2005
TWI 3G116	How to Use Powered Trolleys	1	Mar 2005
TWI 3G120	How to Maintain Gauge	1	Mar 2005
TWI 3G122	How to Plan a Road Closure	1	Mar 2005
TWI 3G123	How to Use and Maintain Small Plant	1	Mar 2005
TWI 3G125	How to Assess Track Condition	1	Mar 2005
TWI 3G127	How to Manage the Use of Detonators	1	Mar 2005
TWI 3G128	How to Produce a Local Maintenance Plan	1	Mar 2005
TWI 3G129	How to Scope and Install a Head Repair Weld (HRW)	¤	Aug 2013
TWI 3G130	How to Determine Higher or Unusual Risk of Derailment in Track Assets	1	Apr 2016
TWI 3G131	How to Manage Residual Risk when Specifying Work to the Asset	1	Dec 2016
TWI 3L002	How to Manage Developing Cutting Failure	1	Mar 2005
TWI 3L003	How to Manage a Developing Embankment Slip	1	Mar 2005
TWI 3L005	How to Manage Fencing in a Rural Environment	1	Mar 2005

NR/GN/TRK/7001	Title	Issue	Issue Date
TWI 3L006	How to Manage Fencing in an Urban Environment	1	Mar 2005
TWI 3L007	How to Manage Risks Associated with Lineside Developments	1	Mar 2005
TWI 3L008	How to Manage Leaf-Fall	1	Mar 2005
TWI 3L009	How to Manage Vegetation	1	Mar 2005
TWI 3L012	How to Maintain a Safe Walking Route	1	Mar 2005
TWI 3L013	How to Clear Fly Tipping	1	Mar 2005
TWI 3L016	How to Carry out Clearance of Burrowing Animals and Pests	1	Mar 2005
TWI 3L017	How to Use LiDAR Risk Models	1	Mar 2017
TWI 3P006	How to Decide on an Appropriate Rail Steel	1	Mar 2005
TWI 3P010	How to Move Rail Longer Than 9m (30ft)	2	Sep 2019
TWI 3P011	How to Lay Out and Secure Rail Longer Than 9m (30ft) Before Installation	2	Sep 2019
TWI 3P012	How to Install Rail Longer Than 9m (30ft)	2	Sep 2019
TWI 3P013	How to Calculate Critical Rail Temperature	1	Mar 2005
TWI 3P014	How to Manage CWR Track	1	Mar 2005
TWI 3P015	How to Order Sidearms and Rollers	1	Mar 2005
TWI 3P017	How to Manage Stress Records	2	Dec 2016
TWI 3P018	How to Manage Bullhead Track	1	Mar 2005
TWI 3P020	How to Manage Corrugations	1	Mar 2005
TWI 3P024	How to Order Fishplates and Fishbolts	1	Mar 2005
TWI 3P026	How to Order a Factory Made Insulated Joint	1	Mar 2005
TWI 3P028	How to Order Shims	1	Mar 2005
TWI 3P029	How to Avoid a Crippled Rail	1	Mar 2005
TWI 3P030	How to Manage Gall	1	Mar 2005
TWI 3P032	How to Monitor Rolling Contact Fatigue (RCF)	1	Mar 2005
TWI 3P033	How to Manage Sidewear	1	Mar 2005
TWI 3P034	How to Plan and Carry out Transposing	1	Mar 2005
TWI 3P036	How to Plan the Rerailing of Jointed Track	1	Mar 2005
TWI 3P038	How to Manage Rail Weight	1	Mar 2005
TWI 3P039	How to Manage Rails in Tunnels	1	Mar 2005
TWI 3P040	How to Decide on Rerailing	1	Mar 2005
TWI 3P044	How to Order Rail	1	Mar 2005
TWI 3P047	How to Order a Twist Rail	1	Mar 2005
TWI 3P048	How to Plan the Removal of Longitudinal Timbers	1	Mar 2005
TWI 3P049	How to Specify a Rail Flange Lubricator	1	Mar 2005
TWI 3P050	How to Decide on Whether to Use Strengthened Fishplates on Bullhead Track	1	Mar 2005
TWI 3P051	How to Refit a Continuous Check Rail	1	Mar 2005
TWI 3P052	How to Manage Intermittent Sidewear	1	Mar 2005
TWI 3P061	How to Measure and Define Lead and Lags	1	Mar 2005
TWI 3P066	How to Plan Rail Unclipping	1	Mar 2005
TWI 3P067	How to Plan and Organise Rail Adjusting	1	Mar 2005
TWI 3P071	How to Change a Defective Rail on a Heavily Sideworn Curve	1	Mar 2005
TWI 3P073	How to Maintain Jointed Track	1	Mar 2005
TWI 3P074	How to Maintain Longitudinal Timbers	1	Mar 2005
TWI 3S011	How to Measure and Record the Critical Details of S&C for Replacement	1	Mar 2005
TWI 3S038	How to Define and Measure the knuckle stagger	1	Mar 2005
TWI 3S050	How to Prepare an Order for a Crossing Timber	1	Mar 2005
TWI 3S060	How to Measure and Define a Check Rail Gap	1	Mar 2005
TWI 3S062	How to Manage a Defective Switch / Stock Rail	1	Mar 2005
TWI 3S073	How to Decide on Strategic Spares	1	Mar 2005
TWI 3S079	How to Manage Switch Wear	1	Mar 2005
TWI 3S082	How to Replace a Soleplate	1	Mar 2005
TWI 3S084	How to Recognise Whether a Crossing Can Be Weld Repaired	1	Mar 2005
TWI 3S087	How to Repair a Run-Through	1	Mar 2005
TWI 3S088	How to Recognise the Hand of a Crossing	1	Mar 2005
TWI 3S093	How to Tamp Switches and Crossings	1	Mar 2005
TWI 3S097	How to Re-Align S&C	1	Mar 2005
TWI 3S098	How to Change a Concrete S&C Bearer	1	Mar 2005
TWI 3S104	How to Unload Ballast through S & C	1	Mar 2005
TWI 3S105	How to Plain-Line S&C in an Emergency	1	Mar 2005
TWI 3S106	How To Install Gauge Management Shims for BPV Baseplates in S&C	1	Mar 2012
TWI 3S107	How to Install a Roller Baseplate	1	Jun 2014

