# Catalogue of Network Rail Standards

NR/CAT/STP/001

ISSUE 109 01 September - 30 November 2018

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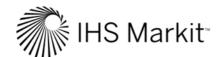
# Railway Group Standards

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





# Table of Contents

i.		cts	
ii.		nce tor Completing the Standards Challenge Application Form	
iii.		ards Challenge - Application Form	
1.		to Network Rail Standards and Catalogue	
	1.1	Quick Find – Using the Index	
	1.2	Network Rail Standards	
	1.3	Network Rail Standards Framework	
	1.4 1.5	Other documents associated with Network Rail Standards	
	1.6	The Current NR Numbering Systems	
	1.7	Compliance Date	
	1.8	Technical Specifications for Interoperability (TSIs)	
	1.9	Railway Group Standards 1	4
	1.10	Referenced Documents	4
	1.11	Ordering Standards, Delivery & Prices	
2.	-	es in this Issue	
	2.1	New and Up-Issued Standards	
_	2.3	Emergency Changes (Also Known As Letters of Instruction)	
3.		rk Rail Catalogues	
	3.1	Network Rail Catalogues	
4.	_	of Network Rail Standards	
	4.1	ASSET INFORMATION	
		Level 2	
		Level 3	
	4.2	CIVIL ENGINEERING	
	4.2.1	Civil Engineering	
		Company Standards	
		Specifications (including Procedures)	
		Level 1	
		Level 2	
		Level 3	
		Guidance Notes (Including Codes of Practice)	
	4.2.2	Special Inspection Notices	
	4.2.2	Guidance Notes	
	4.3	COMMERCIAL PROPERTY	
		Level 2	8
	4.4	COMPANY STANDARDS GROUP	
		Level 2	9
	4.5	COMPETENCE & TRAINING MANAGEMENT	
		Company Standards	
		Specifications (including Procedures)	
		Level 2	
		Guidance Notes	
	4.6.	CONTRACTS & PROCUREMENT	
		Level 1	6
		Level 2	6
		Guidance Notes	-6
	4.7	ELECTRICAL POWER4	
		Specifications (including Procedures)	
		Product Specifications	
		Level 2	
÷		Level 3	
		Work Instructions	
i,		Guidance Notes (including Codes of Practice)	
j		Special Inspection Notices	0
ţ	4.8	ENVIRONMENT7	1
Ě		Company Standards	
		Specifications (including Procedures)	
1		Level 1	
		Level 2	
		Guidance Notes (including Codes of Practice)	
			_

# Table of Contents

4.9	ERGONOMICS	
	Specifications (including Procedures)	
	Level 2.	. 73
4.10	FIRE SAFETY POLICY	
	Level 1	
4.11	INFORMATION MANAGEMENT	
	Level 1.	
	Level 2	
	Level 3	
	Guidance Notes	
4.12	INFRASTUCTURE MAINTENANCE	
	Level 2	
	Guidance Notes	
4.13	INTEGRATED RISK	
	Level 1	
	Level 2	
4.14	INVESTMENT PROJECTS	
Į.	Standard Functional Procedures.	
ŧ	Level 1. Level 2. Level 3. Lev	
į.	Level 3.	
Ę	Guidance Notes	
4.15	LEVEL CROSSINGS	
i i	Level 1	
\$	Level 2	
1	Special Inspection Notices	
4.16.1	NATIONAL DELIVERY SERVICE	
	Level 3.	
4.16.2	SUPPLY CHAIN OPERATIONS	
	Level 2	
	Level 3	
4.17.1	OPERATIONS & CUSTOMER SERVICES.	
4.47.0	Level 2	107
4.17.2	Company Standards	
	Level 1	
	Level 2.	
	Level 3	110
	Guidance Notes	
4.18	RAIL MOUNTED VEHICLE & PLANT	
	Specifications (including Procedures)	
	Product Specifications.  Level 1	
	Level 2	
	Level 3	
	Guidance Notes (including Codes of Practice)	118
4.19	SAFETY & COMPLIANCE	
4.19.1	Accident Investigation	
	Level 2	
4 19 2	Assurance	
1.10.2	Level 2.	
4.19.3	Health & Safety Systems	
	Company Standards	120
	Level 1	_
4.40 *	Level 2.	_
4.19.4	Occupational Health & Safety	
	Company Standards	
	Level 1.	
	Level 2.	
	Level 3	
	Guidance Notes	125

# **Table of Contents**

4.20	SIGNAL ENGINEERING	126
	Specifications (including Procedures)	126
	Product Specifications	130
	Level 1	132
	Level 2	132
	Level 3	149
	Work Instruction	157
	Guidance Notes (including Codes of Practice)	157
	Special Inspection Notices	163
4.21	SYSTEM ENGINEERING	
4.21.1	Engineering Programme Management	
	Level 1	
	Level 2.	
	Level 3	166
4.21.3	Railway System Engineering	
	Level 2	
4.22	TELECOMS ENGINEERING	
	Company Standards	
	Specifications	
	Product Specifications.	
	Level 1	
	Level 2	
	Level 3	
	Work Instructions	
	Guidance Notes (including Codes of Practice)	
	Special Inspection Notices	
4.23	TRACK ENGINEERING	
	Specifications (including Procedures)	183
	Product Specifications	
	Level 1	
	Level 2	
	Level 3	
	Work Instructions	
	Guidance Notes	
	Special Inspection Notices	
4.24	Documents Archived in the Last 15 Months	
	Historic 06/17	
	Historic 09/17	
	Historic 12/17	
	Historic 03/18	
	Historic 06/18	





12<sup>th</sup> 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

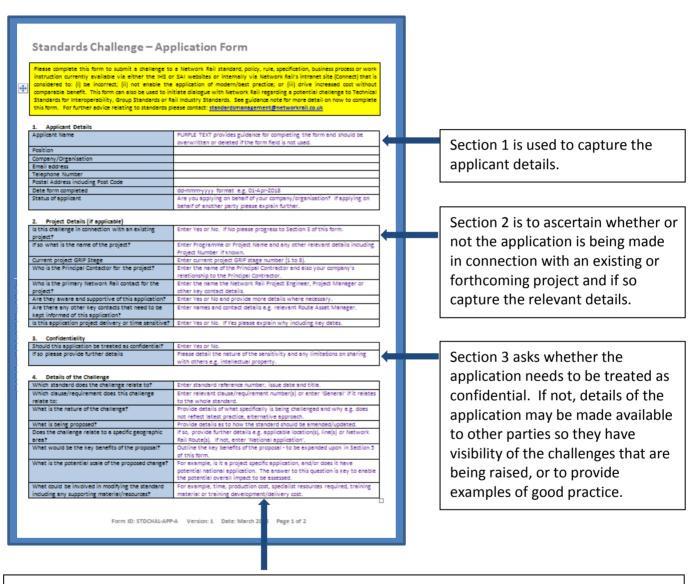
**Brian Tomlinson** 

Chief Systems Assurance Engineer Safety, Technical & Engineering

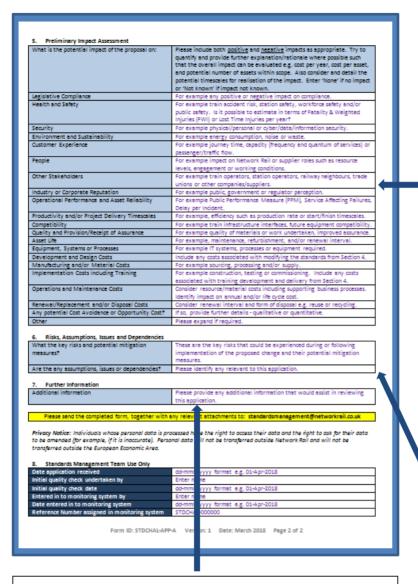
# **Guidance for Completing the Standards Challenge Application Form**

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.



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.

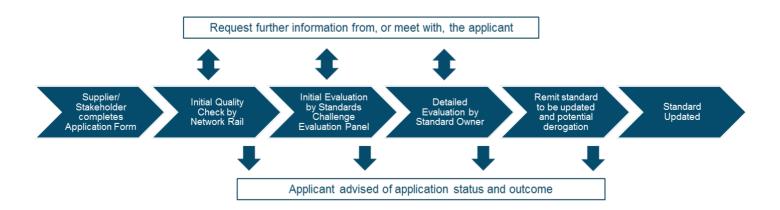


Section 5 is equally important. It lists a range of output capabilities and is asking the applicant to provide their view on whether these would be positively or negatively impacted if the challenge were to be accepted and to provide details of the expected scale of the change seeking quantification, 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

Not for Resale, 08/29/2018 03:44:46 MDT

# **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

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)

2. Project Details (ii applicable)	
Is this challenge in connection with an existing	Enter Yes or No. If No please progress to Section 3 of this form.
project?	
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	Enter the name the Network Rail Project Engineer, Project Manager or
project?	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	Enter names and contact details e.g. relevant Route Asset Manager.
kept informed of this application?	
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	Enter relevant clause/requirement number(s) or enter 'General' if it relates
relate to:	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	If so, provide further details e.g. applicable location(s), line(s) or Network
area?	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	For example, time, production cost, specialist resources required, training
including any supporting material/resources?	material or training development/delivery cost.

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

#### **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 physical/personal or cyber/data/information security.  Environment and Sustainability  For example penergy 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  Operational Performance and Asset Reliability  For example public, government or regulator perception.  For example public, performance Measure (PPM), Service Affecting Failures, Delay per Incident.  For example, efficiency such as production rate or start/finish timescales.  Compatibility  For example quality of materials or work undertaken, improved assurance.  Asset Life  For example quality of materials or work undertaken, improved assurance.  For example train infrastructure interfaces, future equipment compatibility.  For example maintenance, refurbishment, and/or renewal interval.  Guality and Provision/Recei	5. Preliminary Impact Assessment	
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Legislative Compliance For example any positive or negative impact on compliance. For example any positive or negative impact on compliance. 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 physical/personal or cyber/data/information security.  Environment and Sustainability For example physical/personal or cyber/data/information security.  For example penergy consumption, noise or waste.  For example impact on Network Rail or supplier roles such as resource levels, engagement or working conditions.  Other Stakeholders For example impact on Network Rail or supplier roles such as resource levels, engagement or working conditions.  Operational Performance and Asset Reliability For example public, government or regulator perception.  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. For example quality of materials or work undertaken, improved assurance.  Asset Life For example quality of materials or work undertaken, improved assurance.  For example any costs involved in modifying the standards from Section 4.  Manufacturing and/or Material Costs Also include any costs involved in modifying the standards 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/		
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	Renewal/Replacement and/or Disposal Costs	Consider renewal interval and form of disposal e.g. reuse or recycling.
Other Please expand if required.	Any potential Cost Avoidance or Opportunity Cost?	If so, provide further details - qualitative or quantitative.
	Other	Please expand if required.

# Risks, Assumptions, Issues and Dependencies

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

#### **Further Information**

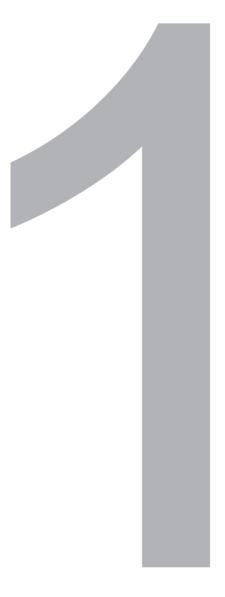
Additional information	Please provide any additional information that would assist in reviewing
	this application.

Please send the completed form, together with any relevant attachments to: standardsmanagement@networkrail.co.uk

Privacy Notice: Individuals whose personal data is processed have 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 will not be transferred outside Network Rail and will not be transferred outside the European Economic Area.

# **Standards Management Team Use Only**

Date application received	dd-mmm-yyyy format e.g. 01-Apr-2018
Initial quality check undertaken by	Enter name
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



# 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 Contains a simple list of documents withdrawn in 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.

#### 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:

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 Letter of Instruction process is specified in NR/L2/EBM/STP001.

Notice Board Briefing documents, intended to improve the circulation of information on signalling and

associated topics. Enabling the guick 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.

A document that details a mandatory specific additional requirement or amplification of one or Technical Instruction

more requirements in an existing signal engineering company standard.

**Permanent Way Special Instruction (PWSI)** 

**Signalling Technical Advice Notice** 

(SIGTANS)

A particular form of specification issued by Track Engineering. 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.

# 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
СР	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		

#### Table 2a - 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	Investment Projects	INI
Commercial Property	PRO	Level Crossings#	XNG
Company Standards Group*	CSG	National Delivery Service	NDS
Competence & Training	СТМ	National Supply Chain	NSC/SCO®
Contracts & Procurement	CPR	Operations & Customer Services	OCS/OPS
Electrical Power	ELP	Rail Mounted Vehicle & Plant	RMVP
Environment	ENV	Safety & Compliance	INV/OHS/HSS
Ergonomics	ERG	Signals	SIG
Fire Safety Policy	FIR	System Engineering	EBM/RSE
Information Management	INF	Telecoms	TEL
Infrastructure Maintenance	MTC	Track	TRK

<sup>\*</sup> New at Issue 99, # New at Issue 100, @ New at Issue 106

# Table 2b - 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	СТМ	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		

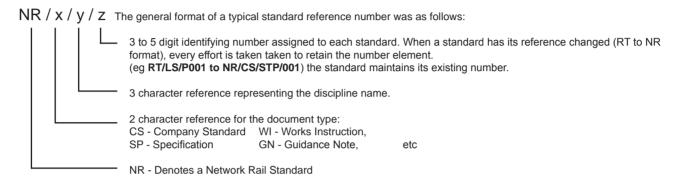
#### 1.6.2 Previous NR Numbering System (by Document Type and Discipline Name)

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 Technical Specifications for Interoperability (TSIs)

TSIs are European-wide standards and set out essential requirements in eight subsystems.

Where applicable, TSIs are mandated in the UK through The Railways (Interoperability) Regulations 2006. TSIs take precedence over all other national standards including Railway Group standards and Network Rail standards.

TSIs 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 TSIs.

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.

#### 1.11 Ordering Standards, Delivery & Prices

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

> IHS Global Ltd **Capitol Building** Oldbury Bracknell RG12 8FZ Tel: 01344 404409 Fax: 01344 404421

Paper copies available individually or on subscription from:

**Network Rail Document Centre** IHS Retail, IHS Global Ltd **Capitol Building** Oldbury **Bracknell RG12 8FZ** Tel: 01344 328039

Fax: 01344 328005 Email: emeastore@ihs.com

Most of the Network Rail Standards are priced according to the number of pages in them and are divided into 6 main price bands; these are:

Price Band	А	В	С	D	E	F	Phone
Price (Ex VAT)	£12	£16	£30	£42	£55	£80	Price on Application

Prices quoted above are for hardcopy or printable content.

Price list correct at date of publishing.

Errors and omissions excepted.

#### Video, PowerPoint and Excel Files

Some standards contain additional Video 💻 , PowerPoint 🕨 or Excel spreadsheets 🔳 which will only be supplied in electronic format. Please phone for details of prices and delivery methods.

#### Digital (pdf) attracts VAT, no delivery charge.

Paper copies are VAT-free but delivery charges apply (see Delivery & Packaging on Individual Standards Order Form at front of catalogue).

#### Modular Standards

For modular documents, the following key applies:

- · Standard only Price for Base document plus directly attached printable content including Letters of Instruction.
- Complete Price for the above plus ALL associated modules and printable content
- Individual modules Prices are as in table above. In many cases you will need to phone IHS Retail for a custom pricing.

Orders received will be dispatched within five working days.

When placing an order for Standards, please have the following details to hand:

- · Contact and delivery details
- Standard or module Number.
- Title
- Price
- · Quantity required
- · Credit card/payment details.

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Changes in this Issue

# 2.1 New and Up-Issued Standards

#### 2. Changes in this Issue

#### 2.1 **New and Up-Issued Standards**

References	Title	Replaces	Page
NR/GN/TRK/065 Issue 1	NR 60 Mark 2 Standardised S&C – Assembly and Maintenance	New	203
NR/GN/TRK/7001 Issue 15	Index of Track Work Information Sheets (TWI)	NR/GN/TRK/7001 Issue 14	203
NR/GN/TRK/8203 Issue 2	NR56V Standardised S & C – Assembly and Maintenance	NR/GN/TRK/8203 Issue 1	211
NR/L2/CIV/086 Issue 8	Management of Earthworks	NR/L2/CIV/086 Issue 7	29
NR/L2/CIV/295 Issue 2	Scour Assessment of Bridges, Culverts and Retaining Walls	NR/L2/CIV/295 Issue 1	32
NR/L2/ELP/21087 Issue 8	Specification of Maintenance Frequency and Defect Prioritisation of Overhead Line Electrification Equipment	NR/L2/ELP/21087 Issue 7	56
NR/L2/ELP/27715 Issue 3	Overhead Contact System Design Specification	NR/L2/ELP/27715 Issue 2	61
NR/L2/MTC/MG0012 Issue 6	Route Business [Non-Operations] Briefing Process (formerly NR/L3/MTC/MG0012)	NR/L2/MTC/MG0012 Issue 5	78
NR/L2/MTC/MG0042 Issue 5	The Definition and Review of Maintenance Compliance Indicators	NR/L2/MTC/MG0042 Issue 4	78
NR/L2/MTC/SE0117 Issue 4	Planned Assurance Inspections and Site Surveillance	NR/L3/MTC/SE0117 Issue 3	79
NR/L2/RSK/001 Issue 2	Enterprise Risk Management	NR/L2/RSK/001 Issue 1	94
NR/L2/SIG/14201 Issue 3	Signalling Risk Assessment Handbook	NR/L2/SIG/14201 Issue 2 NR/GN/SIG/14202 issue 2 RT/E/S/14200 Issue 1 NR/TI095 Issue 4	137
NR/L2/SIG/17002 Issue 26*	SSI Applications Manual	NR/L2/SIG/17002 Issue 25	137
NR/L2/SIG/30009 Issue 15	Signalling Principles Handbook	NR/L2/SIG/30009 Issue 14	141
NR/L2/TRK/001 Issue 12	Inspection and Maintenance of Permanent Way	NR/L2/TRK/001 Issue 11	187
NR/L2/XNG/310 Issue 1	Product Specification for an Obstacle Detection System at Level Crossings	New	101
NR/L3/CTM/302 Issue 2	Production and Maintenance of Training and Assessment Solutions	NR/L3/CTM/302 Issue 1	44
NR/L3/ELP/3091 Issue 4	DC Electrified Lines Working Instructions	NR/WI/ELP/3091 Issue E2 RT/E/W/00109 Issue E1	62
NR/L3/ELP/27115 Issue 4	Arrangements for Isolation of the Conductor Rail for Pre-Planned Possessions of the Line	NR/L3/ELP/27115 Issue 3	63
NR/L3/ELP/27140 Issue 3	Application of Short Circuits for Conductor Rail Isolations	NR/WI/ELP/27140 Issue 2	63
NR/L3/ELP/27237 Issue 16	Overhead Line Work Instructions	NR/L3/ELP/27237 Issue 15	63
NR/L3/MTC/MG0180 Issue 3	Maintenance Compliance Indicator Reporting	NR/L3/MTC/MG0180 Issue 2	83
NR/L3/MTC/MG0213 Issue 11	Index of Standard Maintenance Forms	NR/L3/MTC/MG0213 Issue 10	84
NR/L3/MTC/MG0221 Issue 5	Network Operations Non-Operations Staff Management Self-Assurance Procedure	NR/L3/MTC/MG0221 Issue 4	84
NR/L3/MTC/RCS0216 Issue 13	Risk Control Manual	NR/L3/MTC/RCS0216 Issue 12	86
NR/L3/OPS/002 Issue 7	Driving Cab Passes (formerly NR/L3/OCS/002)	NR/L2/OCS/002 Issue 6	110
NR/L3/OPS/045 Issue 5	National Operating Procedures Index	NR/L3/OPS/045 Issue 4	110
NR/L3/OPS/084 Issue 4	Line Clear Arrangements Following Engineering Works in Axle Counter Areas – Line Clear Verification Process (formerly NR/L3/OCS/084)	NR/L3/OCS/084 Issue 3	112
NR/L3/RMVP/40028 Issue 2	Core Maintenance for Traversers	RT/E/S/40028 Issue 1	118
NR/L3/RMVP/40031 Issue 2	Core Maintenance for Wheel/Bogie Drops	RT/E/S/40031 Issue 1	118
NR/L3/SCO/320 Issue 1	Supplier Quality Assurance (SQA)	New	106
NR/L3/SIG/10064 Issue 7	General Instructions to Staff Working on S&T Equipment	NR/L3/SIG/10064 Issue 6	149
NR/L3/SIG/10661 Issue 17	Signal Maintenance Task Intervals	NR/L3/SIG/10661 Issue 16	149
NR/L3/SIG/10663 Issue 9*	Signal Maintenance Specifications	NR/L3/SIG/10663 Issue 8	149
NR/L3/SIG/10665 Issue 16	Reliability Centred Maintenance of Signalling Equipment	NR/L3/SIG/10665 Issue 15	149
NR/L3/SIG/11231 Issue 12*	Signal Maintenance Testing Handbook	NR/L3/SIG/11231 Issue 11	150
NR/L3/TRK/003 Issue 27	Index of Track Engineering Forms	NR/L3/TRK/003 Issue 26	193
NR/L3/TRK/3406 Issue 3	Design, Installation and Maintenance of Modular Bearer Joints	NR/L3/TRK/3406 Issue 2	201
NR/SIN/181 Issue 1	Signal Overrun Risk Assessment-Gap Analysis	New	164
NR/SIN/183 Issue 1	Cast Crossing Inspection and Replacement NR56 JEZ 1:13 Design	New	211

<sup>\*</sup> These standards are up-issued, but full details on the updates not received in time for this Catalogue to go to print.