NR/GN/TRK/7001	Title	Issue	Issue Date
TWI 3S108	Use of HP Rail within S&C	1	Oct 2015
TWI 3S109	Use of TGP8 and Protractor Gauges	1	Oct 2015
TWI 3T005	How to Define Alignment Schemes	1	Mar 2005
TWI 3T006	How to Use Cant and Cross Level Information	1	Mar 2005
TWI 3T007	How to Survey a Curve	1	Mar 2005
TWI 3T010	How to Set out a Curve	1	Mar 2005
TWI 3T011	How to Plan and Carry out Track Surveying	1	Mar 2005
TWI 3T012	How to Maintain Gauge	1	Mar 2005
TWI 3T019	How to Use a Continuous Action Tamper	1	Mar 2005
TWI 3T020	How to Plan a Dynamic Track Stabiliser (DTS)	1	Mar 2005
TWI 3T021	How to Recant Plain Line	1	Mar 2005
TWI 3T023	How to Maintain a Transition Curve	1	Mar 2005
TWI 3T028	How to Manage Cyclic Top	2	Dec 2015
TWI 3T030	How to Maintain a High Speed Curve	1	Mar 2005
TWI 3T031	How to Maintain Lateral Resistance	1	Mar 2005
TWI 3T033	How to Formulate a Strategy for Stone Blowing	1	Mar 2005
TWI 3T034	How to Formulate a Strategy to Stabilise and Improve Track Condition	1	Mar 2005
TWI 3T040	How to Set out Track	1	Mar 2005
TWI 3T041	How to Manage Plain Line Tamping	1	Mar 2005
TWI 3T043	How to Slue Track by Machine	1	Mar 2005
TWI 3T045	How to Recognise and Manage Ballast Memory	1	Mar 2005
TWI 3T046	How to Understand Track Geometry Reports	1	Dec 2013

* Withdrawn on the publication of NR/L2/CIV/005 iss 1

NR/GN/TRK/8001 **Index of Track Bowties** Issue 1; Jun 18 | **Compliance** N/A | **Replaces** New at Issue 108

This document provides the index and version control to the Track Bowties, diagrams that are used to visualise how risks are managed.

These modules are available as digital downloads only

NR/GN/TRK/8001/	Title	Issue	Issue Date
0101	Track Bowtie – Broken Rail – Level 1	1	Jun 2018
0102	Track Bowtie – Broken Rail – Level 2	1	Jun 2018
0103	Track Bowtie – Broken Rail – Level 3	1	Jun 2018
0201	Track Bowtie – Loss of Geometry (Twist and Cyclic top) Beyond Safety Limits – Level 1	1	Jun 2018
0202	Track Bowtie – Loss of Geometry (Twist and Cyclic top) Beyond Safety Limits – Level 2	1	Jun 2018
0203	Track Bowtie – Loss of Geometry (Twist and Cyclic top) Beyond Safety Limits – Level 3	1	Jun 2018
0301	Track Bowtie – Loss of Geometry (Track Gauge) Beyond Safety Limits – Level 1	1	Jun 2018
0302	Track Bowtie – Loss of Geometry (Track Gauge) Beyond Safety Limits – Level 2	1	Jun 2018
0303	Track Bowtie – Loss of Geometry (Track Gauge) Beyond Safety Limits – Level 3	1	Jun 2018
0401	Track Bowtie – Buckle Leading to Loss of Geometry (Horizontal Alignment) Beyond Safety Limits– Level 1	1	Jun 2018
0402	Track Bowtie – Buckle Leading to Loss of Geometry (Horizontal Alignment) Beyond Safety Limits– Level 2	1	Jun 2018
0403	Track Bowtie – Buckle Leading to Loss of Geometry (Horizontal Alignment) Beyond Safety Limits– Level 3	1	Jun 2018
0501	Track Bowtie – Loss of Rail Profile Beyond Safe Operating Limits – Level 1	1	Jun 2018
0502	Track Bowtie – Loss of Rail Profile Beyond Safe Operating Limits – Level 2	1	Jun 2018
0503	Track Bowtie – Loss of Rail Profile Beyond Safe Operating Limits – Level 3	1	Jun 2018
0601	Track Bowtie – Switches and Crossings: Failure to Provide Correct Guidance of Train Wheels – Level 1	1	Jun 2018
0602	Track Bowtie – Switches and Crossings: Failure to Provide Correct Guidance of Train Wheels – Level 2	1	Jun 2018
0603	Track Bowtie – Switches and Crossings: Failure to Provide Correct Guidance of Train Wheels – Level 3	1	Jun 2018
0701	Track Bowtie - Loss of Structure Gauge Clearance and/or Passing Gauge Clearance Beyond Safety Limits – Level 1	1	Jun 2018
0702	Track Bowtie - Loss of Structure Gauge Clearance and/or Passing Gauge Clearance Beyond Safety Limits – Level 2	1	Jun 2018
0703	Track Bowtie - Loss of Structure Gauge Clearance and/or Passing Gauge Clearance Beyond Safety Limits – Level 3	1	Jun 2018

NR/GN/TRK/8203 **NR 56V Standardised S&C - Assembly and Maintenance** Issue 2; Sep 18 | **Compliance** N/A | **Replaces** NR/GN/TRK/8203 Iss 1; Dec 16

The purpose of this document is to give an overview of the NR56V Standardised S&C System. The document covers the differences between NR56V and the previous designs, and also details the main components used in NR56V.
Guidance is also included on recommended tooling for installation and maintenance.This will improve confidence in the system, and lead to increased reliability and productivity.

NR/GN/TRK/9023	**Tri Metallic Zone Weld Repair** Issue 1; Mar 22	**Compliance** N/A	**Replaces** New at Issue 123

Weld repairs to tri-metallic zones (TMZ) are not permitted within 300mm of the stainless-steel insert on the 260-grade rail or 20mm on the AMS grade rail. There is an increasing trend of rail head defects on TMZ that could lead to crossings being replaced at high cost. A repair procedure that allows repairs within the TMZ would give improved asset life, availability and a significant cost saving.

Special Inspection Notices

NR/SIN/184	**Control and Documentation of Maintenance Boundaries (track)** Issue 1; Jan 20	**Compliance** 15/09/20	**Replaces** New at Issue 115

The purpose of this Special Inspection Notice (SIN) is to establish and agree a single point for track maintenance boundaries. To achieve this gaps and overlaps will be corrected and demarcation signs will be installed then logged into the Ellipse system. The SIN will also put into place mitigating action to address any gaps or overlaps mitigating immediate risk.

NR/SIN/196	**Risk Assessment and Inspection of Longitudinal Bearer Systems** Issue 1; July 20	**Compliance** 05/08/20	**Replaces** New at Issue 116

Following recent failures of Longitudinal Bearer Systems (LBS) the purpose of this SIN is to
a) understand the existing risk level presented by LBS;
b) prioritise the tactile inspection of the highest risk assets;
c) instigate a deliverable plan of work to manage the risk presented by LBS; and
d) provide assurance to the business that the risks from longitudinal bearer systems are reduced to as low a level as possible.

NR/SIN/200	**Inspection of Track Circuits where ZKL3000RC T-COD has been Installed** Issue 1; Feb 20	**Compliance** 01/04/22	**Replaces** New at Issue 119

The purpose of this SIN is to determine the following for all track circuits where a ZKL3000RC T-COD has been fitted:
1. confirm a maintenance track circuit test has been carried out since the ZKL3000RC T-COD was fitted;
2. fit additional cable protection where the ZKL3000RC T-COD cables pass under rails;
3. confirm use of Intelligent Infrastructure (II) RCM monitoring for T-COD fitted track circuits;
4. provide T-COD sighting form.

NR/SIN/201	**Point Machine Operated Multi Ended Sets of Points Which Share a Common Detection Circuit** Issue 1; Apr 21	**Compliance** 31/10/21	**Replaces** New at Issue 119

The purpose of this SIN is to:
a) carry out Defined Test: Point Detection and Correspondence Test (NR/SMTH/Part 03/Test B08) on all multi-ended sets of points operated by a point machine which shares a common detection circuit;
b) secure points where a wiring deficiency is identified;
c) carry out remedial work where deficiencies are identified.

NR/SIN/206	**Managing Wheel Strike Risk at Cast Obtuse Crossings** Issue 2; Jan 22	**Compliance** 01/04/24	**Replaces** NR/SIN/206 Iss 1; Dec 21

The purpose of this SIN is to inspect and verify cast obtuse crossings supplied by Progress Rail Services or Edgar Allen. The verification will allow for a mitigation plan to be developed to manage risk associated with wheel strike following wing rail extension failure.