# 2.2 Withdrawn, Closed and Superseded Standards

#### 2.2 Withdrawn, Closed and Superseded Standards

References	Title	Replaced by/Status
NR/GN/SIG/14202 Issue 2	Prevention and Mitigation of Overruns – Risk Assessment of Signals	NR/L2/SIG/14201 Issue 3
NR/GN/TRK/7001 Issue 14	Index of Track Work Information Sheets (TWI)	NR/GN/TRK/7001 Issue 15
NR/GN/TRK/8203 Issue 1	NR56V Standardised S & C – Assembly and Maintenance	NR/GN/TRK/8203 Issue 2
NR/L2/CIV/086 Issue 7	Management of Earthworks	NR/L2/CIV/086 Issue 8
NR/L2/CIV/295 Issue 1	Scour Assessment of Bridges, Culverts and Retaining Walls	NR/L2/CIV/295 Issue 2
NR/L2/ELP/21087 Issue 7	Risk Based Maintenance for Overhead Line Electrification Assets	NR/L2/ELP/21087 Issue 8
NR/L2/ELP/27715 Issue 2	Overhead Contact System Design Specification	NR/L2/ELP/27715 Issue 3
NR/L2/ENV/015 Issue 7	Environment and Social Minimum Requirements – Design and Construction	WITHDRAWN
NR/L2/MTC/MG0012 Issue 5	Network Operations [Non-Operations] Briefing Process	NR/L2/MTC/MG0012 Issue 6
NR/L2/MTC/MG0042 Issue 4	The Reporting and Review of Maintenance Compliance Indicators	NR/L2/MTC/MG0042 Issue 5
NR/L2/RSK/001 Issue 1	Enterprise Risk Management	NR/L2/RSK/001 Issue 2
NR/L2/SIG/14201 Issue 2	Prevention and Mitigation of Overruns – Risk Assessment of Signals	NR/L2/SIG/14201 Issue 3
NR/L2/SIG/17002 Issue 25	SSI Applications Manual	NR/L2/SIG/17002 Issue 26
NR/L2/SIG/30009 Issue 13	Signalling Principles Handbook	NR/L2/SIG/30009 Issue 14
NR/L2/TRK/001 Issue 11	Inspection and Maintenance of Permanent Way	NR/L2/TRK/001 Issue 12
NR/L3/CTM/302 Issue 1	Production and Management of Training and Assessment Solutions	NR/L3/CTM/302 Issue 2
NR/L3/ELP/27115 Issue 3	Arrangements for Isolation of the Conductor Rail for Pre-Planned Possessions of the Line	NR/L3/ELP/27115 Issue 4
NR/L3/ELP/27237 Issue 15	Overhead Line Work Instructions	NR/L3/ELP/27237 Issue 16
NR/L3/MTC/MG0180 Issue 2	Production of Compliance Indicator Reports	NR/L3/MTC/MG0180 Issue 3
NR/L3/MTC/MG0213 Issue 10	Index of Standard Maintenance Forms	NR/L3/MTC/MG0213 Issue 11
NR/L3/MTC/MG0221 Issue 4	Network Operations Non-Operations Staff Management Self-Assurance Procedure	NR/L3/MTC/MG0221 Issue 5
NR/L3/MTC/RCS0216 Issue 12	Risk Control Manual	NR/L3/MTC/RCS0216 Issue 13
NR/L3/MTC/SE0117 Issue 3	Planned General Safety Inspections and Site Surveillance	NR/L2/MTC/SE0117 Issue 4
NR/L3/OCS/002 Issue 6	Driving Cab Passes	NR/L3/OPS/002 Issue 7
NR/L3/OPS/045 Issue 4	National Operating Procedures Index	NR/L3/OPS/045 Issue 5
NR/L3/OCS/084 Issue 3	Line Clear Arrangements Following Engineering Works in Axle Counter Areas – Line Clear Verification Process	NR/L3/OPS/084 Issue 4
RT/E/S/40028 Issue 1	Core Maintenance Specification for Traversers	NR/L3/RMVP/40028 Issue 2
RT/E/S/40031 Issue 1	Core Maintenance Specification for Wheeldrops	NR/L3/RMVP/40031 Issue 2
NR/L3/SIG/10064 Issue 6	General Instructions to Staff Working on S&T Equipment	NR/L3/SIG/10064 Issue 7
NR/L3/SIG/10661 Issue 16	Signal Maintenance Task Intervals	NR/L3/SIG/10661 Issue 17
NR/L3/SIG/10663 Issue 8	Signal Maintenance Specifications	NR/L3/SIG/10663 Issue 9
NR/L3/SIG/10665 Issue 15	Reliability Centred Maintenance of Signalling Equipment (RoSE)	NR/L3/SIG/10665 Issue 16
NR/L3/SIG/11231 Issue 11	Signal Maintenance Testing Handbook	NR/L3/SIG/11231 Issue 12
NR/L3/TRK/003 Issue 26	Index of Track Engineering Forms	NR/L3/TRK/003 Issue 27
NR/L3/TRK/3406 Issue 2	Installation of Modular S&C	NR/L3/TRK/3406 Issue 3
NR/TI095 Issue 4	Signal Overrun Risk Assessment	NR/L2/SIG/14201 Issue 3
NR/WI/ELP/3091 Issue E2	DC Electrified Lines Working Instructions	NR/L3/ELP/3091 Issue 4
NR/WI/ELP/27140 Issue 2	Application of Short Circuiting Straps for Conductor Rail Isolations	NR/L3/ELP/27140 Issue 3
RT/E/S/14200 Issue 1 (NT/SP/SIG/14200)	Prevention and Mitigation of Overruns – Risk Assessment Tools	NR/L2/SIG/14201 Issue 3
RT/E/WI/00109 Issue E1	Machine Switch out in Conjunction with the Trial of on Track Maintenance Machines	NR/L3/ELP/3091 Issue 4

# 2.3 Emergency Changes

# 2.3 Emergency Changes (Also 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.

Historic changes (where text has been crossed out) will be removed next publication. Please note, some changes may stay current after the stated Expiry Date

Document Reference	Title	Issue	Date
NR/BS/LI/408	Standard/control document affected: NR/L2/SIG/11704 (Issue 3), Signalling Requirements for the Application Design and Management of Points	1	31/07/2018
NR/BS/LI/407	Standard/control document affected: NR/L2/SIG/11704 (Issue 3), Signalling Requirements for the Application Design and Management of Points	1	31/07/2018
NR/BS/LI/406	Standard / control document affected: NR/L3/ELP/29987 (Issue 04), [Working on or about 25 kV A.C. Electrified Lines]	1	20/04/2018
NR/BS/LI/405	Standard/control document affected: NR/L2/TRK/053 (Issue 7), Inspection and Repair Procedures to Reduce the Risk of Derailment at Switches.	1	09/03/2018
NR/BS/LI/404	Standard/control document affected: NR/L2/TRK/053 (Issue 7), Inspection and Repair Procedures to Reduce the Risk of Derailment at Switches.	1	20/03/2018
NR/BS/LI/401	Standard affected: NR/L3/ELP/29987 (Issue 4), Working on or About 25 kV A.C. Electrified Lines	1	21/12/2017
NR/BS/LI/400	Standard Affected: NR/L3/OPS/045/2:03 (Issue 01) Electrical Control Operator Competence and Assessment Framework Superseded by NR/L3/OPS/045 Issue 3 Historic on 2 Jne 2018	4	31/10/2017
NR/BS/LI/399	Standard affected: NR/L2/ELP/21087 (Issue 07), [Risk Based Maintenance for Overhead Line Electrification- Assets] Superseded by NR/L2/ELP/21087 Issue 8 Historic on 1 December 2018	4	08/12/2017
NR/BS/LI/398	Standard Affected: NR/L3/MTC/MG0221 (Issue 4) Network Operations non-operations staff management self-assurance procedure Superseded by NR/L3/MTC/MG0221 Issue 5 Historic on 1 December 2018	1	23/08/2017
NR/BS/LI/397	Standard/control document affected: NR/SP/CTM/016 Issue 1, Competency & Training in Fixed Plant Engineering	1	20/04/2018
NR/BS/LI/396	Standard/control document affected: NR/L3/ELP/29987 [Working On or about 25 kV a.c. Electrified Lines] Superseded by NR/BS/LI/408	4	07/07/2017
NR/BS/LI/393	Standard/control document affected: NR/L3/ELP/29987 (Issue 4). Working on or about 25 kV A.C. Electrified- Lines Superseded by NR/BS/LI/401	4	19/06/2017
NR/BS/LI/391	Standard/control document affected: NR/L2/SIG/11201 Module B11 (Issue 4). Interlockings - Electronic Interlocking Guidelines Superseded by NR/L2/SIG/11201 Issue 11 Historic on 01 December 2018	1	28/04/2017
NR/BS/LI/389	Standard affected: NR/L2/SIG/30009 (Issue 11). Signalling Principles Handbook	1	13/02/2017
NR/BS/LI/387	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	1	26/07/2017
NR/BS/LI/383	Standard affected: NR/L2/CTM/021 (Issue 4). Competence and Training 2		08/12/2016
NR/BS/LI/372	Standards affected: NR/L2/ELP/27401 (Issue 1), Configuration Management and change to protection and control systems	2	04/12/2017
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/370	Standard affected: RT/E/S/21131 (Issue 1). Warning and other signs for a.c. and d.c. electrified lines	1	26/10/2016
NR/BS/LI/367	Standard affected: NR/L3/ELP/29987 (Issue 4). Working On or About 25kV A.C. Electrified Lines	1	07/01/2016
NR/BS/LI/366	Standard affected: NR/L2/ELP/27229 (Issue 2). Specification for remote control equipment for electrical distribution systems	2	04/12/2017
NR/BS/LI/365	Standard affected: NR/L3/TRK/4004 (Issue 2). Switch and Crossing Assemblies	2	16/06/2016
NR/BS/LI/349	Standards affected: NR/L2/CIV/003 Engineering Assurance of Building and Civil Engineering Works [Issue 4]	1	02/02/2015
NR/BS/LI/348	Requirements for undertaking the roles of Lead Examiner and Examining Engineer for the examination of Tunnels.	1	23/02/2015
NR/BS/LI/347	Standard affected: NR/L2/CTM/028 (Issue 2). Competence and Training	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	1	13/04/2016
NR/BS/LI/340	Standards affected: NR/L3/TRK/4004 (Issue 2). Switch and crossing assemblies	1	07/01/2015
NR/BS/LI/331	Requirements for parapet heights on over bridge and footbridge structures spanning overhead line electrification equipment	2	07/08/2015
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/322	Standards affected: NR/L2/TRK/5100. Issue 2. Management of Fencing and Other Boundary Measures Superseded by NR/L2/OTK/5100 Historic on 1 April 2019	1	28/03/2014
NR/BS/LI/306	Standard affected: NR/L1/CIV/032: The Management of Structures [Issue 2]	2	26/09/2014

# 2.3 Emergency Changes

Document Reference	Title	Issue	Date
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/283	Standard affected: NR/L3/TRK/4004 (Issue 2). Switch and Crossing Assemblies	2	14/09/2015
NR/BS/LI/282	Standard affected: NR/WI/ELP/3091 (Issue 2). DC Electrified Lines Working Instructions Superseded by NR/L3/ELP/3091 Issue 4 Historic on 1 December 2018	1	24/01/2013
NR/BS/LI/281	Standard affected: NR/SP/ELP/21060 (Issue 2). Issue of Safety Documentation for Work on 650/750 V dc Apparatus	1	24/01/2013
NR/BS/LI/256	Standard affected: NR/SP/ELP/27243 (Issue 1). Specification for Signalling Power Supplies	2	24/10/2016
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/193	Standards affected: NR/L3/CIV/006 Part 11A: Reporting and recording examinations of Structures in CARRS [Issue 2]	2	03/09/2014
NR/BS/LI/185	Standard affected: NR/L2/TRK/5100 (Issue 2). Management of Fencing and Other Boundary Measures Superseded by NR/L2/OTK/5100 Historic on 1 April 2019	3	03/03/2017
NR/BS/LI/174	Standard affected: NR/WI/ELP/3091 (E 2). DC Electrified Lines Working Instructions Superseded by NR/L3/ELP/3091 Issue 4 Historic on 1 December 2018	1	19/04/2010
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/146	Standard affected: NR/L2/TRK/5100 (Issue 2). Management of Fencing and Other Boundary Measures Superseded by NR/L2/OTK/5100 Historic on 1 April 2019	1	31/10/2009
NR/BS/LI/119	Standard affected: NR/WI/ELP/3091 (Issue E2). DC Electrified Lines Working Instructions Superseded by NR/L3/ELP/3091 ISSUE 4 Historic on 1 December 2018	1	12/12/2008
NR/BS/LI/118	DC Electrified Line Working Instruction - standard affected NR/WI/ELP/3091 Superseded by NR/L3/ELP/3091 Issue 4 Historic on 1 December 2018	3	21/04/2011
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/097	Standard affected NR/WI/ELP/27052 Work Instructions for DC electrified lines in the Northern city line	1	04/06/2008
NR/BS/LI/095	Standard affected NR/WI/ELP/3091. DC electrified lines and working instructions Superseded by NR/L3/ELP/3091 Issue 4 Historic on 1 December 2018	1	04/06/2008
NR/BS/LI/091	Use of CEMBRE Rail Web Connection Systems on DC Conductor Rail - standard affected NR/GN/ELP/27020	1	27/05/2008
NR/BS/LI/090	Standard affected: NR/WI/ELP/3091. DC electrified lines working instructions. Issue E2 Superseded by NR/L3/ELP/3091 Issue 4 Historic on 1 December 2018	4	14/02/2014
NR/BS/LI/084	Project D686: Western Territory 650 V Cable Renewals	1	18/04/2008
NR/BS/LI/083	Rail Defect Classification Codes and Summary of Changes to NR/SP/TRK/057 Superseded by NR/L2/TRK/001 issue 12 Historic on 1 December 2018	4	15/05/2008
NR/BS/LI/074	DC Certificates of Isolation associated with circuit breaker - Affected Standard NR/WI/ELP/3091 Superseded by NR/L3/ELP/3091 Issue 4 Historic on 1 December 2018	1	25/10/2007
NR/BS/LI/072	STL Auxiliary Transformer Failures at Traction Substations or Switching Stations	4	19/10/2007
NR/BS/LI/061	Dangerous Incident Notification: 11kV indoor switchgear type YSF6 manufactured by Yorkshire Switchgear	1	23/11/2006
NR/BS/LI/060	Traction electrical distribution sites with compromised earthing due to theft of cables - standard affected NR/SP/ELP/21032	1	23/11/2006
NR/BS/LI/056	Permali Bushings: Access Restrictions	1	11/09/2006
NR/BS/LI/054	Maintenance and Operation of WS Switchgear Withdrawn. Historic on 1 September 2018	1	04/08/2006
NR/BS/LI/047 - E&P	Bimold Connections on Rectifier Transformers at DC Traction Substations	1	05/05/2006
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/037	Letter of Instruction re Neutral Section trippings at Hayes Withdrawn.  Historic on 1 September 2018 – No Longer applicable at Hayes	1	10/11/2005
NR/BS/LI/034	Programme to replace components in d.c. circuit breakers comprising asbestos containing materials - standard affected NR/L3/ELP/00110  Withdrawn. Historic on 1 September 2018	1	31/10/2005
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

# 2.3 Emergency Changes

Document Reference	Title	Issue	Date
NR/BS/LI/025	Paralleling of EDFE Supply Points New Cross - Croydon. Wimbledon. Northfleet: Restrictions	3	07/01/2008
NR/BS/LI/011	Substation Entry Restrictions for Locations Containing ASEA Minimum Oil 25 kV Switchgear Withdrawn. Historic on 1 September 2018 – equipment obsolete	6	17/10/2006



# 3.1 Network Rail Catalogues

# 3. Network Rail Catalogues

# 3.1 Network Rail Catalogues

NR/CAT/STP001 Catalogue of Network Rail Standards Issue 109; Sep 18

Replaces

NR/CAT/STP001 Iss 108; Jun 18

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

Price: Phone

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

Replaces

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

Price: Phone

NR/L2/SIG/CAT003 Index of Network Rail Documents Relating to Signalling
Equipment: Mechanical & Electrical Drawings Issue 9; Dec 16

Compliance Replaces 04/03/17 RT/L3/CA

RT/L3/CAT003 Iss 8; Mar 15

This catalogue deals with BRS SM (Mechanical) drawings and BRS SE (Electrical) drawings

Price: Phone

NR/GN/SIG/CAT005 Index of Network Rail Documents Relating to Signalling & Communications
Equipment Issue 52; Jun 18

Replaces

Iss 51; Dec 16

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 standard includes a listing of typical circuits for signalling and level crossing applications.

Price: E

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.

Price: Phone



# **Listing of Network Rail Standards**

# 4.1 ASSET INFORMATION

# 4. Listing of Network Rail Standards

# 4.1 ASSET INFORMATION

#### evel 1

NR/L1/ADG/001 Asset Data Policy Issue 1; Dec 16 Compliance Replaces
04/03/17 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.