4.24 Document History (15 Month Archive)

Issue 118 - Supersessions & Withdrawals 12/20		
References	**Title**	**Replaced by/Status**
BR 0967	Specification for Railway Signalling Apparatus: Environmental Conditions	NR/L2/SIG/19820 Issue 6
RT/CE/S/063 Issue 1	Serviceable Switches and Crossings	NR/L3/TRK/063 Issue 2
RT/CE/S/069 Issue 2	Lineside Facilities For Personnel Safety	NR/L2/OHS/069 Issue 3
NR/L1/ELP/27000 Issue 2	Asset Management Policy for Electrical Power Assets	NR/L1/ELP/27000 Issue 3
NR/L2/INF/02230 Issue 2	Corporate Archive Policy	NR/L1/INF/02230 Issue 3
NR/L2/INV/002 Issue 13	Accident and Incident Reporting and Investigation	NR/L3/INV/3001 Issue 6
NR/L2/OHS/019 Issue 9	Safety of People Working on or Near the Line	NR/L2/OHS/019 Issue 10
NR/L2/OPS/100 Issue 2	Provision, Risk Assessment and Review of Level Crossings	NR/L2/XNG/001 Issue 3
NR/L2/OTK/5201 Issue 4	Lineside Vegetation Management Manual	NR/L2/OTK/5201 Issue 5
NR/L2/RSE/0005 Issue 4	Product Design for Reliability	NR/L2/RSE/0005 Issue 5
NR/L2/RVE/01327 Issue 1	Depot Facilities	NR/L2/RMVP/01327 Issue 2
NR/L2/SIG/10160 Issue 2	Signal Engineering: Implementation of IRSE Licensing Scheme - the Route to Competence	NR/L2/SIG/10160 Issue 3
NR/L2/SIG/11201 Issue 11	Signalling Design Handbook	NR/L2/SIG/11201 Issue 12
NR/L2/SIG/14201 Issue 4	Signalling Risk Assessment Handbook	NR/L2/SIG/14201 Issue 5
NR/L2/SIG/19820 Issue 5	Signalling and Level Crossing Product Specifications	NR/L2/SIG/19820 Issue 6
NR/L2/SIG/30009 Issue 18	Signalling Principles Handbook	NR/L2/SIG/30009 Issue 19
NR/L2/SIG/30014 Issue 16	Signalling Works Testing Handbook	NR/L2/SIG/30014 Issue 17
NR/L2/TEL/30066 Issue 7	Signalling and Telecommunications Telecoms Clearance for Fixed Transmitters	NR/L2/TEL/30066 Issue 8
NR/L2/TEL/30112 Issue 2	Specification for the Maintenance of Customer Information System Monitors	Withdrawn
NR/L2/TEL/30117 Issue 2	Specification for the Maintenance of Help Points	NR/L3/TEL/30181 Issue 5
NR/L2/TEL/30119 Issue 2	Specification for the Maintenance of Public Address PCs	NR/L3/TEL/30181 Issue 5
NR/L2/TEL/30120 Issue 2	Specification for the Maintenance of Public Address Systems	NR/L3/TEL/30181 Issue 5
NR/L2/TEL/30121 Issue 2	Specification for the Maintenance of Recorded Announcement Equipment	NR/L3/TEL/30181 Issue 5
NR/L2/TRK/001 Issue 15	Inspection and Maintenance of Permanent Way	NR/L2/TRK/001 Issue 16
NR/L2/TRK/2500 Issue 3	Engineering Assurance Arrangements for Track Engineering Projects	NR/L2/TRK/2500 Issue 4
NR/L2/TRK/6100 Issue 3	The Installation and Maintenance of Stretcher Bars	NR/L2/TRK/6100 Issue 4
NR/L3/ELP/27237 Issue 20	Overhead Line Work Instructions	NR/L3/ELP/27237 Issue 21
NR/L3/ELP/27240 Issue 10	Distribution Work Instructions	NR/L3/ELP/27240 Issue 11
NR/L3/INV/3001 Issue 5	Reporting and Investigation Manual	NR/L3/INV/3001 Issue 6
NR/L3/MTC/RCS0216 Issue 18	Risk Control Manual Issue	NR/L3/MTC/RCS0216 Issue 19
NR/L3/OPS/045 Issue 11	National Operating Procedures Index	NR/L3/OPS/045 Issue 12
NR/L3/OPS/045 Issue 12	National Operating Procedures Index	NR/L3/OPS/045 Issue 13
NR/L3/OPS/045 Issue 13	National Operating Procedures Index	NR/L3/OPS/045 Issue 14
NR/L3/OPS/045 Issue 14	National Operating Procedures Index	NR/L3/OPS/045 Issue 15
NR/L3/SCO/313 Issue 8	On-Track Machines (OTMs) Driver and Operations Standards Manual	NR/L3/SCO/313 Issue 9
NR/L3/SIG/10064 Issue 8	General Instructions to Staff Working on S & T Equipment	NR/L3/SIG/10064 Issue 9
NR/L3/SIG/10661 Issue 19	Signalling Maintenance Task Intervals	NR/L3/SIG/10661 Issue 20
NR/L3/SIG/10663 Issue 11	Signal Maintenance Specifications	NR/L3/SIG/10663 Issue 12
NR/L3/SIG/10665 Issue 18	Reliability Centred Maintenance of Signalling Equipment	NR/L3/SIG/10665 Issue 19
NR/L3/SIG/11231 Issue 14	Signalling Maintenance Testing Handbook	NR/L3/SIG/11231 Issue 15
NR/L3/TEL/30181 Issue 4	Telecommunications Maintenance Work Instructions Handbook	NR/L3/TEL/30181 Issue 5
NR/L3/TRK/003 Issue 33	Index of Track Engineering Forms	NR/L3/TRK/003 Issue 34
NR/L3/TRK/055 Issue 3	Work Instructions for Ultrasonic Rail Testing	NR/L3/TRK/055 Issue 4
NR/PRC/MPI/TK0022 Issue 1	Critical Rail Temperature (CRT) Management Plan	NR/L3/TRK/7012 Issue 1
NR/PS/ELP/21101 Issue 2	Track Cable for DC Electrified Lines	NR/L2/ELP/23002 Issue 1
NR/SIN/194 Issue 1	SADTEM VT Model YE7 & BBY2 (installed with ABB FSKII)	Withdrawn
NR/SP/CTM/032 Issue 1	Training, Competence and Assessment in Accident and Incident Investigation	NR/L2/OHS/032 Issue 2
NR/SP/OHS/501 Issue 1	Track Warning Systems	NR/L2/OHS/501 Issue 2
NR/SP/RSC/01702 Issue 1	Actions in Response to Confidential Incident Reporting and Analysis System (CIRAS) Reports	NR/L3/INV/3001 Issue 6
NR/SP/SIG/19812 Issue 1	Cross Track Cable Management	NR/L2/SIG/19812 Issue 2
RT/E/S/10062 Issue 1	Requirement Specification for Performance of Long Range Colour Light Signals	NR/L2/SIG/19820 Issue 6

Issue 119 - Supersessions & Withdrawals 03/21		
References	**Title**	**Replaced by/Status**
NR/GN/CIV/100 Issue 1	Strategic Design Manual	NR/GN/CIV/100 Issue 2
NR/GN/CIV/200 Issue 1	Station Design Manual	NR/GN/CIV/200 Issue 2
NR/GN/CIV/300 Issue 1	Compliance Design Manual	NR/GN/CIV/300 Issue 2
NR/GN/CIV/400 Issue 1	Operational Property Design Manual	NR/GN/CIV/400 Issue 2

4.24 Document History (15 Month Archive)

References	Title	Replaced by/Status
NR/GN/OHS/00155 Issue 1	Short-Term Changes in the Creation and Application of Safe Work Packs and Briefing Arrangements COVID-19 Contingency Plan (Guidance for Regions on NR/L2/OHS/019)	NR/GN/OHS/00155 Issue 2 (Network Rail Internal only)
NR/GN/OTK/5000 Issue 1	Index of Off-Track Drawings	NR/GN/OTK/5000 Issue 2
NR/L2/CIV/177 Issue 2	Monitoring Track Over or Adjacent to Construction Works	NR/L2/CIV/177 Issue 3
NR/L2/CIV/191 Issue 1	Mining Manual	NR/L2/CIV/191 Issue 2
NR/L2/CTM/025 Issue 1	Competence & Training in On-Track Plant Operation	NR/L2/CTM/025 Issue 2
NR/L2/INF/02018 Issue 6	Specification for the Management of Safety Related Infrastructure Records	NR/L2/INF/02018 Issue 7
NR/L2/INI/02009 Issue 6	Engineering Management for Projects	NR/L2/RSE/02009 Issue 7
NR/L2/OTK/5100 Issue 3	Boundary Measures Manual	NR/L2/OTK/5100 Issue 4
NR/L2/SIG/10157 Issue 3	Signal Sighting Assessment Process	NR/L2/SIG/10157 Issue 4
NR/L2/SIG/10158 Issue 1	Specification for Signal Sighting Assessment	NR/L2/SIG/10158 Issue 2
NR/L2/SIG/11201 Issue 12	Signalling Design Handbook	NR/L2/SIG/11201 Issue 13
NR/L2/TEL/30109 Issue 2	Maintenance of Plasma Screens used for Passenger Information Displays	Withdrawn
NR/L2/TRK/001 Issue 16	Inspection and Maintenance of Permanent Way	NR/L2/TRK/001 Issue 17
NR/L2/TRK/2102 Issue 8	Design and Construction of Track	NR/L2/TRK/2102 Issue 9
NR/L3/CIV/151/F010 Issue 16	Index of Standard Designs and Details for Building and Civil Engineering Works	NR/L3/CIV/151/F010 Issue 17
NR/L3/CTM/302 Issue 2	Production and Maintenance of Training and Assessment Solutions	NR/L3/CTM/302 Issue 3
NR/L3/ELP/27237 Issue 21	Overhead Line Work Instructions	NR/L3/ELP/27237 Issue 22
NR/L3/INI/TK0027 Issue 2	Test & Inspection Plan	NR/L3/TRK/0027 Issue 3
NR/L3/MTC/MG0213 Issue 16	Index of Standard Maintenance Forms	NR/L3/MTC/MG0213 Issue 17
NR/L3/MTC/RCS0216 Issue 19	Risk Control Manual	NR/L3/MTC/RCS0216 Issue 20
NR/L3/OPS/045 Issue 14	National Operating Procedures Index	NR/L3/OPS/045 Issue 15
NR/L3/OPS/045 Issue 15	National Operating Procedures Index	NR/L3/OPS/045 Issue 16
NR/L3/TEL/31104 Issue 3	Process for Managing Telecoms Software/Hardware Changes	NR/L3/TEL/31104 Issue 4
NR/L3/TEL/40047 Issue 3	Process for the Management of Safety Related Reports for Telecoms Failures	NR/L3/TEL/40047 Issue 4
NR/L3/TRK/003 Issue 34	Index of Track Engineering Forms	NR/L3/TRK/003 Issue 35
NR/L3/TRK/3406 Issue 4	Design, Installation and Maintenance of Modular Bearer Joints	NR/L3/TRK/3406 Issue 5
NR/L3/TRK/3415 Issue 1	Refurbishment of Switches and Crossings	NR/L3/TRK/3415 Issue 2
NR/PS/ELP/27236 Issue 2	25 KV AC Single Phase Switchgear & Ancillary Equipment	NR/L2/ELP/23001 Issue 1
NR/SP/ELP/21018 Issue 2	Specification of Indoor Switchgear for 11, 22 & 33 kV Distribution Systems for D.C. Traction	NR/L2/ELP/23001 Issue 1

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References	Title	Replaced by/Status
NR/GN/CIV/200 Issue 2	Station Design Manual	NR/GN/CIV/200 Issue 3
NR/GN/SIG/CAT005 Issue 54	Index of Network Rail Documents Relating to Signalling and Communications Equipment	NR/GN/SIG/CAT005 Issue 55
NR/L1/ELP/27000 Issue 3	Policy Requirements for Electrical Power Assets	NR/L1/ELP/27000 Issue 4
NR/L1/OHS/210 Issue 1	Management of Occupational Road Risk Policy	NR/L2/OHS/00127 Issue 1
NR/L2/CIV/086 Issue 9	Management of Earthworks Manual	NR/L2/CIV/086 Issue 10
NR/L2/CTM/220 Issue 1	Competence & Training in Portable, Transportable & Mobile Plant Operation	NR/L2/CTM/220 Issue 2
NR/L2/ELP/21088 Issue 3	General Maintenance Parameters for Overhead Line Electrification Equipment	NR/L2/ELP/21088 Issue 4
NR/L2/ENV/015 Issue 8	Environment and Social Minimum Requirements for Projects – Design and Construction	NR/L2/ENV/015 Issue 9
NR/L2/OHS/053 Issue 1	Assessing Risk of Stress in the Workplace	NR/L2/OHS/053 Issue 2
NR/L2/OPS/250 Issue 7	Network Rail National Emergency Plan	NR/L2/OPS/250 Issue 8
NR/L2/RMVP/0172 Issue 2	Management of the Control and Calibration of Inspection, Measuring and Test Equipment	NR/L2/RMVP/0172 Issue 3
NR/L2/SIG/11201 Issue 13	Signalling Design Handbook	NR/L2/SIG/11201 Issue 14
NR/L2/SIG/19820 Issue 6	Signalling and Level Crossing Product Specifications	NR/L2/SIG/19820 Issue 7
NR/L2/SIG/30014 Issue 17	Signalling Works Testing Handbook	NR/L2/SIG/30014 Issue 18
NR/L2/TEL/30110 Issue 2	Specification for the Maintenance of CCTV Cameras	NR/L3/TEL/30181/015 Issue 1
NR/L2/TEL/30111 Issue 2	Specification for the Maintenance of CCTV Monitoring Equipment	NR/L3/TEL/30181/016 Issue 1
NR/L2/TEL/30115 Issue 2	Specification for the Maintenance of CCTV Video Recorders	NR/L3/TEL/30181/020 Issue 1
NR/L2/TRK/001 Issue 17	Inspection and Maintenance of Permanent Way	NR/L2/TRK/001 Issue 18
NR/L2/TRK/001 Issue 18	Inspection and Maintenance of Permanent Way	NR/L2/TRK/001 Issue 19
NR/L2/TRK/038 Issue 6	Track Geometry: Management of Recording and of Intervention and Immediate Actions Limits	NR/L2/TRK/038 Issue 7
NR/L2/TRK/2102 Issue 9	Design and Construction of Track	NR/L2/TRK/2102 Issue 10
NR/L3/ELP/27052 Issue 5	Working Instructions for D.C. Electrified Lines on the Northern City Line	NR/L3/ELP/27052 Issue 6
NR/L3/INI/CP0064 Issue 5	Delivering Work within Possessions	NR/L3/OPS/0064 Issue 6
NR/L3/INI/CP0077 Issue 1	Signalling Pre-Commissioning Verification Requirements	NR/L3/SIG/0077 Issue 2
NR/L3/INI/P3M/131 Issue 2	Document Management Manual	NR/L3/P3M/131 Issue 3
NR/L3/MTC/MG0213 Issue 17	Index of Standard Maintenance Forms	NR/L3/MTC/MG0213 Issue 18
NR/L3/MTC/RCS0216 Issue 20	Risk Control Manual	NR/L3/MTC/RCS0216 Issue 21
NR/L3/OPS/045 Issue 16	National Operating Procedures Index	NR/L3/OPS/045 Issue 17