Price: C

#### Level 2

NID/LO/ADO/000	Accet Data Covernance Franciscole Manual Jacob O. May 17	Camplianaa	Dawlessa
NR/L2/ADG/002	Asset Data Governance Framework Manual Issue 2; Mar 17	Compliance	Replaces
		03/06/17	NR/L2/ADG/002 Iss 1: Dec 16
		00/00/11	1417/22/77/2002 100 1, 200 10

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.

Price: C Standard only; Complete, F See below for details of modules and individual pricing

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

NR/L2/ADG/003	Asset Data Exchange Plan Issue 1; Dec 16	Compliance	Replaces
		04/03/17	New at Issue 102

This business process provides a defined, controlled method to:

- enable asset-related data to be exchanged in an efficient, controlled manner;
- improve the accuracy, frequency and reusability of asset-related data received from projects of works which refurbishes, renews or enhances assets

This business process enables the business to better manage the risks associated with:

- making decisions based on asset-related data
- not being able to control project scope, time and cost.

It supports Network Rail in realising the change management principles in NR/L1/ADG/001 that set out how Network Rail defines and applies measures of quality to asset-related data. It is aligned to the Asset Management Strategy and Policy, and Network Rail's vision for systematic management of assets.

This business process mitigates the asset-data related hazard of incompatibility of design elements and data collected through projects with business process.

Price: C

4.1 ASSET INFORMATION ADG/AIF Level 3

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

Price: C

Management of Asset Data and Information in the Rail Vehicle NR/L3/AIF/005 Compliance Replaces Asset Register Issue 2; Sep 11 03/09/11 NR/L3/AIF/005 Iss 1; Sep 10

This standard implements the requirements of NR/L2/AIF/001, Asset data management for assets contained in the Rail Vehicle Asset Register (RVAR).

Price: B

CIV

4.2.1 Civil Engineering Co. Stds / Specs

# 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

Price: D (Contains NR/BS/LI/045 (Expired), NR/BS/LI/187 (Expired), NR/BS/LI/188 (Expired))

#### Specifications (including Procedures)

RT/CE/S/080 Management of Existing Bridges and Culverts 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 Bridges and Culverts 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.

Price: D (Contains NR/BS/LI/264 (Expired))

RT/CE/S/082 Management of Existing Retaining Walls 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 Retaining Walls on Network Rail's infrastructure such that there is no unacceptable risk to safety as a result of their condition, use or location.

Price: D

RT/CE/S/084 Management of Existing Tunnels 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 tunnels within Network Rail's infrastructure such that there is no unacceptable risk to safety as a result of their condition, use or location.

Price: D

RT/CE/S/087 Management of Existing Buildings and Station Structures Issue 1; Apr 04 Replaces

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.

Price: D

RT/CE/S/089 Management of Existing Coastal, Estuarine and River Defences Issue 1; Apr 04 Repla

Renlaces

RT/CE/P/023 Iss 3; Feb 99

RT/CE/S/222 lss 1; Feb 99

The purpose of this Specification is to define the requirements for the management of existing Coastal, Estuarine and River Defences on Network Rail's infrastructure such that there is no unacceptable risk to safety as a result of their condition.

Price: D

RT/CE/S/091 Management of Existing Ancillary 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 Ancillary 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.

Price: D

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.

Price: E

# 4.2.1 Civil Engineering

CIV Specs / Levels 1 & 2

NR/L1/CIV/04 **National Asset Protection and Optimisation Delivery** Compliance Replaces Framework Issue 1: Jun 18 01/09/18 New at Issue 108

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

Price: C

NR/L1/CIV/032 The Management of Structures Issue 2; Sep 09 Compliance Replaces 05/12/09 RT/CE/P/032 Iss 1; Apr 04

The purpose of this standard is to define the essential procedures that have to be followed so that no unacceptable risk to the safe use or performance of railway infrastructure will arise from the stability, load-bearing capacity, condition or use of existing structures.

Price: E (Contains NR/BS/LI/176 (Expired), NR/BS/LI/192 (Expired), NR/BS/LI/306 Issue 2)

NR/L1/CIV/094 **National Asset Protection and Optimisation Delivery** Compliance Replaces Framework Issue 1; Jun 18 01/09/18 New at Issue 108

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

Price: C

NR/L2/CIV/003 Compliance **Engineering Assurance of Building and Civil Engineering** Replaces Works Issue 4; Jun 12 01/09/12 NR/L2/CIV/003 Iss 3; Jun 11

The purpose of this standard is to define the Engineering Assurance requirements for the design and construction of works undertaken on Building and Civil Engineering infrastructure.

Price: F (Contains NR/BS/LI/349)

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

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

Price: D Standard only; Complete, Phone See below for details of modules and individual pricing

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

NR/L2/CIV/035	Structural Assessments Issue 1; Dec 17	Compliance 02/03/19	Replaces RT/CE/S/035 lss 2; Feb 04 (NR/SP/CIV/035)
			()

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.

Price: C Standard only; Complete, F See below for details of modules and individual pricing

NR/L2/CIV/035/	Title	Issue	Issue Date	Price
MOD01	Management of Structural Assessment	1	Dec 2017	D
MOD02	Carry Out Structural Assessment	1	Sep 2017	Е

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# 4.2.1 Civil Engineering

CIV Level 2

NR/L2/CIV/044	Planning, Design and Construction of Undertrack Crossings	Compliance	Replaces
	Issue 3; Jun 17	02/09/17	RT/CE/S/044 Iss 2; Aug 04

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.

Price: E

NR/L2/CIV/072	Wind Loading of Overhead Line Equipment and Structures	Compliance	Replaces
	Issue 1; Dec 15	05/03/16	NR/GN/ELP/27039 Iss 2; Feb 06

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.

Price: E

NR/L2/CIV/073	Design of Overhead Line Structures Issue 1; Dec 15	Compliance	Replaces
		05/03/16	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.

Price: D

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

Price: D

NR/L2/CIV/086	Management of Earthworks Issue 8; Sep 18	Compliance	Replaces
		01/09/18	NR/L2/CIV/086 lss 7; Mar 18

This process outlines the procedures that manage the geotechnical controls mitigating the risks of:

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

Price: D Standard only; Complete, Phone See below for details of modules and individual pricing

NR/L2/CIV/086/	Title	Issue	Issue Date	Price
Mod01	Earthwork Evaluations	1	Sep 2017	С
Mod02	Earthwork Assessments	1	MAr 2018	С
Mod04	Earthworks Interventions	1	Sep 2017	С
Mod05	Earthwork Mitigations	1	Sep 2017	С
Mod06	Earthworks Monitoring Strategy Selection and Implementation	1	Sep 2017	D
Mod07	Earthworks Operational Restriction Selection and Implementation	1	Sep 2017	В
Mod08	Earthworks temporary restraint selection and implementation	1	Sep 2017	С
Mod09	Earthworks Adverse/Extreme Weather Risk Assessment	1	Sep 2017	С
Mod11	Definition of Earthworks Derailment Models	1	Sep 2017	D
Mod12	Definition of Earthwork Criticality	1	Sep 2017	D
Mod13	Management of Vegetation on Earthworks	1	Sep 2018	D

NR/L2/CIV/140	Model Clauses for Civil Engineering Works Issue 12; Mar 17	Compliance	Replaces
		03/06/17	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.

Price: C Standard only; Complete, Phone See below for details of modules and individual pricing

Sections	Title	Issue	Issue Date	Price
10	General	2	Jun 2008	Е
21	Aerial Survey	1A	Sep 1996	D
22	Land and Trackwork Surveys	1A	Sep 1996	D
23	Structural Repair Survey	2	Jun 2010	

Page 29

# 4.2.1 Civil Engineering

Sections	Title	Issue	Issue Date	Price
25	Presentation of Survey Data and Information	1A	Sep 1996	D
30 - 35	Ground Investigation	1C	Dec 1996	D
	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	С
50	General requirements for Earthworks and Excavations	2	Sep 2010	В
51	Excavations	2	Sep 2010	С
52	Earthworks	2	•	D
53		2	Sep 2010	С
	Grouting of Embankments  Concert Dequirements for Pilling	2	Sep 2010	С
70	General Requirements for Pilling		Mar 2010	
71	Precast Concrete Piles	2	Mar 2010	В
72	Cast-in-place Piles	2	Mar 2010	В
73	Steel Piles	2	Mar 2010	В
74	Timber Piles	2	Mar 2010	В
75	Testing of Piles	2	Mar 2010	В
76	General Requirements for Embedded Retaining Walls	2	Mar 2010	C
77	Diaphragm Walls	2	Mar 2010	В
78	Embedded Retaining Walls constructed using Bored Concrete Piles	2	Mar 2010	В
79	Sheet Pile Walls	2	Mar 2010	В
83	Structural Concrete Repairs	2	Aug 2008	D
85	Concrete for Ancillary Purposes	2	Aug 2008	В
93	Structural Steelwork Repairs	1A	Feb 1997	D
100	Bearings	2	Jun 2010	С
100GN	Guidance Note for the specification of bearings	2	Jun 2010	С
110	General requirements for Waterproofing Underline Bridges	2	Dec 2008	С
111	Tightly bonded systems for Underbridge Bridges	2	Dec 2008	В
112	Loose-laid systems for Underline Bridges	2	Dec 2008	A
113	Waterproofing road carrying Bridges	2	Dec 2008	D
114	Tanking	2	Dec 2008	A
120	General Requirements for Bridge Installation Methods and Temporary Works	3	Jun 2008	В
121	Bridge Installation by Sliding or Rolling	3	Jun 2008	С
122	Bridge Installation by Large Capacity Crane	3	Jun 2008	В
123	Bridge Installation Using Self Propelled Lifting Vehicles	3	Jun 2008	С
124	Temporary Works Tunnels Constructed Using a Shield	3	Jun 2008	С
125	Bridge Installation by Thrust Boring	3	Jun 2008	С
126	Temporary Bridges	3	Jun 2008	С
130 - 134	Inspection of New Steelwork, Precast Concrete, Protective Treatment and Waterproofing	1A	Jan 1997	D
	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	D
153	Brickwork and Masonry Repairs	1A	May 1997	E
160	General requirements for structural timber	2	Dec 2009	С
160GN	Guidance Note for structural timber	2	Dec 2009	С
161	Design requirements for structural timber	2	Dec 2009	В
162	Workmanship for structural timber	2	Dec 2009	В
163	Maintenance and repair of structural timber	2	Dec 2009	В
164	Timber preservation and fire protection	2	Dec 2009	В
170	General requirements for protective treatments	2	Jun 2009	С
171	Maintenance coating works	2	Jun 2009	A
172	Protective coating works  Protective coating of new structural steelwork	2	Jun 2009	C
173		2	Jun 2009	В
174	Protective coating of existing structural steelwork and ironwork	2		В
	Protective coating of timber surfaces		Jun 2009	
175	Protective coating of concrete and masonry surfaces	2	Jun 2009	В

Sections	Title	Issue	Issue Date	Price
176	Protective coating systems	2	Jun 2009	С
180 - 182	Building and Structure Drainage	1C	Mar 1996	D
	180:General Requirements for Drainage			
	181:Materials			
	182:Installation			
185 & 186	Track Drainage	1B	Jan 1997	D
	185:Track Drainage			
	186:Maintenance of Track Drainage			
190 & 191	External Service Ducts and Cable Troughing	1C	Feb 1996	D
	190:Ducts			
	191:Cable Troughing			
200	General Requirements for Roads and Pavings	2	Sept 2009	A
201	Subgrade and Formation Works	2	Sept 2009	Α
202	Road Pavements	2	Sept 2009	С
203	Kerbs, Footways and Paved Areas	2	Sept 2009	A
204	Traffic Signs and Road Markings	2	Sept 2009	Α
210	Permanent Way General	1B	Mar 1997	D
211	Permanent Way Design	1B	Mar 1997	С
212	Installation of New and Renewal of Existing Permanent Way	1B	Mar 1997	D
213	Permanent Way Acceptance Standards	1B	Mar 1997	С
214	Inspection of Permanent Way	1B	Mar 1997	D
215	Maintenance of Permanent Way	1B	Mar 1997	E
216	Permanent Way Materials	1B	Mar 1997	С
217	Construction Standards for Permanent Way	1B	Mar 1997	С
218	Permanent Way Small Plant, Tools and Equipment	1B	Mar 1997	В
219	Permanent Way Ancillary Equipment	1B	Mar 1997	С
220	Permanent Way Incident Management	1B	Mar 1997	С
221	Permanent Way for Bridgework	1A	Mar 1997	E
225	Permanent Way Particular Specification (Plain Line Renewals)	1B	Mar 1997	С
226	Permanent Way Particular Specification (S&C Renewals)	1A	Mar 1997	С
227	Permanent Way Particular Specification for Bridgeworks	1A	Mar 1997	С
230	General Requirements for Level Crossings	1A	Jan 1997	С
230GN	Level Crossing Guidance Notes for Specifiers	1A	Jan 1997	D
231	Public Vehicular Level Crossings	1A	Jan 1997	D
232	Occupation and Accommodation Level Crossings	1A	Jan 1997	С
233	Footpath, Bridleway and Other Minor Types of Level Crossings	1A	Jan 1997	В
240	Fencing and Gates	2	Jun 2008	D
250 - 253	Landscaping	1C	Mar 1996	D
	250:Preparation of Topsoil			
	251:Grass Seeding and Turfing			
	252:Planting of Shrubs and Trees			
	253:Maintenance of Landscaped Works			
255 - 257	Management of Lineside Vegetation	1 B	Mar 1996	E
	255:General Requirements for the Management of Lineside Vegetation			
	256:Weedkilling			
	257:Tree Felling and Scrub Clearance			
1700	Structural Concrete	1	Mar 2017	Phone

NR/L2/CIV/168	Asbestos Management Issue 1; Mar 17	Compliance	Replaces
		03/09/21	New at Issue 103

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.

Price: D

NR/L2/CIV/171	Examinations, Inspections and Assessments of Buildings &	Compliance	Replaces
	Architecture Assets: Structures and Fabric Issue 1; Dec 17	03/03/18	New at Issue 106

This document provides detail on the process to instruct and review examinations, inspections and assessments to enable understanding of asset condition and identify risk to the safe operation of railway infrastructure associated with Buildings & Architecture structures & fabric.

Price: D

# 4.2.1 Civil Engineering

CIV Level 3

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

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

Price: C

NR/L2/CIV/177 Compliance Monitoring Track Over or Adjeacent to Building and Civil Replaces Engineering Works Issue 1; Jun 17 02/09/17 New at Issue 104

This business process defines the requirements for monitoring of the track over or adjacent to building and civil engineering works to maintain:

- · safe operation of trains; and / or
- the safe movement and control of people to and from the trains. It contains specific requirements to manage track safety during building and civil engineering works.

Price: D

NR/L2/CIV/295	Scour Assessment of Bridges, Culverts and Retaining Walls	Compliance	Replaces
	Issue 2; Sep 18	01/12/18	NR/L2/CIV/295 lss 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.

Price: E

#### Level 3

The purpose of this handbook is to define the requirements and provide recommendations for the examination of Structures.

Price: C Standard only; Complete, Phone

See below for details of modules and individual pricing

Additional Excel Content Available: Phone

NR/L3/CIV/006/	Document Title	Issue	Issue Date	Price
01A	Part 1A: Purpose, scope and definitions	3	Jun 2010	D Contains NR/BS/LI/167 (Expired)
01B	Part 1B: Types of Examination Regime	2	Jan 2014	С
01C	Part 1C: Determining the Examination Regime	5	Jan 2014	D
01D	Part 1D: Competency, Preparation for Examinations and Other Common Requirements	2	Sep 2015	С
01F	Part 1E: Protective Treatment			
02A	Part 2A: Bridges	2	Jun 2010	D
02B	Part 2B: Tenanted Bridge Spans	2	Jun 2010	С
02C	Part 2C: Condition Marking of Bridges	1	Jun 2010	F
02D	Part 2D: Hidden Parts of Bridges			
02E	Part 2E: Fatigue in Bridges			
02F	Part 2F: Condition Marking of Footbridges			
03A	Part 3A: Culverts	2	Jun 2009	С
03B	Part 3B: Condition Marking of Culverts			
04A	Part 4A: Lined Tunnels	1	Sep 2009	C (Contains NR/BS/LI/348)
04B	Part 4B: Unlined Tunnels	1	Sep 2009	C (Contains NR/BS/LI/348)
04C	Part 4C: Recording of Tunnel Examinations and Condition Marking Index Score	2	Dec 2016	Phone
04D	Part 4D: Unlined Tunnel Geotechnical Risk Assessment Guidance	1	Sep 2009	D; + Excel, Phone
05A	Part 5: Retaining Walls	2	Jun 2010	С
05B	Part 5B: Condition Marking of Retaining Walls			
06	Part 6: Coastal, Estuarine and River Defences	1	Sep 2009	С
07A	Part 7A: Operational Property Structures	1	Jun 2010	В
07B	Part 7B: Buildings	1	Jun 2010	С
07C	Part 7C: Condition Marking of Operational Property			
08	Part 8: Ancillary Structures	2	Jun 2017	В
09A	Part 9A: Earthworks			
09B	Part 9B: Condition Marking of Earthworks			
10	Part 10: Drainage	-	NR/L3/CIV/005	
11A	Part 11A: Reporting and Recording Examinations of Structures in CARRS	4	Jun 2017	D
11B	Part 11B: Reporting and Recording Examinations of Operational Property Structures and Inspections of Buildings in OPAS	1	Jun 2010	Е

# 4.2.1 Civil Engineering

NR/L3/CIV/006/	Document Title	Issue	Issue Date	Price
11C	Part 11C: Reporting and Recording Examinations of Earthworks using GISmo			
11D	Part 11D: Reporting and Recording of Bridge Strikes	-	NR/L3/CIV/176	
12A	Part 12A: Evaluation of Examinations of Structures: Guidance for an Examiner			
12B	Part 12B: Evaluation of Examinations of Operational Structures and Buildings			
12C	Part 12C: Evaluation of Examinations of Structures: Guidance for an Asset Manager			
13A	Guide to use of CARRS			
13B	Guide to use of OPAS			
13C	Guide to use of Earthwork GIS database			

NR/L3/CIV/00012	Road Vehicle Incursions: Risk Assessment of Public and	Compliance	Replaces
	Non-Public Bridge and Neighbouring Sites Issue 1; Jun 15	05/09/15	RT/LS/G/00012 lss 1; Jun 03

This standard enables Routes to reduce the risks associated with road vehicle incursions at:

- · Overbridge sites at local roads, dual-carriageways and motorways;
- · Neighbouring sites where road and rail run alongside each other

Price: D Additional Excel Content Available: Phone

NR/L3/CIV/020	Design of Bridges Issue 1; Mar 11	Compliance	Replaces
		04/06/11	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

Price: F (Contains NR/BS/LI/331)

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

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

Price: E

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

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

Price: E

NR/L3/CIV/028	The Management of Reports of Safety-Related Events on Civil	Compliance	Replaces
	Engineering Infrastructure Issue 5; Sep 15	05/09/15	NR/L3/CIV/028 lss 4; Sep 11

This standard defines

- the process for rating Safety-Related Events, and
- the requirements for recording, reporting and reviewing the details of such Events.

Price: C

NR/L3/CIV/030	Platform Components and Prefabricated Construction	Compliance	Replaces
	Systems Issue 3; Sep 11	03/12/11	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.