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References	Title	Replaced by/Status
NR/L3/OPS/045 Issue 17	National Operating Procedures Index	NR/L3/OPS/045 Issue 18
NR/L3/SCO/313 Issue 9	On-Track Machines (OTMs) Driver and Operations Standards Manual	NR/L3/SCO/313 Issue 10
NR/L3/TEL/30181 Issue 5	Telecoms Maintenance Work Instructions Handbook	NR/L3/TEL/30181 Issue 6
NR/L3/TRK/003 Issue 35	Index of Track Engineering Forms	NR/L3/TRK/003 Issue 36
NR/L3/TRK/7006 Issue 1	Creation and Application of Initial ESR Design	NR/L3/TRK/7006 Issue 2
NR/WI/ELP/27171 Issue 2	Issue, Storage and Routine Inspection and Testing of Rubber Gloves	NR/L3/ELP/27171 Issue 3
RT/E/C/11724 Issue 1	Signalling Works Test Specifications and Historical Test Value Data	NR/L2/SIG/30014 Issue 18
RT/LS/P/250 Issue 2	Emergency Response Manual	NR/L3/OPS/250 Issue 1

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References	Title	Replaced by/Status
RT/E/S/11752 Issue 2	Train Detection	NR/L2/SIG/11752 Issue 3
NR/GN/INI/P3M/150 Iss 1	Sponsor's Handbook	Withdrawn
NR/GN/TRK/7001 Issue 16	Index of Track Work Information Sheets (TWI)	NR/GN/TRK/7001 Issue 17
NR/L1/INI/P3M/100 Iss 1	Project, Programme and Portfolio Management (P3M) Framework Policy	Withdrawn
NR/L1/OPS/290 Issue 1	Network Rail Business Continuity Management	NR/L2/RSK/290 Issue 2
NR/L1/TEL/30102 Issue 1	Network Rail Asset Management Policy -Telecommunications Engineering	NR/L1/TEL/30102 Issue 2
NR/L1/XNG/100 Issue 2	Level Crossings Asset Policy	NR/L1/XNG/100 Issue 3
NR/L2/ELP/27238 Issue 7	Maintenance Specification for Fixed Plant Equipment	NR/L2/ELP/27238 Issue 8
NR/L2/INF/02242 Issue 4	Information Security Manual	Withdrawn
NR/L2/INI/P3M/101 Issue 5	Governance for Railway Investment Projects (GRIP) – Projects	Withdrawn
NR/L2/INI/P3M/104 Issue 2	Network Rail Requirements	Withdrawn
NR/L2/INI/P3M/105 Issue 2	Assurance of Project, Programme and Portfolio Delivery	Withdrawn
NR/L2/INI/P3M/106 Issue 1	Risk Management for Project, Programme and Portfolio Delivery	Withdrawn
NR/L2/OHS/032 Issue 2	Training, Competence and Assessment in Accident and Incident Investigation	NR/L2/OHS/032 Issue 3
NR/L2/OPS/290 Issue 1	Business Continuity Management	NR/L2/RSK/290 Issue 2
NR/L2/RSE/100 Issue 5	Network Rail Assurance Panel Processes	NR/L2/RSE/100 Issue 6
NR/L2/SIG/11400 Issue 7	HPSS Handbook	NR/L2/SIG/11400 Issue 8
NR/L2/SIG/19608 Issue 7	Level Crossing Asset Inspection and Implementation of Minimum Action Codes	NR/L2/XNG/19608 Issue 8
NR/L2/SIG/30009 Issue 19	Signalling Principles Handbook	NR/L2/SIG/30009 Issue 20
NR/L2/SIG/30014 Issue 18	Signalling Works Testing Handbook	NR/L2/SIG/30014 Issue 19
NR/L2/SIG/30035 Issue 4	Signalling and Level Crossing Scheme Approval Process	NR/L2/SIG/30035 Issue 5
NR/L2/SIGELP/50000 Issue 3	Safe Working and Maintenance on or near Signalling Power Distribution Equipment Above 175 V	NR/L2/SIGELP/50000 Issue 4
NR/L2/TEL/30135 Issue 5	Video Surveillance Systems (VSS)	NR/L2/TEL/30135 Issue 6
NR/L2/TRK/001 Issue 19	Inspection and Maintenance of Permanent Way	NR/L2/TRK/001 Issue 20
NR/L2/TRK/038 Issue 7	Track Geometry: Management of Recording and of Intervention and Immediate Actions Limits	NR/L2/TRK/038 Issue 8
NR/L3/ELP/27237 Issue 22	Overhead Line Work Instructions	NR/L3/ELP/27237 Issue 23