Price: D

NR/L3/CIV/037	Managing the Risk Arising from Mineral Extraction and	Compliance	Replaces
	Landfill Operations Issue 3; Dec 08	01/03/09	NR/SP/CIV/037 Iss 2; Apr 04
			(RT/CE/P/037)

The purpose of this standard is to define the procedures and responsibilities for managing the risks that Mineral Extraction and Landfill operations pose to Network Rail's operations and infrastructure

Price: B

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.

Price: C

# 4.2.1 Civil Engineering

CIV/RES Level 3

NR/L3/CIV/039 Specification for the Assessment and Certification of Protective Coatings and Sealants Issue 5; Mar 09 O5/12/09 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.

Price: E

NR/L3/CIV/040 Specification for the use of Protective Coating Systems
Issue 1; Mar 09 Compliance 05/12/09 Replaces
New at Issue 71

The purpose of this standard is to define the requirements for the selection, application and reapplication of protective coating systems to Network Rail's infrastructure.

Price: E

NR/L3/CIV/041 Waterproofing Systems for Underline Bridge Decks
| Issue 3; Aug 08 Compliance Replaces | 06/06/09 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

Price: E

NR/L3/CIV/065	Examination of Earthworks Manual Issue 6; Sep 17	Compliance	Replaces
		31/12/17	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.

Price: D Standard only; Complete, Phone See below for details of modules and individual pricing

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

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

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

Price: D

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

Price: C

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 lss 2; Sep 10
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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.

Price: C

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

Price: D

# 4.2.1 Civil Engineering

CIV/RES Level 3

NR/L3/CIV/151/F010 Index of Standard Designs and Details for Building and Civil Compliance Replaces
Engineering Works Issue 11; Mar 18 N/A N/A N/A N/A Issue 10; Sep 17

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

Price: D

NR/L3/CIV/160 The Design of Car Parks for Railway Stations and Depots
| Issue 1; Jun 09 | The Design of Car Parks for Railway Stations and Depots | Compliance | O5/12/09 | 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.

Price: F

 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.

Price: D (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

Price: C

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.

Price: C

NR/L3/CIV/185 Management of Reports of Safety Related Geotechnical Incidents Issue 1; Sep 17 Compliance Superior Superio

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:

- · loss of track support and/or track geometry
- · slope failure leading to loss of kinematic envelope and/or track geometry.

Price: C

NR/L3/CIV/190	Developing Extreme Weather Plans Issue 1; Dec 17	Compliance	Replaces
		03/03/19	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.

Price: D

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

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.

Price: D

#### **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.

Price: D

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.

Price: F

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.

Price: Phone

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.

Price: C

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.

Price: B

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.

Price: C

NR/GN/CIV/201 Managing bridge strike incidents - Good Practice Guide for Bridge Strike
Nominees Issue 4: Jun 2008

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.

Price: C

NR/GN/CIV/202 Management of the Risk of Bridge Strikes Issue 3; Sep 10

Replaces

NR/GN/CIV/202 Issue 2; Jun

2008

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.

Price: Phone

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.

Page 36

Price: B

# 4.2 CIVIL ENGINEERING

# 4.2.2 Railway Estates Policy & Planning

CIV/RES
CIV SINs; RES Guidance

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.

Price: C

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

Price: F

## **Special Inspection Notices**

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

Price: C

## 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.

Price: D

<sup>\*</sup> Issues 1 & 2 were not formally published

Level 2

# **COMMERCIAL PROPERTY**

## Level 2

NR/L2/PRO/001	Property Clearance Process Issue 1; Dec 09	Compliance	Replaces
1110,2271 110,001	Troporty Glocal and Griff Tropodo 100000 1, 500 00		· Process
		06/03/10	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.

Price: C

Licensee=Network Rail/1121233006, User=Whitaker, Neil Not for Resale, 08/29/2018 03:44:46 MDT

## 4.4 COMPANY STANDARDS GROUP

NR/L2/CSG/STP001

Level Z			
t Manual Issue 7; Mar 18	Compliance	Replaces	
	02/06/18	NP/L2/CSG/STP001	

Iss 6; Dec 16

The purpose of this manual and its modules is to:

- support the control of risks throughout Network Rail;
- help maintain a consistent, safe and coherent company-wide set of standards and control documents;
- provide structure and consistency to the management of the Network Rail standards and control documents change process; and
- · provide structure and consistency to the management of variations to standards and control documents; and
- provide structure and consistency to the production and use of bowties in support of the development of standards and control documents.

Price: B Standard only; Complete, E See below for details of modules and individual pricing

**Standards and Controls Management** 

NR/L2/CSG/STP001	Title	Issue	issue Date	Price
01	Principles of Standard and Control Management	7	Mar 2018	С
02	Managing Standard and Control Document Change Projects	7	Mar 2018	D
03	Drafting Criteria for Standards and Control Documents	3	Dec 2016	С
04	Managing Variations to Network Rail Standards and Control Documents and Railway Group Standards	6	Dec 2016	С
05	Producing Bowties and Using Them to Support the Management of Standards and Control Documents	1	Dec 2016	D

NR/L2/CSG/10072	Business Process for Special Inspection Notices	Compliance	Replaces
	Issue 1; Mar 16	04/06/16	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 Replaces 31/12/07

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.

Price: D

# Specifications (including Procedures)

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

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.

Price: E

NR/SP/CTM/015 Competence and Training in DC Conductor Rail Engineering Issue 1; Dec 06 Compliance 31/03/09 Replaces

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.

Price: E

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

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

Price: Phone (Contains NR/BS/LI/397)

## 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.

Price: E

NR/SP/CTM/032	Training, Competence and Assessment in Accident and	Compliance	Replaces
	Incident Investigation Issue 1; Jun 07	02/06/07	

This specification sets out the minimum requirements for the training and assessment of Network Rail employees who are required to undertake accident and incident investigations. It defines processes that shall be implemented and standards that shall be achieved to ensure that personnel who undertake such duties are competent to perform the work.

Price: C

#### Level 2

NR/L2/CTM/012	Competence and Training in Signal Engineering	Compliance	Replaces
	Issue 3; Sep 11	02/06/12	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.

Price: D Standard only; Complete, Phone See below for details of modules and individual pricing

NR/L2/CTM/012/	Document Title	Issue	Issue Date	Price
001	Sig. 1: Undertake Preventative Maintenance of Track Circuits	1	Mar 2010	Α
002	Sig. 2: Undertake Preventative Maintenance of Electrical Signals and AWS	1	Mar 2010	Α
003	Sig. 3: Undertake Preventative Maintenance of Signalling Power Supplies	1	Mar 2010	Α
004	Sig. 4: Undertake Preventative Maintenance of Signalling Cables	1	Mar 2010	Α
005	Sig. 5: Undertake Corrective and Preventative Maintenance of Track Circuits	1	Mar 2010	В
006	Sig. 6: Undertake Corrective and Preventative Maintenance of Axle Counters	1	Mar 2010	В

NR/L2/CTM/012/	Document Title	Issue	Issue Date	Price
007	Sig. 7: Undertake Corrective and Preventative Maintenance of Electrical Signals Including AWS and TPWS	1	Mar 2010	В
008	Sig. 8: Undertake Corrective and Preventative Maintenance of Mechanical Signals and AWS Equipment	1	Mar 2010	В
009	Sig. 9: Undertake Corrective and Preventative Maintenance of Mechanically Operated Points	1	Mar 2010	В
010	Sig. 10: Undertake corrective and Preventative Maintenance of Electro–Mechanical Point Machines	1	Mar 2010	В
011	Sig. 11: Undertake Corrective and Preventative Maintenance of Pneumatically Operated Point Machines	1	Mar 2010	В
012	Sig. 12: Undertake Corrective and Preventative Maintenance of Rail Clamp Point Lock Point Machines	1	Mar 2010	В
013	Sig. 13: Undertake Corrective and Preventative Maintenance of Signalling Power Supplies	1	Mar 2010	В
014	Sig. 14: Undertake Corrective and Preventative Maintenance of Signalling Cables	1	Mar 2010	В
015	Sig. 15: Undertake Corrective and Preventative Maintenance of Level Crossing Systems	1	Mar 2010	В
016	Sig. 16: Undertake Corrective and Preventative Maintenance of Lever Frames And Locks And Circuit Controllers	1	Mar 2010	В
017	Sig. 17: Undertake Corrective and Preventative Maintenance of Absolute Block Systems	1	Mar 2010	В
018	Sig. 18: Undertake Corrective and Preventative Maintenance of Relay Based Interlocking	1	Mar 2010	В
019	Sig. 19: Undertake Corrective and Preventative Maintenance of Electronic Based Interlocking	1	Mar 2010	В
020	Sig. 20: Undertake Corrective and Preventative Maintenance of Control Systems	1	Mar 2010	В
021	Sig. 21: Undertake Corrective and Preventative Maintenance of Train Describer Systems	1	Mar 2010	В
022	Sig. 22: Undertake Corrective and Preventative Maintenance of Hot Axle Box Detector Systems	1	Mar 2010	В
023	Sig. 23: Undertake Initial Diagnosis of Failures to Determine the Necessary Course of Action	1	Mar 2010	Α
024	Sig. 24: Effective Progression of Work and Use of Resources During Signalling Testing, Maintenance or Installation Activities	1	Mar 2010	A
025	Sig. 25: Take And Relinquish Responsibility for Signalling Equipment	1	Mar 2010	Α
026	Sig. 26: Implement And Monitor Safe Working Systems for Signal Engineering Maintenance and Renewal Activities	1	Mar 2010	A
027	Sig. 27: Assemble System and Sub System Component Parts	1	Mar 2010	Α
028	Sig. 28: Install and Terminate Wires and Cables	1	Mar 2010	Α
029	Sig. 29: Install and Configure Track Circuits	1	Mar 2010	Α
030	Sig. 30: Install and Configure Axle Counters	1	Mar 2010	Α
031	Sig. 31: Install and Adjust Electro–Mechanical Point Operating Systems	1	Mar 2010	Α
032	Sig. 32: Install and Adjust Mechanical Point Operating Systems	1	Mar 2010	А
033	Sig. 33: Install and Adjust Mechanical Signals	1	Mar 2010	А
034	Sig. 34: Install and Adjust Rail Clamp Point Locks	1	Mar 2010	Α
035	Sig. 35: Install and Configure Signalling Power Supply Systems	1	Mar 2010	Α
036	Sig. 36: Control Planned and Staged Alterations to Existing Signalling Systems	1	Mar 2010	Α
037	Sig. 37: Inspect Level Crossings	1	Mar 2010	Α
038	Sig. 38: Special Inspection of S&T Equipment	1	Mar 2010	В
039	Sig. 39: Undertake Corrective and Preventative Maintenance of Points Fittings	1	Mar 2010	В
040	Sig. 40: Undertake Corrective And Preventative Maintenance of Intelligent Infrastructure Systems	1	Mar 2010	А
041	Sig. 41: Undertake Corrective And Preventative Maintenance of Rail Mounted Treadles	1	Mar 2010	В
042	Sig. 42: Work Safely on Signalling Power Supplies	1	Mar 2010	А
043	Sig. 43: Joint and Terminate Cables and Wires	1	Mar 2010	Α
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	В
045 046	SWT Mod 2: Principles Tester	1	Mar 2010 Mar 2010	СВ
047	SWT Mod 3: Signalling Verification Tester	1	Mar 2010	В
	SWT Mod 4: Signalling Verification Tester			
048	SWT Mod 4: Signalling Functional Tester	1	Mar 2010	В
049	SWT Mod 5: Undertake Tests/Checks Under Direction of a Qualified Tester	1	Mar 2010	A
050	SWT Mod 6: Configure, Test and Introduce Electronic Systems & Equipment into Service	1	Mar 2010	В
055	Sig. 55: G1 10 Tester / Lead Tester	1	Mar 2010	В
056	Sig. 56: G1 10 Test Schedule Author / Checker	1	Mar 2010	A

NR/L2/CTM/013	Training and Competence in Telecommunication Engineering	Compliance	Replaces
	Issue 2: Sep 10	03/09/11	NR/L2/CTM/013 Iss 1: Jun 08

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

Price: F

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

Price: F

NR/L2/CTM/018	Competence and Training in Traction Power Distribution	Compliance	Replaces
	Issue 2; Mar 10	05/03/11	NR/SP/CTM/018 lss 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.

Price: F

NR/L2/CTM/021	Competence and Training in Track Safety	Compliance	Replaces
	Issue 4; Dec 10	04/12/10	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.

Price: F (Contains NR/BS/LI/383)

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

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.

Price: D

NR/L2/CTM/025	Competence & Training in On Track Plant Operation	Compliance	Replaces
	Issue 1; Sep 08	31/12/10	New at issue 69

This standard sets out the minimum requirements for the training and competence assessment of persons who operate On Track Plant on Network Rail managed infrastructure. It defines processes that shall be implemented and the standards that shall be achieved to confirm that persons who operate On Track Plant are competent to do so.

Price: Phone

NR/L2/CTM/028	Competence and Training In OLE Construction Engineering	Compliance	Replaces
	Issue 2; Jun 10	01/07/10	NR/L2/CTM/028 Iss 1; Mar 09

This specification sets out the minimum requirements for the assessment of personnel who undertake OLE construction, renewals, enhancement and/or modification project activities on Network Rail Managed Infrastructure. It defines the processes to be implemented and the standards that are to be achieved to confirm that personnel undertaking these activities are competent to perform their tasks

Price: E (Contains NR/BS/LI/347)

NR/L2/CTM/201	Competence Management Issue 2; Mar 12	Compliance	Replaces
		02/06/12	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.

Price: D

NR/L2/CTM/202	Quality Assurance in Training & Assessment	Compliance	Replaces
	Issue 2: Dec 11	03/03/12	NR/L2/CTM/202 Iss 1: Jun 10

This standard is required as part of the Network Rail Competence Management System to confirm that training organisations use approved trainers, training materials and have sufficient resources and appropriate processes in place to deliver specific Network Rail approved training and that assessment organisations use approved assessors, techniques and have appropriate processes in place to undertake competence assessment of people who undertake work on Network Rail managed infrastructure.

Price: D

# 4.5 COMPETENCE & TRAINING MANAGEMENT

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

Price: E

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

Price: D

NR/L2/CTM/207	Competence and Training in Planning	Compliance	Replaces
	Issue 2; Jun 12	01/06/13	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.

Price: D

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

Price: D

NR/L2/CTM/220	Competence and Training in Portable Transportable and	Compliance	Replaces
	Mobile Plant Operation Issue 1; Jun 12	02/06/13	New at Issue 84

The purpose of this standard is to set out the minimum requirements for the training and assessment of individuals who operate and/or use portable, transportable and/or mobile plant on Network Rail managed infrastructure. It defines processes that are to be implemented and the standards that are to be achieved to confirm that individuals who operate and/or use portable, transportable and/or mobile plant are competent.

Price: F

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

Price: E

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

Price: D

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

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.

Price: C

NR/L3/CTM/132 Awarding Body Issue 3; Sep 09 Compliance 05/09/09 Replaces New. Not formerly published as a Network Rail Standard

This procedure sets out the processes to be followed by the Network Rail Awarding body in order to satisfy the following responsibilities:

- Liaise with Key stakeholders to develop the qualification structure for Network Rail
- Liaise with content developers to create new qualifications
- · To act as the implementers of qualifications developed in house against the National Qualifications framework
- · Liaise with Training delivery to assure quality in delivery and assessment
- To award qualifications to Network Rail employees after successful completion of accredited training programmes and maintain the learning record of achievement
- · Manage any appeals and/or high level processes arising from the work of the Awarding Body
- Agree and develop key processes for the operation of the Awarding body

Price: C

NR/L3/CTM/301	Management Review & Advisory Visit Process Issue 1; Jun 10	Compliance 04/09/10	Replaces NR/L3/CTM/108 Iss 4
		04/03/10	NR/L3/CTM/100 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.

Price: C

NR/L3/CTM/302	Production and Maintenance of Training and Assessment	Compliance	Replaces
	Solutions Issue 2; Sep 18	01/12/18	NR/L3/CTM/302 Iss 1; Jun 10

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 work instruction:

- Controls the risk of unsafe and inefficient working practices due to the implementation of unsuitable training and assessment solutions (T&AS);
- Provides a uniform, logical process to be applied to the production and maintenance of all training and assessment solutions.

Price: D

NR/L3/CTM/303	Trainer Approval Issue 1; Jun 10	Compliance	Replaces
		04/09/10	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.

Price: C

NR/L3/CTM/304	Training, Planning and Administration Issue 1; Jun 10	Compliance	Replaces
		04/09/10	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/104 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.

Price: D

NR/L3/CTM/305	Training Evaluation Issue 1; Jun 10	Compliance	Replaces
		04/09/10	NR/L3/CTM/104 lss 3 NR/L3/CTM/114 lss 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	Replaces
		11/10/16	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

Price: C Standard only; Complete, E See below for details of modules and individual pricing

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

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

Price: D

Guidance Notes					
NR/GN/CTM/401	Mentoring & Learning Support Issue 1; Mar 10	Compliance	Replaces		
		n/a	New at Issue 75		

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.

Price: D

NR/GN/CTM/402	Verification Protocol for Assessment in The Line (AiTL)	Compliance	Replaces
	Issue 1; Sep 10	n/a	New at Issue 77

The purpose of this document is to provide guidance on the Verification methods applied to Network Rail's internal Competence Assurance process – Assessment in The Line (AiTL).

It will support NR/L3/CTM/306 by adding detail and clarity relating to the verification process.

Price: D

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#### 4.6. CONTRACTS & PROCUREMENT

NR/L1/CPR/101 Sourcing and Purchasing Policy Issue 2; Dec 10 Compliance 04/12/10 NR/L1/CPR/101 Iss 1: Mar 08

This Standard sets out the policy and necessary controls for the procurement of goods, works and services from third parties.

Price: C

NR/L1/CPR/102 Sourcing and Supplier Governance Policy Issue 2; Dec 10 Compliance 04/12/10 NR/L1/CPR/102 Iss 1; Mar 08

The purpose of this policy is to specify the high level sourcing and supplier governance structure and processes within Network Rail.

Price: C

NR/L1/CPR/103 Supplier Assurance Framework Issue 1; Mar 08 Compliance Replaces RT/LS/P/052 Iss 1 01/03/08 RT/LS/G/00014 Iss 2

This standard specifies key high level management processes that describe the embedded relationship between Strategic Sourcing and Network Rail's Supplier Assurance Framework.

Price: B

NR/L2/CPR/201 Supplier Qualification Issue 2; Dec 11 Compliance Replaces NR/L2/CPR/201 Iss1; Mar 08 03/12/11

The purpose of this document is to specify the arrangements for the 'qualification' activity within the Network Rail Strategic Sourcing and Supplier Assurance Framework. See NR/L1/CPR/103 Supplier Assurance Framework.

Price: B

NR/L2/CPR/302 Supplier Qualification - Core Requirements Issue 2; Sep 11 Compliance Replaces 03/09/11 NR/L3/CPR/302 Iss 1; Mar 08

This revised document sets out the core management system and management process requirements for suppliers of products, works and services that may import risk onto Network Rail Managed Infrastructure.

Price: D

#### **Guidance Notes**

NR/GN/CPR/401	Guidance on Contractual Health and Safety Requirements Issue 1; Dec 08	<b>Compliance</b> 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.

Additional Excel Content Available: Phone

#### 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 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.

Price: D

NR/SP/ELP/21018 Specification of Indoor Switchgear for 11, 22, 33kV Distribution Systems for DC Replaces Traction Substations Issue 2; Dec 05

RT/E/S/21018 Iss 1 Aug 96

This specification states the requirements for the design, manufacture and testing of indoor 12 kV, 24 kV and 36 kV rated ac switchgear for use in DC traction substations. The switchgear is used to control, protect and distribute three phase ac electrical supplies at a nominal system voltage of 11 kV, 22 kV and 33 kV respectively.

A Please see caution below

Price: D

NR/SP/ELP/21019 Specification for Transformer/rectifier Equipments for DC Traction Substations

Issue 2; Dec 05 RT/E/S/21019 Iss 1; Aug 96

This specification states the requirements for the design, manufacture and testing of transformer/rectifier equipments for use in dc traction substations for the conversion of the high voltage, three phase ac supply to dc having a nominal voltage in the range 650 to 750V.

A Please see caution below

Price: D

NR/SP/ELP/21020 Specification for 11, 22, 33 kV Aux. Transformer up to and Including 500kVA for Replaces

DC Traction Substations Issue 2; Dec 05 RT/E/S/21020 Iss 1; Aug 96

This specification states the directorate's requirements for 11, 22 & 33kV oil/synthetic filled or dry type auxiliary transformers up to and including 500 kA for DC traction substations. The specification states requirements for overall performance and technical details including testing.

A Please see caution below

Price: D

NR/SP/ELP/21021 Specification for Step-down 3-phase Transformers and Earthing Resistors for Replaces Power Distribution in DC Traction Systems Issue 2; Dec 05

This specification states the requirements for the design, manufacture and testing of stepdown three phase transformers and their associated earthing resistors in the range: 33/11 kV up to 10 MVA; and 33/22 kV up to 15 MVA. They are used for power distribution in dc traction systems where incoming supplies are at 33 kV and distribution to traction substations is at 11 kV or 22 kV.

A Please see caution below

Price: D

NR/SP/ELP/21024 Specification for Impedance Protection Relay for 650/750V DC Track Feeder Circuit Breakers Issue 2; Dec 05 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.

Price: D

NR/SP/ELP/21026 Specification for 415V and 440V Changeover Switchboards for DC Traction Replaces Substations Issue 2; Dec 05 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.

Price: D

A 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/21028 Specification for Ancillary Wiring of Electrical Distribution Equipment on AC and DC Electrified Lines Issue 3; Feb 06 Replaces

NR/SP/ELP/21028 Iss 2; Dec 05

This specification states the requirements for the design, manufacture, installation and testing of ancillary wiring between main items of electrical distribution equipment including SCADA outstation equipment on ac and dc Electrified Lines together with the preparation of associated documentation. Where required, the requirements for wiring within an item of electrical distribution equipment will be specified in the procurement specification.

Price: D (Contains NR/BS/LI/342)

NR/SP/ELP/21030 Specification for Prefabricated and Modular Steel Housings for Electrical Distribution Equipment on DC Electrified Lines Issue 2; Dec 05 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.

A Please see caution below

Price: D

NR/SP/ELP/21032 Earthing Systems for DC Traction Substations, Track Paralleling Huts and Similar Equipment Locations Issue 2; Apr 06 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).

Price: C (Contains NR/BS/LI/060)

NR/SP/ELP/21033 Specification for the Welding of Transformer Tanks and Conservators During Manufacture Issue 2; Dec 05 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.

Price: C

NR/SP/ELP/21036 Specification for 25kV Booster Transformers for AC Electrified Lines
Issue 2; Dec 05 RT/E/S/21036 Iss 1; Mar 98

This specification states the requirements for the design, manufacture and testing of outdoor type 25kV booster transformers for use as part of a return conductor system for the suppression at source of electromagnetic interference on ac electrified lines in order to reduce the level of interference induced into adjacent signalling and communication circuits.

Price: D

NR/SP/ELP/21041 Specification of Batteries and Battery Charging Equipment for Electrification
Applications Issue 2; Dec 05

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.

A Please see caution below

Price: D

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.

Price: C

NR/SP/ELP/21051 Specification for Calculation of Protection Settings for DC Circuit Breakers | Susue 2; Dec 05 | 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.

Price: C

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

# 4.7 ELECTRICAL POWER

**ELP Specs** 

NR/SP/ELP/21060 Issue of Safety Documentation for Work on 650/750VDC Apparatus Replaces

> Issue 2: Feb 06 RT/E/S/21060 Iss 1; Mar 98

This specification sets out the issuing of safety documentation to prevent injury or danger to persons working on or near 650/750Vdc apparatus.

Price: D (Contains NR/BS/LI/281)

NR/SP/ELP/21066 Restrictions on Entry into Substations Equipped with GEC Type KC 33kV Replaces

RT/E/S/21066 Iss 3; Jun 99 Switchgear Issue 4; Apr 06

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

Price: B

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/21075 Specification for DC Immune 25kV Single Phase Isolating Transformers for Replaces

Interfaces Between AC and DC Electrified Lines Issue 2; Dec 05

RT/E/S/21075 Iss 1; Nov 97

This specification states the requirements for the design, manufacture and testing of outdoor, dc immune, 25kV, single phase, isolating transformers for use at interfaces between ac and dc electrified lines. The transformers provide electrical isolation between the two systems thereby preventing dc traction current entering the ac system.

Please see caution below

Price: D

NR/SP/ELP/21081 Specification of Security Palisade Fencing for Electrical Distribution Replaces

Installations for AC and DC Electrified Lines Issue 2; Dec 05

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.

Price: C

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.

Price: D

NR/SP/FI P/21085 Design of Earthing and Bonding Systems for 25kV AC Compliance

Replaces

Electrified Lines Issue E3; Apr 07

07/04/07

NR/SP/ELP/21085 Iss 2; Apr 06

This specification states the requirements for the design of the earthing and bonding necessary to provide a continuous return circuit for traction load current and return path for fault current back to feeder stations and to ensure that accessible voltages and touch voltages of unacceptable levels do not occur on 25 kV ac electrified lines.

Price: D

NR/SP/ELP/21104 Design and Installation of Electric Track Equipment for DC Electrified Lines

Replaces

Issue 2; Apr 06

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.

Price: D (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.

Page 49

Price: C

A 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

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NR/SP/ELP/21107 Bolted Running Rail Connections for Traction Bonding on AC and DC Replaces Electrified Lines Issue 2; Apr 06 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.

Price: C

NR/SP/ELP/21112 Calculation of Protection Settings for 3-phase H.V. Distribution Systems Replaces Issue 2; Apr 06 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.

Price: B

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

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

Price: C

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'.

Price: D

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.

Price: C

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

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

Price: C

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

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 Sanctionfor-Test (21067/S/1)

Price: B

NR/SP/ELP/27175 **Acceptance of High Mast Winching Mechanisms and Associated Equipment** Replaces Issue 2: Dec 05 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.

Price: C

NR/SP/ELP/27176 Design of Retention Toilet Servicing Installations Issue 2; Feb 06 Replaces RT/E/P/27176 Iss 1; Dec 04

The specification RT/E/P/27176 has been re-issued as a SAF3 Business Process Document NR/SP/ELP/27176

Price: C

NR/SP/ELP/27178 Examination of Pressure Vessels Issue 2; Dec 05 Replaces RT/E/P/27178 Iss 1; Dec 04

This specification sets down the requirements for pressure vessels.

Price: B

NR/SP/ELP/27183 50 Cycle Single Phase AC Electrification Overhead Line Equipment Replaces

Issue 2; Apr 06 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.

Price: C

NR/SP/ELP/27192 Design and Installation of Negative Bonding and Associated Equipment on Replaces

High Current DC Electrified Lines Issue 2; Apr 06 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".

Price: C

NR/SP/ELP/27193 Specification for Earthing and Bonding for Dollands Moor International Freight Replaces

RT/E/S/27193 Iss 1; Dec 04 Yard Issue 2: Feb 06

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

Price: B

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.

Price: D

NR/SP/ELP/27200 Track Datum Markers on all Overhead Electrified Lines Issue 2; Feb 06 Replaces

RT/E/S/27200 Iss 1; Dec 04

The purpose of this Instruction to define the track tolerances and the two types of markers to ensure that the geometrical relationship between the contact wire and the pantograph is maintained at all times.

Price: C

NR/SP/ELP/27202 Concrete for Overhead Line Equipment Structures Issue 2; Feb 06

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.

Price: D

NR/SP/ELP/27203 Provision of Isolation, Earthing and Indication Facilities Where Local Isolations

are Permitted on AC Electrified Lines Issue 2; Apr 06 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.

Price: C

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.

Price: B

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.

Price: B

NR/SP/ELP/27217 **Emergency Disconnection of Grid Supply Feeders for DC Electrification**  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.

Price: B

Specification for Installation of Cable Routes Forming Part of The Traction

Replaces

Distribution System Issue 2; Apr 06

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.

Price: D (NR/BS/LI/040, NR/BS/LI/217)

NR/SP/ELP/27228 Specification for New and Upgraded Lifts Issue 1; Oct 05

Replaces

This specification describes the technical requirements that must be met by any lift installed on Network Rail infrastructure

Price: F

NR/SP/ELP/27234

Specification for Design and Maintenance of Hydraulic Fluid Power Systems

Replaces

Issue 1; Dec 05

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

Price: C

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.

Price: C

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.

Price: D (Includes NR/BS/LI/256)

NR/SP/ELP/27300

Specification for Computer Aided Design Formats for Electrification and Plant Replaces

Documentation Issue E1; Sep 05

Issue 2; Apr 06

Equipment Issue 3; Feb 06

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.

Price: D

NR/SP/ELP/40041

**Core Maintenance Specification for Overhead Trolley Jumper Systems** 

Renlaces

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.

Price: C

NR/SP/ELP/40042

Periodic Inspection and Testing of Electrical Installations, Appliances and

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.

Price: C

NR/SP/ELP/40067

The Installation and Upgrading of Escalators and Passenger Conveyors

Replaces

RT/E/S/40067 Iss 1; Oct 01

The Specification has been developed to ensure that escalators and passenger conveyors are suitable for the public service application associated with stations and large volumes of passenger flow. In all cases equipment is specified and rated suitable for a minimum 25 years service in compliance with the remit from Network Rail.

Price: D

RT/E/S/21131

Warning and Other Signs for AC and DC Electrified Lines Issue 1; Nov 97

Replace

This specification states the requirements for the design and the display of signs on Network Rail infrastructure to warn persons on or near ac and/or dc electrified lines of the risk of electric shock. It also includes the requirements for certain other signs employed on Network Rail infrastructure in connection with electrified lines.

Price: E (Includes NR/BS/LI/370)

4.7 ELECTRICAL POWER **ELP Product Specs** 

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

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.

Price: C

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.

Price: F

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

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.

Price: C

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

Price: D

## **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.

Price: B

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.

Price: D

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

Price: D

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 threecore cables for DC Electrified Lines and 25 kV two-core concentric and single-core cables and accessories for AC Electrified Lines.

Price: D

NR/PS/ELP/00021

Product Specification for Standby Diesel Generators for Signalling Supplies

Replaces

Issue 2; Oct 05

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.

Price: D

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**ELP Product Specs** 

NR/PS/ELP/00022 400V 3-phase AC Shore Supply Equipment for use in non Electrified Areas Replaces

Issue 2: Feb 06 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.

Price: D

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.

Price: D

NR/PS/ELP/21101 Track Cable for DC Electrified Lines Issue 2; Apr 06 Replaces

RT/E/S/21101 Iss 1; Mar 98

This specification states the requirements for the design, manufacture, testing at works and at site, and delivery ex works of track cables for use on d.c. traction systems to provide, the 650/750 V d.c. supply from traction substations and track paralleling huts to the conductor rails and negative cable connections and, where appropriate, bonding

Price: C

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/27184 25kV Rotating Post Type Isolators Issue 2; Apr 06

Replaces

RT/E/S/27184 Iss 1; Dec 04

This Specification is for the design, manufacture and testing, of outdoor overhead line isolators and associated equipment for isolating and sectioning the 25 kV 50 Hz single phase overhead conductor system.

Price: D

NR/PS/ELP/27185 25kV Power Transformers and Voltage Regulators for Auxiliary Supplies Replaces

RT/E/S/27185 Iss 1; Dec 04

25 kV single phase 50 Hz power transformers and associated voltage regulators are used to provide standby supplies from the overhead line to signalling and other auxiliary equipment.

Price: D

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.

Price: B

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.

Price: D

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.

Price: D

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Issue 109: 01 September - 30 November 2018

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NR/PS/ELP/27196 Specification for Outdoor Ancillary Cubicles for 25kV AC Isolation Replaces
Transformers Issue 2; Feb 06 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.

Price: D

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.

Price: C

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 modern based supervisory systems operating in the VF range 300 to 3000 Hz.

Price: C

NR/PS/ELP/27236 25kVAC Single Phase Switchgear and Ancillary Equipment Issue 2; Dec 05

Replaces

RT/SEL/04 Iss 1; Oct 00

This product specification states the requirements for indoor and outdoor switchgear and ancillary equipment for 25 kVac switching stations.

Price: D

Level '

NR/L1/ELP/27000 Asset Management Policy for Electrical Power Assets Compliance Issue 2; Mar 17 Support Support

The purpose of the electrical power (EP) asset policy within Network Rail is to provide reliable and safe operation of the network to:

- · Provide for the safety of employees, contractors, users of the infrastructure and third parties,
- Meet and maintain statutory obligations,
- Optimise the life and performance of assets and the network,
- · Maintain quality of service by minimising disruption to customers.

Price: Phone

Level 2

NR/L2/ELP/1007 Specification for 25kV Disconnectors, Earthing Switches Compliance and Switches Issue 2; Mar 17 Compliance 03/06/17 Replaces NR/SPEC/1007 Iss 1; Dec 15

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

Price: C

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.

Price: C

NR/L2/ELP/21048 Maintenance of Positive Conductor Rail and Traction Cables Compliance for DC Conductor Rail Systems Issue 2; Sep 17 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.

Price: B

NR/L2/ELP/21087	Specification of Maintenance Frequency and Defect	Compliance	Replaces
	Prioritisation of Overhead Line Electrification Equipment	01/12/18	NR/L2/ELP/21087 Iss 7; Mar 17
	Issue 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.

Price: F Additional Excel Content Available: Phone

NR/L2/ELP/21088	General Maintenance Parameters for Overhead Line	Compliance	Replaces
	Electrification Equipment Issue 3; Dec 15	01/03/16	NR/SP/ELP/21088 Iss 2; Apr 06

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.

Price: C Standard only; Complete, Phone See below for details of modules and individual pricing

NR/L2/ELP/21088/	Title	Issue	Issue Date	Price
01	Glossary	1	Dec 2015	А
02	Mark 1 Maintenance Parameters	1	Dec 2015	С
03	Mark 2 Maintenance Parameters	1	Dec 2015	В
04	Mark 3 Maintenance Parameters	1	Dec 2015	В
05	Mark 3A Maintenance Parameters	1	Dec 2015	С
06	Mark 3B Maintenance Parameters	1	Dec 2015	С
07	Mark 3C Maintenance Parameters	1	Dec 2015	В
08	Mark 3D Maintenance Parameters	1	Dec 2015	С
09	Mark 5 Maintenance Parameters	1	Dec 2015	В
10	BBC Maintenance Parameters	1	Dec 2015	В
11	GE-MSW Maintenance Parameters	1	Dec 2015	С
12	SCS Maintenance Parameters	1	Dec 2015	В
13	Sunderland Direct Maintenance Parameters	1	Dec 2015	В
14	SICAT Maintenance Parameters	1	Dec 2015	В
15	UK1 Maintenance Parameters	1	Dec 2015	С
16	Series 1 Maintenance Parameters	1	Dec 2015	С
17	Series 2 Maintenance Parameters	1	Dec 2015	С

NR/L2/ELP/21120	E&P Records Management Process Issue 1 Jun 08	Compliance	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

Price: C

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

Price: C

NR/L2/ELP/24013 Notification of Energisation of New AC and DC Electrified Compliance 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.

Price: C

NR/L2/ELP/25001 Electrical Safety Principles for New Electrification | Compliance | Sue 1; Sep 17 | Compliance | O2/10/17 | 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.

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

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.

Price: C Standard only; Complete, Phone See below for details of modules and individual pricing