NR/L3/ELP/27241 Issue 4	Fixed Plant Work Instructions	NR/L3/ELP/27241 Issue 5
NR/L3/ELP/29987 Issue 5	Working on or About 25 kV A.C. Electrified Lines	NR/L3/ELP/29987 Issue 6
NR/L3/ENV/305 Issue 2	How to Change Utility Supplies	NR/L3/ENV/305 Issue 3
NR/L3/INI/P3M/120 Iss 1	Governance for Railway Investment Projects (GRIP) – Starting a Project	Withdrawn
NR/L3/INI/P3M/121 Iss 1	Governance for Railway Investment Projects (GRIP) – Initiating a Project	Withdrawn
NR/L3/INI/P3M/122 Iss 1	Governance for Railway Investment Projects (GRIP) - Leading a Project	Withdrawn
NR/L3/INI/P3M/123 Iss 1	Governance for Railway Investment Projects (GRIP) - Controlling a Stage	Withdrawn
NR/L3/INI/P3M/124 Iss 1	Governance for Railway Investment Projects (GRIP) - Managing a Stage Boundary	Withdrawn
NR/L3/INI/P3M/125 Iss 1	Governance for Railway Investment Projects (GRIP) - Closing a Project	Withdrawn
NR/L3/INI/P3M/126 Iss 1	Network Rail Requirements Manual	Withdrawn
NR/L3/INI/P3M/127 Iss 2	Peer Reviews of Project and Programme Delivery	Withdrawn
NR/L3/INI/P3M/128 Iss 2	Project, Programme and Portfolio Management (P3M), Commercial and Engineering Functions Assurance	Withdrawn
NR/L3/INI/P3M/129 Iss 1	Planning and Scheduling Manual	Withdrawn
NR/L3/INI/P3M/130 Iss 1	Controls Manual	Withdrawn
NR/L3/INI/P3M/133 Iss 1	Consolidated Assurance of Project, Programme and Portfolio Delivery	Withdrawn
NR/L3/INI/P3M/134 Iss 1	Quantitive Cost Risk Assessment (QCRA) for Project, Programme and Portfolio Delivery	Withdrawn
NR/L3/INI/P3M/135 Iss 1	Quantitive Schedule Risk Assessment (QSRA) for Project, Programme and Portfolio Delivery	Withdrawn
NR/L3/INV/3001 Issue 6	Reporting and Investigation Manual	NR/L3/INV/3001 Issue 7
NR/L3/MTC/MG0176 Issue 6	Ellipse Management Handbook	NR/L3/MTC/MG0176 Issue 7
NR/L3/MTC/MG0221 Issue 5	Network Operations Non-Operations Staff Management Self-Assurance Procedure	NR/L3/MTC/MG0221 Issue 6
NR/L3/MTC/RCS0216 Issue 21	Risk Control Manual	NR/L3/MTC/RCS0216 Issue 22
NR/L3/OPS/045 Issue 18	National Operating Procedures Index	NR/L3/OPS/045 Issue 19
NR/L3/OPS/251 Issue 3	Unmanned Aircraft System (Drone/UAS) Operations	NR/L3/OPS/251 Issue 4
NR/L3/SIG/10064 Issue 9	General Instructions to Staff Working on S&T Equipment	NR/L3/SIG/10064 Issue 10

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References	Title	Replaced by/Status
NR/L3/SIG/10661 Issue 20	Signalling Maintenance Task Intervals	NR/L3/SIG/10661 Issue 21
NR/L3/SIG/10663 Issue 12	Signal Maintenance Specifications (SMS)	NR/L3/SIG/10663 Issue 13
NR/L3/SIG/10665 Issue 19	Reliability Centred Maintenance of Signalling Equipment	NR/L3/SIG/10665 Issue 20
NR/L3/SIG/11231 Issue 15	Signal Maintenance Testing Handbook	NR/L3/SIG/11231 Issue 16
NR/L3/SIGELP/50001 Issue 4	Signalling Power Distribution Equipment Above 175 V (Work Instructions)	NR/L3/SIGELP/50001 Issue 5
NR/L3/TRK/003 Issue 36	Index of Track Engineering Forms	NR/L3/TRK/003 Issue 37
NR/L3/TRK/3510 Issue 2	Rail Friction Management	NR/L3/TRK/3510 Issue 3
NR/PRC/MPI/ST0029 Issue 2	Signalling Scheme Plan Number Controls	NR/L2/SIG/30035 Issue 5
NR/SP/ELP/21060 Issue 2	Issue of Safety Documentation for Work on 650/750 V d.c. Apparatus	NR/L3/ELP/21060 Issue 3
RT/E/PS/11764 Issue 1	Track Circuit Interrupters	NR/L2/SIG/11764 Issue 2