Mod	Title	Issue	Issue Date	Price
C01	Replacement of Cam Type 753 Copper Loop Droppers.	1	Dec 2011	Α
C02	Replacement of BICC Double Ceramic Bead Skidded Neutral Sections.	1	Dec 2011	Α
203	Replacement of Solid 3/16" Copper 'V' Droppers Prone to Fatigue Failure.	1	Dec 2011	Α
204	Replacement of Solid 3/16" Copper Windstay Droppers prone to Fatigue Failure.	1	Dec 2011	Α
205	Replacement of Illegible Structure Number Plates (Stencilled Types).	1	Dec 2011	Α
206	Replacement of Illegible Structure Number Plates (Self Adhesive Plastic Types).	1	Dec 2011	Α
07	Upgrading of In-Span Catenary to Contact Wire Jumpers to Minimise Current Related Dropper / Catenary Burning.	1	Dec 2011	Α
208	Replacement of Solid Core Porcelain Insulators in Terminations Vulnerable to Vandalism Catastrophic Failure.	1	Dec 2011	A
009	Replacement of Claw Type Copper Return Conductor Support Insulators Prone to Damaging Return Conductor Stranding.	1	Dec 2011	Α
10	Damage to Stranded Catenary from Bird Initiated Short Circuits at Portal Structure Supports.	1	Dec 2011	A
211	Replacement of Plastic Dropper Sleeves Prone to Ultra Violet Degradation.	1	Dec 2011	A
212	Modification of Seized Mechanically Independent Registration (MIR) Hinge Assemblies.	1	Dec 2011	A
213	Replace PTFE Spacer Ceramic Beads	1	Dec 2011	A
14	Replacement of Bearings In Termination & Support Pulleys Prone to Seizure due to Insufficient Clearance.	1	Dec 2011	В
215	Replacement of Roller Bearings in Termination Pulleys.	1	Dec 2011	A
216	Replacement of Butyl Rubber U/Br and in Span Rod Insulation Prone to Ultra Violet Degradation.	1	Dec 2011	A
217		1	Dec 2011	A
218	Replace Copper Ply Span and Tail Wire	1		A
	Replacement of Taylor Tunnicliff Gas Filled Hollow Support Insulators Prone to Failure.		Dec 2011	+
219	Replacement of Steatite and Porcelain Products Insulators Prone to Failure.	1	Dec 2011	A
20	Catenary Wear at Pulley Wheel Supports.	1	Dec 2011	A
221	Rapid Wear of the Steady Arm Eye Due to Normal Movement of the Wind Stay Dropper.	1	Dec 2011	В
22	Fouling of Deep Curved Steady Arm Anti-Wind Stirrups / Protective Saddles.	1	Dec 2011	В
23	Replacement of 'Dunted' Porcelain Insulators	1	Dec 2011	A
24	Replacement of 19/3.2Mm Copper Dead End Grips	1	Dec 2011	В
25	Rapid Wear of Aluminium & Copper Dropper Saddles in Awac & 19/2.1mm Catenary.	1	Dec 2011	В
26	Burning at 'Tee Off' Bi-Metal Termination Feeder Connections	1	Dec 2011	Α
27	Failure of Cross Span Wire to Tube Clamps When Disturbed.	1	Dec 2011	Α
228	Modification of Cross - Contact Bridge Assemblies.	1	Dec 2011	В
229	Removal of 'Goal Post' Uplift Stop Assemblies for Flat Registrations	1	Dec 2011	Α
230	Replacement of PTFE Rod Insulators With 'O' Ring End Fitting Seals.	1	Dec 2011	Α
231	Damage to Stranded Catenary From Bird Initiated Short Circuits at Overbridges.	1	Dec 2011	Α
32	Damage to Contenary or Contact Wire From Short Circuits at to Concrete / Non Metallic Overbridges.	1	Dec 2011	Α
233	Damage to Stress Graded Bridge Arm End Fittings From Bird Related Short Circuits at Overbridges	1	Dec 2011	Α
234	Modification of LEL (BPE) Tubular Blade Isolators Prone To Current Burning / Loose Blade - Jaw Fit.	1	Dec 2011	Α
235	Modification of South Wales (LEL) Tubular Blade Isolators.	1	Dec 2011	Α
236	Modification of Morris Line Type Isolator Jaw Connection Plate.	1	Dec 2011	Α
37	Replacement of BICC High Speed Section Insulator Armour Plate Glass Insulation.	1	Dec 2011	Α
38	Skidded Neutral Sections and Skidless Ceramic Beads for Class 373 Pantographs	1	Dec 2011	Α
39	Revised Stagger and Mid Span Offset Criteria for Enhanced Sway Characteristics.	1	Dec 2011	Α
240	Replacement of 'Pea Shooter' Type Bi Metal Connections to AWAC Catenary	1	Dec 2011	Α
241	Replacement of 10.5Mm Deformed Type Bi Metal Connections To Awac Catenary	1	Dec 2011	Α
42	Failure of In-Span Jumper Support Straps 'White Arrow' Type.	1	Dec 2011	Α
243	Replacement of 'Cad Weld' Traction Bond Rail Connections.	1	Dec 2011	Α
244	Replacement of 4mm Stainless Steel Solid Droppers.	1	Dec 2011	Α
245	Replacement of Adjustable 'Rat Trap' Type Dropper Assemblies in Bridge Approach Spans.	1	Dec 2011	Α
246	Flashover Damage to Ceramic Beads 'Earth End' in Skidless Neutral Section Assemblies.	1	Dec 2011	Α
247	Removal of Contact Wire Splices Installed Next to Registrations or in 1St Dropper Panels.	1	Dec 2011	Α
48	Replacement of Porcelain Insulators Prone to Vandalism Damage.	1	Dec 2011	Α
49	Damage to Catenary from Bird Short Circuits to Return Conductor.	1	Dec 2011	Α
50	Replacement of Corroded 'Steel Stranded' Type Structure to Rail Bonds.	1	Dec 2011	A
51	General Wire Creep Compensation Work.	1	Dec 2011	A
52	Conversion of Obsolete Mark 2 Equipment.	1	Dec 2011	A
53		1	Dec 2011	A
	Revised Return Conductor Support Design at Booster Transformer Connection Locations.	1		+
	Replacement of Defective Cap & Pin Insulators.	1 1	Dec 2011	Α
C54 C55	Modification of Morris Line Type Motorised Mechanisms.	1	Dec 2011	Α

Mod	Title	Issue	Issue Date	Price
C57	Loosening of Siemens Elasticated Bridge Support Arm.	1	Dec 2011	А
C58	Insulator Flashover Damage to Stainless Steel Bridles at O/Lap Anchor Terminations.	1	Dec 2011	Α
C59	Modification of Cross Track Feeder Wire Electrical Separation.	1	Dec 2011	А
C60	Modification of Track Feeder Wires With >3M Unsupported Wire.	1	Dec 2011	А
C61	Modification of Arthur Flury Section Insulators Prone To Premature Skid Failure.	1	Dec 2011	Α
C62	Modification of Arthur Flury 'Skidded' Neutral Section Insulators	1	Dec 2011	Α
C63	Renew High Risk Porcelain Insulators (Spanwire, Tensile And A682) Prone to Failure due to Discing.	1	Dec 2011	А
C64	Renew Awac Catenary Prone to Failure Due to Corrosion of the Stainless Steel Inner Cores.	1	Dec 2011	А
C65	Renew 'Korean' Style Registrations in Tunnel Assemblies.	1	Dec 2011	В
C66	Renew Arc Damaged Registrations in Headspan Assemblies.	1	Dec 2011	Α
C67	Modify Balance Weight Anchor Tubes in Balfour Beatty Sunderland Direct OLE Equipment.	1	Dec 2011	Α
C68	Renew Half-Flying-Duck Insulators in Overlap Spans.	1	Dec 2011	Α
C69	Renew Slow Speed 'Symmetrical' Section Insulators.	1	Dec 2011	Α
C70	Renew Dep Stalks Without End Nuts.	1	Dec 2011	Α
C71	Balance Weight Anchor Guide Tube Supports	1	Dec 2011	Α
C72	Replacement of A653 Registrations	1	Dec 2011	Α
C73	Insufficient Radial Loading on Uk1 Registrations	1	Dec 2011	Α
C74	Damage To Bridle Wire Due to Current Transfer Through Bridle Wire and Pulley Wheel	1	Dec 2011	Α
C75	Modification of Refurbished MIR Swivel Brackets	1	Dec 2011	Α
C76	Level Arm Modification to Arthur Flury Neutral Sections	1	Dec 2011	Α
C80	Earth Wire Failure due to Water Ingress/Corrosion in Tunnels	1	Mar 2017	Α
C86	Reposition Contact Wire Knuckle	1	Mar 2017	Α
C87	Replace Worn Stainless Steel Bridles	1	Mar 2017	Α
C90	Metallic Bridge Porcelain Insulator Replacement	1	Mar 2017	Α
C91	Removal of Auxiliary Catenary	1	Mar 2017	Α

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

Price: D

NR/L2/ELP/27212	Maintenance of Mark I Overhead Line Equipment	Compliance	Replaces
	Issue 3; Aug 08	26/08/08	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.

Price: D

NR/L2/ELP/27213	Maintenance of Mark Illa 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.

Price: D

NR/L2/ELP/27214	Maintenance of Mark IIIb Overhead Line Equipment Issue 3; Aug 08	Compliance 26/08/08	Replaces NR/SP/ELP/27214
	13340 0, Aug 00	20/00/00	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.

Price: E

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

Price: F (Contains NR/BS/LI/366)

NR/L2/ELP/27238	Maintenance Specification for Fixed Plant Equipment	Compliance	Replaces
	Issue 7; Jul 14	01/11/14	NR/L2/ELP/27238 Iss 6; Sep 11

This Network Rail standard specifies the general requirements and specific tasks to be performed upon on Network Rail's mechanical and electrical fixed plant.

Price: C Standard only; Complete, F See below for details of modules and individual pricing

NR/L2/ELP/27238/	Title	Issue	Issue Date	Price
APP-A	Standby Generators	Issue 6	Sep 2011	В
APP-B	Electrical Points Heating Installations	Issue 7	Sep 2011	В
APP-C	Gas/Oil Fired Heating Systems	Issue 6	Sep 2011	В
APP-D	Air Conditioning and Ventilation Equipment	Issue 6	Sep 2011	Α
APP-E	Electrical Installations and Equipment	Issue 6	Sep 2011	Α
APP-F	Lighting Installations	Issue 6	Sep 2011	Α
APP-G	Emergency Lighting Equipment	Issue 6	Sep 2011	Α
APP-H	Water Distribution Systems	Issue 6	Sep 2011	Α
APP-I	Fire Alarm Systems	Issue 6	Sep 2011	Α
APP-J	Sewage Disposal Plant	Issue 6	Sep 2011	Α
APP-K	Building Maintenance Platforms	Issue 6	Sep 2011	В
APP-L	Winches	Issue 6	Sep 2011	Α
APP-M	Hydraulic Buffer Stops	Issue 6	Sep 2011	В
APP-N	Maintenance of Uninterruptible Power Supply Equipment	Issue 6	Sep 2011	В
APP-O	Non-traction High Voltage Electrical Equipment	Issue 6	Sep 2011	Α
APP-P	Pumping Installations	Issue 6	Sep 2011	Α
APP-Q	Signalling and Safety Related Power Supplies	Issue 6	Sep 2011	В
APP-R	Moving Bridges	Issue 6	Sep 2011	А

NR/L2/ELP/27239	Maintenance Specification for Electrification Distribution	Compliance	Replaces
	Equipment Issue 2; Jun 08	26/08/08	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.

Price: D (Contains NR/BS/LI/026 (Expired), NR/BS/LI/384)

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

Price: E

NR/L2/ELP/27307	Management of M&EE Safety Related Event Reports	Compliance	Replaces
	Issue 4; Dec 17	03/03/18	NR/L2/ELP/27307 lss 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.

Price: C Additional Excel Content Available: Phone

NR/L2/ELP/27311	Engineering Assurance Requirements for Design and	Compliance	Replaces
	Implementation of Electrical Power Engineering Infrastructure	03/09/11	NR/SP/ELP/27311 Iss 3; Jun 10
	Projects Issue 4; Jun 11		

The purpose of this standard is to control the 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 engineering assurance process.

Price: C

NR/L2/ELP/27314	Testing and Commissioning of New or Modified Overhead	Compliance	Replaces
	Contact Systems Issue 1; Dec 17	03/03/18	New at Issue 106

The purpose of this document is to define the requirements to test and commission new or modified Overhead Contact System (OCS). This document sets out the procedures and process controls necessary to confirm that new OCS installations and alterations to existing installations, are tested in a manner that assures:

- Compliance with legislation, standards, the project specifications and approved Design Details; and
- Fitness for purpose before they are offered for Entry Into Operational Service.

Price: F

NR/L2/ELP/27320	Fixed Plant Equipment Reporting Issue 2; Aug 08	<b>Compliance</b> 26/08/08	Replaces NR/L2/ELP/27320 Iss 1; Jun 07
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This specification details the information required to be reported on Network Rail's fixed plant equipment.

Price: B

NR/L2/ELP/27325	Train Borne Monitoring of Traction Power Contact Systems	Compliance	Replaces	
	Issue 1: Mar 16	03/12/16	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.

Price: D

NR/L2/ELP/27400	Specification for 25-0-25kV Traction Autotransformers	Compliance	Replaces
	Issue 2; Sep 11	03/12/11	NR/L2/ELP/27400 1; Sep 09

This product specification states the requirements for use on the 25-025 kV electrification system.

Price: D

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

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

Price: D (Contains NR/BS/LI/372)

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

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

Price: B

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

Price: C

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

Price: B Standard only; Complete, Phone See below for details of modules and individual pricing

NR/L2/ELP/27428/	Module	Issue	Issue Date	Price
01	Fixings for Railway Electrification Equipment	1	Dec 2016	С
02	25kV A.C. Discrete Sectioning Devices for Railway Electrification Equipment	1	Dec 2016	D
03	25kV A.C. Tensioning Devices for Railway Electrification Equipment	1	Dec 2016	D
04	25kV A.C. Insulators for Railway Electrification Equipment	1	Dec 2016	D

NR/L2/ELP/27428/	Module	Issue	Issue Date	Price
05	25kV A.C. Clips and Clamps for Railway Electrification Equipment	1	Dec 2016	D
06	25kV A.C. Overhead Contact Line Droppers for Railway Electrification Equipment	1	Dec 2016	D
07	25kV A.C. Overhead Contact Line Cantilever Assemblies for Railway Electrification Equipment	1	Dec 2016	D

NR/L2/ELP/27500	Production of Comprehensive Track Diagrams and	Compliance	Replaces
	Operations Diagrams Issue 2; Dec 17	03/03/18	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.

Price: C

NR/L2/ELP/27550	Traction Power Isolation Documentation Issue 1; Dec 17	Compliance	Replaces
		03/03/18	NR/L3/MTC/EP0203 Iss 2: Mar 11

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.

Price: B Standard only; Complete, E See below for details of modules and individual pricing

NR/L2/ELP/27550/	Module	Issue	Issue Date	Price
01	Production and control of Isolation Diagrams and Instructions	1	Dec 2017	D
1A	Layout and Technical Content of Isolation Diagrams and Instructions	1	Dec 2017	D

NR/L2/ELP/27715	Overhead Contact System Design Specification	Compliance	Replaces
	Issue 3; Sep 18	01/09/18	NR/L2/ELP/27715 lss 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

Price: D Standard only; Complete, F See below for details of modules and individual pricing

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

NR/L2/ELP/27730	Specification for 750V dc Switchgear Issue 2; Mar 18	Compliance	Replaces
		03/03/18	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.

Price: E

NR/L2/ELP/40045	Electric Point Heating Issue 6; Aug 08	Compliance	Replaces
		26/08/08	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

Price: E (Contains NR/BS/LI/106)

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

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

Price: C

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

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

#### l evel :

NR/L3/ELP/3091	DC Electrified Lines Working Instructions Issue 4; Sep 18	Compliance	Replaces
		01/12/18	NR/WI/ELP/3091 Iss E2; Dec 06
			RT/E/WI/00109 Iss E1; Feb 04

This work instruction sets out the requirements for persons working on or near to 3rd rail DC electrified lines to allow them to carry out their duties without risk of danger to themselves or other persons.

Price: Phone

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

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.

Price: D (Contains NR/BS/LI/034)

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

Price: D (Contains NR/BS/LI/387)

Additional Excel Content Available: Phone

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

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.

Price: C

NR/L3/ELP/27051	Working Instructions for DC Electrified Lines in the Liverpool	Compliance	Replaces
	Area Issue 5; Dec 17	03/03/18	NR/WI/ELP/27051 Iss 4; Jun 07

This modular standard updates previously published instructions for 3rd rail d.c. electrified lines in the Liverpool area to:

- enable use of equipment for delivering conductor rail isolations more safely and more rapidly and
- incorporate previously authorised changes that were published as Letters of Instruction and
- · present them in a modular format that clarifies where variation may be permitted

Price: C Standard only; Complete, F See below for details of modules and individual pricing

NR/L3/ELP/27051/	Module	Issue	Issue Date	Price
01	General Instructions for Working On or Near Conductor Rail Equipment	1	Dec 2017	В
02	Isolation of Conductor Rails	1	Dec 2017	D
03	Working of Trains	1	Dec 2017	С
04	Additional instructions in respect of Mersey, link and loop sections	1	Dec 2017	D
05	Fire and dangerous substances, liquids etc.	1	Dec 2017	С

<b>3</b>	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
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This document describes the periodic maintenance requirements for all Single to Three Phase Converter installations associated with Signalling Supplies.

Price: C

NR/L3/ELP/27078	Routine Inspection and Maintenance of Diesel and Electrically	Compliance	Replaces
	Driven Compressed air Installations Issue 3; Aug 08	26/08/08	NR/WI/ELP/27078 Iss 2; Feb 06

This document describes the periodic maintenance requirements for all diesel and electrically driven compressed air installations associated with signalling supplies.

NR/L3/ELP/27115	Arrangements for Isolation of the Conductor Rail for Pre-	Compliance	Replaces
	planned Possessions of the Line Issue 4: Sep 18	01/12/18	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.

Price: C

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

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.

Price: B

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.

Price: B

NR/L3/ELP/27135	Recording Method for DC Safe Setting Calculations	Compliance	Replaces
	Issue 3; Jun 08	26/08/08	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.

Price: B

NR/L3/ELP/27140	Application of Short Circuits for Conductor Rail Isolations	Compliance	Replaces
	Issue 3; Sep 18	01/12/2018	NR/WI/ELP/27140 Iss 2; Apr 06

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)

Price: C

NR/L3/ELP/27218	<b>Preparation or Modification of Comprehensive Track Diagrams</b>	Compliance	Replaces
	Issue 3; Aug 08	26/08/08	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.

Price: C

NR/L3/ELP/27232	Work Instruction for Defect Reporting Issue 2; Aug 08	Compliance	Replaces
		26/08/08	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.

Price: B

NR/L3/ELP/27237	Overhead Line Work Instructions Issue 16; Sep 18	Compliance	Replaces
		01/12/18	NR/L3/ELP/27237 Iss 15; Mar 18

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

Price: Phone

NR/L3/ELP/27240	Distribution Work Instructions Issue 7; Jun 17	Compliance	Replaces
		31/12/17	NR/L3/ELP/27240 Iss 6: Mar 17

This document contains Distribution Work Instructions for use by competent persons to carry out maintenance and fault rectification activities.

Price: Phone

NR/L3/ELP/27241 Fixed Plant Work Instructions Issue 4; Sep 11 Compliance Replaces NR/L3/ELP/27241 Iss 3; Aug 08 03/09/2011

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

Price: C Standard only; Complete, Phone (Contains NR/BS/LI/258) See below for details of modules and individual pricing

Ref	Title	Issue	Issue Date	Price
NR/FP A002	Exam Codes	4	Sep 2011	A
NR/FP C001	Points Heating - Electric	4	Sep 2011	В
NR/FP C005	Condition of Points Heating - Electric	4	Sep 2011	Α
NR/FP C020	Signalling Principal Supply Point Switchgear and Control Gear	4	Sep 2011	В
NR/FP C021A	Bender IRDH265 (RS2) Readings & Test Instructions	4	Sep 2011	А
NR/FP C022A	Portable Insulation Monitoring Tester – Operating Instructions	4	Sep 2011	Α
NR/FP C040	Fixed Standby Diesel Generators	4	Sep 2011	В
NR/FP C060	Uninterruptible Power Supplies (10 kVA & above)	4	Sep 2011	В
NR/FP C100	Functional Supply Points (FSPs)	4	Sep 2011	А
NR/FP C101	SIGNET Automatic Recloser	4	Sep 2011	А
NR/FP C140	Non-Traction High Voltage Apparatus & Substations/Compounds	4	Sep 2011	В
NR/FP C180	Electricity Supply Points, Distribution Cabinets Switchboards & Associated Cables Except Signalling Supplies	4	Sep 2011	В
NR/FP C181	Periodic Inspection & Testing of Fixed 'Low Voltage' Electrical Installations	4	Sep 2011	А
NR/FP C200	Banavie Moving Bridge	4	Sep 2011	A
NR/FP C202	Goole Moving Bridge	4	Sep 2011	D
NR/FP C203	Selby Moving Bridge	4	Sep 2011	D
NR/FP C204	Hull River Moving Bridge	4	Sep 2011	D
NR/FP C205	Keadby Moving Bridge	4	Sep 2011	С
NR/FP C220	External Fixed Lighting Installations	4	Sep 2011	A
NR/FP C221	Internal Fixed Lighting Installations	4	Sep 2011	А
NR/FP C270	Maintenance of Pumping Equipment	4	Sep 2011	A
NR/FP C300	Unmanned Lineside Building Services	4	Sep 2011	A
NR/FP C400	Maintenance of Electrical Installation & Transducer Connections for WheelChex Installations	4	Sep 2011	В
NR/FP C400/F001	WheelChex Electrical Testing Results	1	Sep 2011	А
NR/FP C400/F002	WheelChex Electrical Inspection Record	1	Sep 2011	А
NR/FP C500	Shore Supplies	4	Sep 2011	А

NR/L3/ELP/27250	Conductor Rail Equipment Working Instructions	Compliance	Replaces
	Issue 3; Mar 18	02/06/2018	NR/L3/ELP/27250 Iss 2; Mar 17

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.

Price: F

NR/L3/ELP/27404	Management of Request for Extended DC Feeding	Compliance	Replaces
	Arrangements Issue 1; Dec 09	05/06/10	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.