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References	Title	Replaced by/Status
NR/GN/CIV/100 Issue 2	Strategic Design Manual	NR/GN/CIV/100 Issue 3
NR/GN/OTK/5000 Issue 2	Index of Off-Track and Drainage Drawings	NR/GN/OTK/5000 Issue 3
NR/GN/SIG/17901 Issue 4	SSI Configuration Guide	NR/GN/SIG/17901 Issue 5
NR/GN/SIG/CAT005 Issue 55	Index of Network Rail Documents Relating to Signalling and Communications Equipment	NR/GN/SIG/CAT005 Issue 56
NR/L1/CIV/032 Issue 2	The Management of Structures Manual	NR/L2/CIV/032 Issue 1
NR/L2/ASR/036 Issue 5	Assurance Framework	NR/L2/ASR/036 Issue 6
NR/L2/CIV/003 Issue 6	Engineering and Architectural Assurance of Building and Civil Engineering Works	NR/L2/CIV/003 Issue 7
NR/L2/CIV/084 Issue 2	Management of Tunnels	NR/L2/CIV/084 Issue 3
NR/L2/CIV/086 Issue 10	Management of Earthworks Manual	NR/L2/CIV/086 Issue 11
NR/L2/CIV/168 Issue 1	Asbestos Management	NR/L2/CIV/168 Issue 2
NR/L2/CIV/169 Issue 1	Design of Tunnels	NR/L2/CIV/169 Issue 2
NR/L2/ELP/21085 Issue 4	Earthing and Bonding on A.C. Electrified Railways	NR/L2/ELP/21085 Issue 5
NR/L2/MTC/PL0175 Issue 7	Infrastructure Maintenance Planning Handbook	NR/L2/MTC/PL0175 Issue 8
NR/L2/OHS/501 Issue 2	Trackworker Protection and Warning Systems	NR/L2/OHS/501 Issue 3
NR/L2/RSE/100 Issue 6	Network Rail Assurance Panel Processes	NR/L2/RSE/100 Issue 7
NR/L2/SIG/11120 Issue 10	Notice Boards and Technical Instructions	NR/L2/SIG/11120 Issue 11
NR/L2/SIG/11201 Issue 14	Signalling Design Handbook	NR/L2/SIG/11201 Issue 15
NR/L2/SIG/17002 Issue 26	SSI Applications Manual Content	NR/L2/SIG/17002 Issue 27
NR/L2/SIG/19820 Issue 7	Signalling and Level Crossing Product Specifications	NR/L2/SIG/19820 Issue 8
NR/L2/SIG/30009 Issue 20	Signalling Principles Handbook	NR/L2/SIG/30009 Issue 21
NR/L2/SIG/30080 Issue 1	Axle Counter System - Operational and Safety Principles	NR/L2/SIG/30009 Issue 21
NR/L2/TRK/001 Issue 20	Inspection and Maintenance of Permanent Way	NR/L2/TRK/001 Issue 21
NR/L2/TRK/6100 Issue 4	The Installation and Maintenance of Stretcher Bars	NR/L2/TRK/6100 Issue 5
NR/L3/AIF/005 Issue 2	Management of Asset Data and Information in the Rail Vehicle Asset Register	Withdrawn
NR/L3/AMG/02107 Issue 3	The Provision of Track Category and Traffic Data - Work Instruction	Withdrawn
NR/L3/CIV/170 Issue 1	Assessment of Tunnels	NR/L3/CIV/170 Issue 2
NR/L3/INI/CP0063 Issue 1	Piling Adjacent to the Running Line	NR/L3/CIV/0063 Issue 1
NR/L3/MTC/PL0067 Issue 3	Highways Interface Planning in Infrastructure Maintenance	NR/L2/CIV/602 Issue 1
NR/L3/MTC/RCS0216 Issue 22	Risk Control Manual	NR/L3/MTC/RCS0216 Issue 23
NR/L3/MTC/SE0206 Issue 1	Introduction & Management of Lookout Operated Warning System (LOWS) Equipment	NR/L2/OHS/501 Issue 3
NR/L3/MTC/SE0207 Issue 1	Use of Lookout Operated Warning System (LOWS) Equipment	NR/L2/OHS/501 Issue 3
NR/L3/OPS/045 Issue 19	National Operating Procedures Index	NR/L3/OPS/045 Issue 20
NR/L3/OPS/084 Issue 5	Line Clear Arrangements Following Engineering Works in Axle Counter Areas – Line Clear Verification Process	NR/L3/OPS/084 Issue 6
NR/L3/SCO/313 Issue 10	On-Track Machines (OTMs) Driver and Operations Standards Manual	NR/L3/SCO/313 Issue 11
NR/L3/SIG/10661 Issue 21	Signalling Maintenance Task Intervals	NR/L3/SIG/10661 Issue 22
NR/L3/SIG/10663 Issue 13	Signal Maintenance Specifications	NR/L3/SIG/10663 Issue 14
NR/L3/SIG/10665 Issue 20	Reliability Centred Maintenance of Signalling Equipment	NR/L3/SIG/10665 Issue 21
NR/L3/SIG/MG0110 Issue 3	Imposition and Removal of Emergency and Temporary Speed Restrictions	NR/L2/SIG/50040 Issue 1
NR/L3/SIG/SG0093 Issue 2	Signalling Equipment Affected by Emergency or Temporary Speed Restrictions	NR/L2/SIG/50040 Issue 1
NR/L3/SIG/SG0111 Issue 3	Design of Emergency and Temporary Speed Restrictions	NR/L2/SIG/50040 Issue 1
NR/L3/TEL/40047 Issue 4	Process for the Management of Safety Related Reports for Telecoms Failures	NR/L3/TEL/40047 Issue 5
NR/L3/TRK/1015 Issue 5	Management of Basic Visual Inspection	NR/L3/TRK/1015 Issue 6
NR/SP/ELP/21028 Issue 3	Ancillary Wiring and Connections of Electrical Equipment on AC & DC Electrified Lines	NR/L2/ELP/21028 Issue 4
NR/SPEC/1003 Issue 1	Specification for Overlay Miniature Stop Light Level Crossing Systems	NR/L2/SIG/19820 Issue 8
RT/CE/S/080 Issue 1	Management of Existing Bridges & Culverts	NR/L2/CIV/032 Issue 1
RT/CE/S/082 Issue 1	Management of Existing Retaining Walls	NR/L2/CIV/032 Issue 1
RT/CE/S/091Issue 1	Management of Existing Ancillary Structures	NR/L2/CIV/032 Issue 1

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