Price: B

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

Price: C Standard only; Complete, E See below for details of modules and individual pricing

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

NR/L3/ELP/27406/	Tiitle	Issue	Date	Price
MOD L	AC/DC Traction Power Supply Interfaces	1	Dec 2011	Α

NR/L3/ELP/27424	750V DC Conductor Rail Equipment Design Manual	Compliance	Replaces
	Issue 1; Mar 18	02/06/18	New at Issue 107

The purpose of this standard is to provide guidance and requirements for the design of CRE equipment in order to achieve to achieve safety, economy and performance whilst meeting regulatory requirements.

Price: B Standard only; Complete, Phone See below for details of modules and individual pricing

NR/L3/ELP/27424/	Tiitle	Issue	Date	Price
100	Conductor Rail Data Sheets	1	March 2018*	С
200	Insulator Assemblies and Fixings Data Sheets	1	March 2018*	D
300	Cables, Accessories and Route Materials Data Sheets	1	March 2018*	D
400	Isolating Switches Data Sheets	1	March 2018*	С
500	Positive CRE Layout Design Data Sheets	1	March 2018*	D
600	Negative Bonding Layout Design Data Sheets	1	March 2018*	D
700	Protective Equipment Data Sheets	1	March 2018*	С

<sup>\*</sup> These modules were previously issued as part of NR/L3/ELP/27250, from which they have been transferred without alteration.

NR/L3/ELP/29987	Working on or About 25kV AC Electrified Lines	Compliance	Replaces
	Issue 4; Sep 15	11/01/16	NR/SP/ELP/29987 lss 3; Jun 07

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.

Price: E Standard only; Complete, Phone (Contains NR/BS/LI/367, NR/BS/LI/393 and NR/BS/LI/396) See below for details of modules and individual pricing

NR/L3/ELP/29987/	Tiitle	Issue	Issue Date	Price
01	General Requirements	4	Sep 2015	С
02	Assessment of Electrical Risks	4	Sep 2015	В
03	Management of Electrical Risks	4	Sep 2015	С
04	Maintaining the Integrity and Safe Operation of 25 kV A.C. Electrified Lines (Contains NR/BS/LI/367 & NR/BS/LI/406)	4	Sep 2015	С
05	Particular Actions to be Taken by the Infrastructure Maintainer	4	Sep 2015	В
06	Planning of Isolations	4	Sep 2015	С
07	Isolation and Earthing of Overhead Line Equipment (Contains NR/BS/LI/367 & NR/BS/LI/406)	4	Sep 2015	E
08	Local Isolation and Earthing of Overhead Line Equipment	4	Sep 2015	В
09	Isolation and Earthing when Constructing or Dismantling Overhead Line Equipment	4	Sep 2015	А
10	Use of Voltage Testing Devices, Portable Earthing Equipment and Temporary Continuity Jumpers	4	Sep 2015	В
11	Working On Overhead Line Equipment	4	Sep 2015	С
12	Management of Local Isolation Instructions for Overhead Line Equipment	4	Sep 2015	С
Х	Securing of points of disconnection for earthed isolations on new electrification infrastructure (Contains NR/BS/LI/406)	1	Apr 2018	D
W	Planning and Implementation of Overhead Line Permits and Western Limitation of Access Certificates on Overhead Line Equipment	1	Jun 2017	D
Υ	Isolation and Earthing of Sheffield Tram Train d.c. Overhead Electrified Lines (Contains NR/BS/LI/406)	1	Apr 2018	D

#### **Work Instructions**

NR/WI/ELP/27052	Working Instructions for DC Electrified Lines on the Northern	Compliance	Replaces
	City Line Issue 4; Jun 07	02/06/07	NR/WI/ELP/27052 Iss E3; Apr 06

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

Price: E (Contains NR/BS/LI/097)

NR/WI/ELP/27096 Work Instruction for Production of Mean and Peak Current Profiles for 25kV AC
Electrification Issue 2; Dec 05

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

RT/E/WI/27114 Iss 1; Dec 04

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

Price: B

NR/WI/ELP/27116 Standard for Replacement Components to be Used on Electrification Replaces

RT/E/WI/27116 Iss 1; Dec 04 Equipment Issue 2; Apr 06

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

Price: B

NR/WI/ELP/27127 Work Instruction for Network Rail/Euro Tunnel Electrical Interface at Replaces

Folkestone Operating and Maintenance Procedures Issue 2; Dec 05 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.

Price: C

NR/WI/ELP/27171 Issue, Storage, Routine Inspection and Testing of Rubber Gloves Replaces

> Issue 2; Apr 06 RT/E/WI/27171 Iss 1; Dec 04

This work instruction covers the issue, storage, inspection and testing of all rubber insulating gloves used for electrical purposes.

Price: C

NR/WI/ELP/27173 Application of a BR Standard Short Circuiting Bar in an Emergency Replaces

RT/E/WI/27173 Iss 1: Dec 04 Issue 2: Apr 06

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.

Price: C

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

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

Price: C

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.

Price: C

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

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

Price: C

**Guidance Notes (including Codes of Practice)** 

NR/GN/ELP/00004 AC Electrified Lines Earthing and Bonding Issue 2; Apr 06 RT/E/G/00004 Iss 1; Aug 00

This guidance note is intended to help explain Network Rail's requirements for earthing and bonding when installing plant and equipment on 25kV ac electrified lines.

Price: B

NR/GN/ELP/00011 **Guidance Note for Uninterruptible Power Supply (UPS) Equipment** Replaces Issue 3: Oct 05 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.

Price: D

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.

Price: E

NR/GN/ELP/24015 **Guidance for the Technical Management of Booster Transformer Outages** Replaces Issue 2: Dec 05 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).

Price: C

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.

Price: E

NR/GN/ELP/27010 **Guidance for Compatibility Between Electric Trains and Electrification Systems** Replaces RT/E/C/27010 Iss 1; Nov 97

This code of practice is for guidance when considering the evaluation process detailed in Railway Group Standard, GM/RT1000 - Compatibility between electric trains and electrification systems.

Price: D

NR/GN/ELP/27019 Design and Installation of Composite Aluminium/stainless Steel Conductor Replaces Rail and Associated Equipment on DC Electrified Lines Issue 2; Apr 06 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'.

Price: D

NR/GN/ELP/27020 Design and Installation of Steel Conductor Rail and Associated Equipment for Replaces DC Electrified Lines Issue 2; Apr 06 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

Price: D (Contains NR/BS/LI/091)

NR/GN/ELP/27022 Design and Installation of Negative Bonding and Associated Equipment on DC Replaces Electrified Lines Issue 2; Apr 06 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 do electrified lines'

Price: C

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

Price: C

NR/GN/ELP/27040 Overhead Electrified Lines - Passage of High Vehicles or Loads, or Those With Replaces Large Overhangs, over Accommodation and Occupation Level Crossings RT/E/C/27040 Iss 1; Dec 04 Issue 2; Feb 06

RT/E/C/27040 has been re-issued as a SAF3 Business Process Document NR/GN/ELP/27040.

NR/GN/ELP/27041 Winching Overhead Line Conductors Issue 2; Apr 06 Replaces

RT/E/C/27041 Iss 1; Dec 04

This quidance note describes the conditions under which the winching of overhead line conductors may be carried out, the method of operation to be used, and the equipment approved for the purpose.

Price: B

NR/GN/ELP/27043 Protection Standards and Methods of Calculation for 25kV AC Electrified Lines Replaces

Issue 2: Feb 06

RT/E/C/27043 Iss 1; Dec 04

RT/F/C/27043 has been re-issued as a SAF3 Business Process Document NR/GN/FI P/27043

Price: D

NR/GN/ELP/27138 DC Electrified Track, Electrical Protection Arrangements for Work on or Near Replaces

Conductor Rails Issue 2; Feb 06

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.

Price: B

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.

Price: D

NR/GN/ELP/27198 Identification of Bonds on all Electrified Lines Except the Southern Areas of Replaces

Network Rail Issue 2; Apr 06

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.

Price: C

NR/GN/ELP/27230 Guidance Note for New and Upgraded Lifts Issue 1; Oct 05

Replaces

This guidance note offers additional information that will enable those wishing to specify new, or upgrade existing lifts, to identify and evaluate the most cost effective options and tenders

Price: D

NR/GN/ELP/27233 **Characteristics of Railway Electrification Traction Power Supplies** Replaces

Issue 1; Dec 05

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

Price: B

NR/GN/ELP/27235 Guidance for the Design, Specification and Maintenance of Hydraulic Systems Replaces

Issue 1; Dec 05

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

Price: D

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.

Price: D

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

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.

Price: D

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.

Price: D

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.

Price: C

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

Price: C

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.

Price: C

NR/GN/ELP/27407 Guidance on Taking Possession of Withdrawable DC Circuit Breakers

Replaces

Issue 1; Mar 11

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

Price: E

NR/GN/ELP/27415 Calculation and Analysis of Overhead Contact System Geometry

Replaces

Issue 1; Dec 15

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.

Price: C

NR/GN/ELP/27600

Index of Standard Electrical Power Forms Issue 2; Mar 17

Replaces

NR/L3/ELP/27600 lss 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.

Price: B

RT/E/C/27003

Identification of Component Failures in 25kV Overhead Line Equipment

Replaces

Issue 2: Feb 1998

RT/E/C/27003 Iss 1; Oct 96

This code of practice offers assistance in identification of the generic cause of overhead line equipment component failure.

Price: E

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.

Price: D

**ELP 4.7 ELECTRICAL POWER SINs** 

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

Price: Phone

# **Special Inspection Notices**

NR/SIN/113	Special Inspection of Bonding at Bridges, Tunnels and Other	Compliance	Replaces
	Overline Structures Issue 2; Nov 17	23/05/18	New at Issue 107

This Special Inspection Notice applies to the electrical bonding at all bridges, tunnels and other overline structures to check that:

- all exposed metal is properly bonded and
- all bridges, tunnels and other overline structures constructed of masonry, concrete

Price: B

**ENV** 

#### 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.

Price: B

## **Specifications (including Procedures)**

NR/SP/ENV/001 Corporate Environment Manual Issue 1; Apr 06

Replaces

This document shall define the Environmental Management System (EMS) framework used to implement Network Rail's environment policy. It sets the environment management standard for Network Rail Functions and is supported by procedures that assist with the management of the company's key environmental risks.

Price: C

RT/D/P/003 Noise and Vibration Complaints Issue 2; Apr 04

Replaces

RT/D/P/003 Iss 1; Jul 94

This procedure describes how complaints arising from noise and vibration, and how the handling of legal action under the Environmental Protection Act 1990, the Control of Pollution Act 1974 and common law noise nuisance actions should be dealt with.

Price: C

RT/LS/P/007 Project Management and the Environment Issue 2; Apr 04

Replaces

RT/LS/P/007 Iss 1; Jun 97

This procedure describes the process that shall be followed to ensure that environmental issues are properly managed as part of the project management process. It requires the environment to be addressed at the remit stage and for an appraisal to be carried out at the feasibility stage and updated at specified times. A management plan to an appropriate level shall be developed and maintained to deal with the identified issues.

Price: E

#### Level 1

NR/L1/ENV/100 Environment and Social Performance Policy Issue 1; Sep 17 Compliance 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..

Price. C

#### Level 2

NR/L2/ENV/050 Environmental Performance Indicators Issue 1; Mar 09 Compliance 01/04/09 Replaces New at Issue 71

The purpose of this standard is to describe how data is collected and collated as Environmental Performance Indicators (PIs) and brought together to feed into the Environmental Sustainability Index which is part of the Company's Key Performance Indicator (KPI) Programme. The standard also aims to outline the roles & responsibilities around environmental data collection and collation.

Price: C

NR/L2/ENV/115 Environment and Social Management System Requirements Compliance Issue 1; Mar 18 O3/03/19 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.

Price: D

4.8 ENVIRONMENT **ENV** Level 3 / Guidance

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

Price: D

NR/L3/ENV/305	How to Change Utility Supplies Issue 2; Mar 18	Compliance	Replaces
		02/06/18	NR/L3/CPR/305 Iss 1; Dec 11

The purpose of this Network Rail standard is to:

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

Price: D Additional Excel Content Available: Phone

# **Guidance Notes (including Codes of Practice)**

#### NR/GN/ENV/004 Waste Management Manual Issue 1; Jun 06

Replaces

This Manual provides a toolkit to help Network Rail comply with waste legislation and to outline best practice for waste management.

- It clearly outlines obligations under UK law.
- It gives details on managing specific waste streams.

Price: E

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

Price: D

RT/LS/G/00022	Construction Noise Mitigation Through Section 61 Consent Process	Replaces
	Issue 2: Apr 04	RT/LS/G/00022 Iss 1A. Jul 03

The purpose of this guidance document is to provide an overview of how the risks from construction noise can be mitigated by obtaining consent under Section 61 of the Control of Pollution Act, 1974 (COPA) and in particular the benefits of this approach and a recommended course of action for securing a Section 61 consent.

Price: E

RT/LS/G/00023	Best Practicable Means: Control of Noise and Vibration From Construction	Replaces
	Operations Issue 2: Apr 04	RT/LS/G/00023 Iss 2: Apr 03

The purpose of this environmental guidance note is to provide a reference for Network Rail managers and contractors wishing to implement best practicable means (BPM) in controlling noise and vibration on construction sites.

4.9 ERGONOMICS ERG
Specs / Level 2

#### 4.9 ERGONOMICS

#### **Specifications (including Procedures)**

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

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.

Price: E

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

Price: E

	Level 2		
NR/L2/ERG/24020	Engineering Assurance Requirements for Ergonomics Within Design and Development Projects Issue 3; Dec 11	<b>Compliance</b> 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.

Price: D

#### **Associated Document**

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

#### 4.10 FIRE SAFETY POLICY

#### \_evel 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

Price: B

Level 3

 NR/L3/FIR/101
 Fire Safety – Managed Stations
 Issue 7; Sep 10
 Compliance
 Replaces

 04/12/10
 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.

Price: D

NR/L3/FIR/102 Fire Safety – Operational Estate Issue 7; Sep 10 Compliance 84/12/10 Replaces 87/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.

Price: D

NR/L3/FIR/103 Fire Safety – Offices and Competency and Training Delivery Compliance
Centres Issue 5; Sep 10 Compliance 04/12/10 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.

Price: C

NR/L3/FIR/105 Fire Safety - Property: Business Space, Freight & Compliance Replaces
Miscellaneous Portfolios Issue 4; Sep 10 04/12/10 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.

Price: D

 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.

Price: C

 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.

Price: D

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.

Price: B

 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.

Price: D

#### 4.11 INFORMATION MANAGEMENT

#### Level 1

NR/L1/INF/02232 Information Security Policy Issue 2; Mar 16 Compliance 07/06/16 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

Price: C

NR/L2/INF/02018 Specification for the Management of Safety Related Compliance Infrastructure Records Issue 6: Dec 10 05/03/11 NR/L2/INF/02018 Iss 5: Aug 08

Specification for the production and alteration of safety related records.

Price: D

Compliance NR/L2/INF/02202 **Records Management of Health and Safety Files** Issue 6; Mar 16 05/06/16 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).

Price: D

NR/L2/INF/02203 Controlled Publications - Issue and Receipt Issue 2; Dec 11 Compliance 03/03/12 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.

Price: B

NR/L2/INF/02220 Document and Records Management Issue 1; Mar 09 Compliance Replaces

This Network Rail Standard specifies requirements to fulfil the Document Management Policy and the Records Management Policy

Price: C

NR/L2/INF/02223 Information Classifications - Security Issue 3; Jun 18 Compliance 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.

Price: C

NR/L2/INF/02230 Corporate Archive Policy Issue 2; Jun 15 Compliance Replaces NR/L2/INF/02230 Iss 1; Sep 10

To provide a policy which establishes the remit under which the Network Rail Corporate Archive will operate, by establishing how records that are to be kept permanently for legal and regulatory reasons will be acquired, catalogued and managed.

Price: C

NR/L2/INF/02237 Electronic Signatures Issue 1; Mar 12 Compliance Replaces 01/09/12 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.

Price: C

NR/L2/INF/02242	Information Security Manual Issue 4; Dec 16	Compliance	Replaces
		03/06/17	NR/L2/INF/02242 Iss 3: Sep 16

The purpose of this manual is to:

- · support the consistent identification, understanding and assessment of information security risks;
- provide up to date information against government guidelines, legislation, information security industry best practise and relevant ISO standards; and
- provide guidance to those impacted to help them make the changes necessary to people, process and technology.

Through consistent identification, understanding and assessment of information security risks, Network Rail is able to apply appropriate controls in order to manage information security risk at the appropriate level for the company.

Price: C Standard only; Complete, E See below for details of modules and individual pricing

Module	Title	Issue	Issue Date	Price
01	Acceptable use of Information and Information Systems	3	Sep 16	D
02	Information Access Management	2	Sep 16	В
03	Password Requirements for System Development and System Architecture	1	Sep 16	В
04	Security Management and Backup of Information Systems	1	Dec 16	В
05	Cloud Computing Security Principles	1	Dec 16	В

#### Level 3

NR/L3/INF/02204	Controlled Publications - Process and Accountabilities	Compliance	Replaces
	Issue 3; Dec 11	03/03/12	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.

Price: C

NR/L3/INF/02221	Document Creation and Approval Issue 1; Mar 09	Compliance	Replaces
		01/10/09	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 Price: C

NR/L3/INF/02222	Metadata for Documents and Records Issue 1; Mar 09	Compliance	Replaces	
		01/10/09	New at Issue 71	

This Network Rail standard specifies the corporate Network Rail core metadata for documents and records.

Price: B

NR/L3/INF/02224	Sharing Framework for Information Issue 1; Mar 09	Compliance	Replaces
		01/10/09	New at Issue 71

This Network Rail standard specifies the process by which access to information is controlled and managed.

Price: C

NR/L3/INF/02225	Records Management Issue 1; Mar 09	Compliance	Replaces
		01/10/09	New at Issue 71

This Network Rail standard specifies the minimum required process for managing Network Rail corporate records.

Price: C

NR/L3/INF/02226	Corporate Records Retention Schedule Issue 3; Dec 17	Compliance	Replaces
		03/03/18	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.

Price: C

NR/L3/INF/02231	Disposal of Records Issue 1; Sep 10	Compliance	Replaces	
i i		03/03/11	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.

Price: E

# 4.11 INFORMATION MANAGEMENT

**INF** Guidance

NR/L3/INF/02236	Scanning of Documentation Issue 2; Mar 12	Compliance	Replaces
		02/06/12	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.

Price: D

NR/L3/INF/02245	Working with Information Classifications - Security	Compliance	Replaces
	Issue 1; Jun 18	07/12/2019	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.

Price: D

#### **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"

Price: E

#### Level 2

NR/L2/MTC/006	Maintenance and Contents of the National Hazard Directory	Compliance	Replaces
	Issue 6: Dec 08	01/03/09	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.

Price: D

NR/L2/MTC/02020	Ellipse for Network Rail Work Management Issue 7; Jun 08	Compliance	Replaces
		26/08/08	NR/SP/INF/02020 Iss 5; Oct 05

This standard mandates the use of Ellipse and its associated processes and procedures.

Price: C

NR/L2/MTC/10662	Process for the Implementation of New or Revised	Compliance	Replaces
	Maintenance Regimes Using Reliability Centred Maintenance	01/09/18	NR/L2/MTC/10662 Iss 10; Dec 17
	(RCM) Issue 11; Jun 18		

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.

Price: C Standard only; Complete, F See below for details of modules and individual pricing

NR/L2/MTC/10662/	Document Title	Issue	Issue Date	Price
01	Training and Mentoring for Reliability Centred Maintenance (RCM)	1	Jun 2018	В
02	Generic end to end Process	1	Jun 2018	С
03	Contact Systems end to end Process	1	Jun 2018	D
04	Signalling end to end Process	1	Jun 2018	С
05	Track end to end Process	1	Jun 2018	D

NR/L2/MTC/II0218	Intelligent Infrastructure Remote Condition Monitoring	Compliance	Replaces
	Process Issue 1; Sep 10	04/12/10	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.

Price: B

NR/L2/MTC/MG0012	Route Business (Non-Operations) Briefing Process	Compliance	Replaces
	Issue 6; Sep 18	01/12/18	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.

Price: C

NR/L2/MTC/MG0042	The Definition and Review of Maintenance Compliance	Compliance	Replaces
	Indicators Issue 5; Sep 18	01/12/18	NR/L2/MTC/MG0042
			Iss 4 <sup>-</sup> 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.

Price: C

NR/L2/MTC/PL0175	Infrastructure Maintenance Planning Handbook Issue 6; Mar 18	<b>Compliance</b> 02/06/18	Replaces NR/L3/MTC/PL0175 Iss 5; Jun 17
			100 0, 0011 11

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.

Price: C Standard only; Complete, F See below for details of modules and individual pricing

NR/L2/MTC/PL0175/	Document Title	Issue	Issue Date	Price
01	Handbook – Planning Introduction and Guidance	2	Mar 2018	D
02	Maintenance Processes for Planning	2	Mar 2018	С
03	Weekly Section Planning Meeting	2	Mar 2018	С
04	Daily and Weekly Visualisation Control Room Meetings	2	Mar 2018	В
05	Planning Line Blockages	2	Mar 2018	С
06	Guidance on Safety Critical Roles in Possessions or Worksite	2	Mar 2018	В

NR/L2/MTC/SE0117	Planned Assurance Inspections and Site Surveillance	Compliance	Replaces
	Issue 4; Sep 18	01/12/18	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.

Price: C

		Level 3

NR/L3/MTC/EN0098	Leaks and Spills Incident Response Issue 4; Sep 11	<b>Compliance</b> 03/12/11	Replaces NR/L3/MTC/EN0098 Iss 3; Jun 08	
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The purpose of this procedure is to detail how leaks and spillages are managed, thereby reducing risk of pollution to sensitive environmental receptors. The procedure acts in accordance with Network Rail's operational agreement with the environment agency. The procedure does not deal with the handling and course of action upon encountering protected flora/fauna, which can be found in NR/L2/MTC/EN0099 "Protected sites and species management."

Price: C

NR/L3/MTC/EN0099	Protected Sites and Species Management Issue 2; Jun 08	Compliance 26/08/08	Replaces NR/PRC/MTC/EN0099	ı
			lss 1; Jul 06	ı

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.

Price: C

NR/L3/MTC/EN0100	Waste Management Issue 3; Jun 12	Compliance 01/09/12	Replaces NR/L3/MTC/EN0100
			lss 2; Jun 08

Almost all Maintenance activities produce some form of waste, which needs to be identified, stored, transported and disposed of according to specific legislation

This standard provides a means of compliance with waste legislation for England, Scotland and Wales.

Price: D

NR/L3/MTC/EN0101	Managing Discharges to Sewers and Controlled Waters Issue 3; Jun 12	Compliance 01/09/12	Replaces NR/L3/MTC/EN0101	
			Iss 2: Jun 08	

Works within Infrastructure Maintenance create a risk of contamination to sewer and controlled waters. Infrastructure Maintenance has a responsibility to manage discharges produced as a result of maintenance works.

This standard provides a means of compliance with:

- environmental legislation for England, Wales and Scotland;
- NR/L3/MTC/EN0225, Network Rail's Environmental Management System.

Price: C

NR/L3/MTC/EN0102	Graffiti, Litter and Fly-tipping Management Issue 2; Jun 08	Compliance 26/08/08	Replaces NR/PRC/MTC/EN0102
			lss 1; Jul 06

The purpose of this procedure is to provide guidance on how graffiti, litter and fly-tipping issues shall be managed to ensure compliance with relevant legislation.

Price: B

MTC Level 3

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NR/L3/MTC/EN0103	Noise and Vibration Management from Maintenance	Compliance	Replaces
	Activities Issue 2; Jun 08	26/08/08	NR/PRC/MTC/EN0103
			lss 1; Jul 06

The purpose of this procedure is to define the maintenance business units responsibilities with regard to addressing noise and vibration nuisance from maintenance activities and ensure compliance with legislation and standards.

Price: B

NR/L3/MTC/EN0104	Chemical and Oil Management Issue 2; Jun 08	Compliance	Replaces
		26/08/08	NR/PRC/MTC/EN0104
			lss 1; Jul 06

The purpose of this procedure is to define requirements to ensure compliance with legislation and to prevent damage to the environment from stored chemicals and oils.

Price: B

NR/L3/MTC/EN0105	Pest Management Issue 2; Jun 08	Compliance	Replaces
		26/08/08	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.

Price: B

NR/L3/MTC/EN0225	Environment Management System for Infrastructure	Compliance	Replaces
	Maintenance Issue 1; Jun 12	01/09/12	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.

Price: D

#### **Associated Document**

ND/LO/MTO/ENGOGE/ Marabala

THI ( LO/INI I O/ LINUZZO/	module		13340	133uc Date	1 1100
DEP	Environment Management System for Infrastructure Maintenance : Depot Environment Pack			Jun 2012	С
NR/L3/MTC/EP0036	Preventive Maintenance of Operational Plant, 25kV	Compliance	Replaces		

NR/L3/MTC/EP0036	Preventive Maintenance of Operational Plant, 25kV	Compliance	Replaces
	Distribution, ETE and ETM Assets Issue 2; Aug 08	26/08/08	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)".

Price: C

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.

Price: B

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.

Price: B

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.

Price: C

NR/L3/MTC/EP0140 Procedure for Creating a Technical Query Issue 2; Aug 08 Compliance Replaces NR/PRC/MTC/EP0140 26/08/08

Iss 1: Jul 06

The purpose of this document is to describe the procedure for managing the creation and response of technical queries.

Price: B

NR/L3/MTC/EP0141 3 Phase High Voltage Outage Management Issue 2; Aug 08 Compliance Replaces NR/PRC/MTC/EP0141 26/08/08 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.

Price: C

NR/L3/MTC/EP0143 Inspection and Maintenance of OLE Issue 2; Jun 08 Compliance Replaces NR/PRC/MTC/EP0143 26/08/08 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).

Price: C

Working on or Adjacent to Conductor Rail Issue 5; Dec 11 Compliance 01/03/14 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)

Price: D (Contains NR/BS/LI/291 (Expired))

NR/L3/MTC/EP0184 The Removal and Reporting of OLE Defects by the OCR Compliance Replaces 26/08/08 Team Issue 1; Jun 08 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.

Price: B

NR/L3/MTC/EP0185 **OCR Incident Support for LNW Route E&P Engineers** Compliance Replaces Issue 1; Jun 08 26/08/08 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

Price: C

NR/L3/MTC/EP0187 The Collection and Recording of E&P Condition Data Compliance Replaces NR/L3/MTC/EP0187 Issue 2: Jun 08 26/08/08 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.

Price: B

NR/L3/MTC/EP0189 Overhead Condition Renewals (OCR) - Allocation Design Compliance Replaces Issue 1: Jun 08 26/08/08 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.

Price: C

NR/L3/MTC/EP0196 Management and Control of Projects by the OCR Team Compliance Replaces 26/08/08 Issue 1; Jun 08 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.

Price: B

NR/L3/MTC/EP0232 OCR Team Materials Process Issue 1; Sep 10 Compliance Replaces 04/09/10 New at Issue 77

This document details the procedure to be followed to make sure that correct materials are made available for specific worksites

Price: B

NR/L3/MTC/II0219 Intelligent Infrastructure Remote Condition Monitoring Compliance Manual Issue 1; Sep 10 Compliance 04/12/10 Replaces New at Issue 77

This Network Rail standard with its modules comprise the Intelligent Infrastructure Remote Condition Monitoring standard.

Price: B Standard only; Complete, D See below for details of modules and individual pricing

NR/L3/MTC/II0219/	Module	Issue	Issue Date	Price
1	Installation and Commissioning of Intelligent Infrastructure Remote Condition Monitoring Logger	1	Sep 2010	В
2	Configuration of Intelligent Infrastructure Remote Condition Monitoring Logger	1	Sep 2010	В
3	Calibration of Remote Condition Monitoring Logger	1	Sep 2010	В
4	Management of Alerts and Alarms from Remote Condition Monitoring	1	Sep 2010	В
5	Maintenance of Assets Fitted with Remote Condition Monitoring	1	Sep 2010	В

NR/L3/MTC/MG0020	Management of Amey 3rd Line HABD Support Contract	Compliance	Replaces
	Issue 2; Aug 08	26/08/08	NR/PRC/MTC/MG0020
			Iss 1; Feb 06

This document is to ensure that the Amey 3rd line HABD support contract is reviewed both commercially and technically within the year.

Price: C

NR/L3/MTC/MG0021 Corrective Maintenance (Faulting) of Operational Telecoms
Assets Issue 2; Aug 08
Compliance
26/08/08
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.

Price: C

NR/L3/MTC/MG0043 Audit Protocol Preparation Within Maintenance Organisation Issue 3; Dec 08 Compliance Organisation O1/03/09 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.

Price: C

NR/L3/MTC/MG0063 Procedure for the Requisitioning of Railway Spares | Compliance | Seplaces | NR/PRC/MTC/MG0063 | Iss 1; Apr 06 | Seplaces | Replaces | NR/PRC/MTC/MG0063 | Seplaces | Seplaces | NR/PRC/MTC/MG0063 | Seplaces | Sepla

This procedure details the processes to be followed when requisitioning railway spares and consumables via the Exel Integrator system.

Price: C

NR/L3/MTC/MG0082 Managing Claims Within Maintenance Organisation
Issue 2; Jun 08

02/08/08

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.

Price. B

NR/L3/MTC/MG0164 Exploiting New Technology Issue 2; Jun 08

Compliance 02/08/08
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.

Price: C

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NR/L3/MTC/MG0173 **Monitoring of Spoken Safety Communications** Compliance Replaces

NR/L3/MTC/MG0173 Issue 2; Mar 18 01/09/18 Iss 1; Dec 10

This document supports the delivery of NR/L2/OPS/037 and provides a process to mitigate risks to Network Rail caused by inadequate communication.

Price: C

NR/L3/MTC/MG0176 Ellipse Management Handbook Issue 5; Mar 17 Replaces Compliance

NR/L3/MTC/MG0176 04/03/17

Iss 4; Sep 10

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.

Price: C Standard only; Complete, F See below for details of modules and individual pricing

NR/L3/MTC/MG0176/	Title (and any applicable Letters of Instruction)	Issue	Issue Date	Price
01	Purpose, Scope, Definitions and Abbreviations	4	Sep 2010	W/d*
02	Business Rules for the use of Ellipse	5	Mar 2017	В
03	Ellipse Data Requirements for WAIFs	4	Mar 2017	А
05	Key Performance Indicator Reports	3	Sep 2010	В
06	Weekly Compliance Reporting	3	Sep 2010	А
07	KPI Reports - Examples	2	Sep 2010	D
08	Work Management Reporting Tools	3	Sep 2010	С
09	Work Management Reporting Tools – Report Examples	3	Sep 2010	В
10	Assets Out of Use Recording and Reporting	1	Mar 2017	В
11	Prioritisations, Reprioritisations and Cancellations	1	Mar 2017	А

\* = Withdrawn

NR/L3/MTC/MG0180 Maintenance Compliance Indicator Reporting Issue 3; Sep 18 Compliance 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

Price: C

NR/L3/MTC/MG0183 Maintenance Timesheet process Issue 2; Jun 08 Compliance Replaces 26/08/08 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

Price: B

NR/L3/MTC/MG0194 Management of 3rd Party Complaints Issue 3; Mar 12 Compliance Replaces 02/06/12 NR/L3/MTC/MG0194 Iss 2: Mar 10

The purpose of this standard is to set out how Infrastructure Maintenance (IM) consistently manage 3rd party issues

Price: C

NR/L3/MTC/MG0197 Power Supply Outage Management Issue 2; Jun 12 Compliance Replaces NR/L3/MTC/MG0197 02/06/12 Iss 1; Sep 11

The purpose of this Network Rail standard is to specify the key activities within the power outage management process.

Price: C

NR/L3/MTC/MG0208 Project Interface Management Issue 1; Jun 09 Compliance Replaces 05/09/09 New at Issue 72

This document describes the procedure for managing critical and scarce resource, identifying works which import a level of possession overrun risk and how this risk is mitigated or controlled to prevent or reduce their impact.

Price: B

NR/L3/MTC/MG0210	Management of Maintenance Work Within a Worksite to	Compliance	Replaces
	Prevent a Possession Overrun Issue 2; Sep 10	04/12/10	NR/L3/MTC/MG0210
			lss 1; Dec 09

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.

Price: D

Compliance NR/L3/MTC/MG0213 Index of Standard Maintenance Forms Issue 11; Sep 18 Replaces 01/09/18 NR/L3/MTC/MG0213 Iss 10; Jun 18

This standard provides the index and version control to the Standard Maintenance Forms

Price: C

NR/L3/MTC/MG0214 Critical Asset - Repeat Failure Escalation Process Compliance Replaces 06/03/10 Issue 1: Dec 09 New at Issue 74

This procedure mandates an escalating process for managing the repeat failure of critical assets. It supplements the existing discipline specific fault response processes already in existence.

Price: C

Compliance NR/L3/MTC/MG0217 Infrastructure Maintenance Engineering Management Plan Replaces for Projects Issue 1; Dec 10 05/03/11 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

Price: C

NR/L3/MTC/MG0221 **Network Operations Non-Operations Staff Management Self** Compliance Assurance Procedure Issue 5; Sep 18 01/12/18 NR/L3/MTC/MG0221 Iss 4: Jun 16

To mandate the arrangements and set out the framework of self-assurance in the Network Operations function for non-operations staff.

Price: B

Compliance NR/L3/MTC/MG0224 Infrastructure Maintenance Process for the Management Replaces of Fatigue and Control of Working Hours for Employees 03/09/11 NR/L3/ERG/004 Iss 1; Mar 09 Undertaking Safety Critical Work Issue 1; Jun 11 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 employee 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.

Price: D

NR/L3/MTC/MG0229 Infrastructure Maintenance Restructure - Cross Boundary Compliance Replaces 05/03/11 Working for S&T Response Issue 2; Sep 10

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

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.

Price: C

NR/L3/MTC/MG0230 Infrastructure Maintenance Restructure – Competency Matrix Compliance Replaces Issue 2; Dec 10 05/03/11 NR/L3/MTC/TE0230 Iss 1 (Not formally issued)

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.

Price: C

NR/L3/MTC/MG0231	Infrastructure Maintenance Restructure - Implementing	Compliance	Replaces
	Hosting Issue 2; Sep 10	05/03/11	NR/L3/MTC/TE0230 Iss 1
			(Not formally issued)

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.

Price: C

NR/L3/MTC/PL0	067	Highways Interface Planning in Infrastructure Maintenance	Compliance	Replaces
		Issue 3; Mar 09	07/03/09	NR/L3/MTC/PL0067
				lss 2; Jun 08

This procedure defines the process for complying with highways legislation for maintenance work that occupies or closes publicly maintained highways.

Price: C

NR/L3/MTC/PL0095	Planning of Overhead Line Condition Renewals	Compliance	Replaces
	Issue 2; Aug 08	26/08/08	NR/L3/MTC/PL0095
			lss 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.

Price: C

NR/L3/MTC/PL0151	Works Planning Using PossMan Issue 3; Jun 09	Compliance 05/09/09	Replaces NR/L3/MTC/PL0151
			lss 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.

Price: C

NR/L3/MTC/PL0159	Short-term Works Planning in Infrastructure Maintenance	Compliance	Replaces
	Issue 3; Jun 09	05/09/09	NR/L3/MTC/PL0159
			lss 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.

Price: C

NR/L3/MTC/PL0160	Medium-term works planning in Infrastructure Maintenance	Compliance	Replaces
	Issue 3; Jun 09	05/09/09	NR/L3/MTC/PL0160
			lss 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 before T-26

Price: C

NR/L3/MTC/PL0211	Planning of Engineering Access & NDS-Supplied Resource	Compliance	Replaces
	for Infrastructure Maintenance Delivery Units Issue 1; Jun 09	05/09/09	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.

Price: C

NR/L3/MTC/PL0215	Communicating with the Public Issue 1; Mar 10	Compliance	Replaces
		05/06/10	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

Price: C

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NR/L3/MTC/RCS0216 Risk Control Manual Issue 13; Sep 18

Compliance 01/12/18

Replaces

NR/L3/MTC/RCS0216 Iss 12; Jun 18

This standard provides the index and version control of Risk Control Sheets for General Activities, General Hazards, Small Plant, Mobile Plant, Live Working and Functional activities (Track/Signalling/etc) within Maintenance.

Each Risk Control Sheet provides in a consistent format (described in NR/L3/MTC/SE0116, Work Activity Risk Management) a summary of the key hazards and controls identified within a standard Work Activity Risk Assessment. They standardise safe working arrangements across Network Rail's Maintenance function.

The RCS format is the preferred means to communicate risk controls to work teams

Price: D Standard only; Complete, Phone See below for details of modules and individual pricing

NR/L3/MTC/RCS0216/	Title (and Sections, if applicable)	Issue	Issue Date	Price
DP01	Working On High Voltage Distribution Equipment Section A – Working on or Near High Voltage Distribution Equipment – General Requirements Section B – Accessing HV Substations Section C – Working Near HV Distribution Equipment Section D – Switching HV Distribution Equipment Section E – Testing and Earthing HV Distribution Equipment Section F – Maintaining HV Distribution Equipment	3	Sep 2017	В
DP02	Working on Protection and SCADA Control Systems Section A – General Requirements Section B – Working on Protection Section C – Working on SCADA Control Systems	3	Sep 2017	A
DP10	Working on Low Voltage Electrical equipment Section A – All Tasks Section B – Isolated Working Section C – Live Working Section D – Points Heating Section E – Fire Protection Systems Section F – Uninteruptable Power Supplies	5	Mar 2018	A
DP20	Working on Mechanical Equipment Section A – All Tasks Section B – Diesel Alternating Sets/Pumps/Moving bridges Section C – Air Systems Section D – Air Conditioning Section E- Lifting Machines and winches	2	Mar 2012	A
DP21	Lowering and Raising Hinged Columns	2	Mar 2012	Α
DP30	Working on Gas Systems	2	Mar 2012	Α
GA01	Work On Or Near The Line Section A – All risks working on or near the line Section B – Adverse Weather Section C – Work in Green Zone Section D – Work in Red Zone Section E – Cab Riding	4	Mar 2012	A
GA02	Incident Response Section A – All Response Activities Section B – Removal of Dead/Live Animals Section C – Attending Fatalities Section D – Attending Environmental Issues	2	Mar 2012	А
GA03	LOWS - Use of the back pack aerial harness and ZPW or ZFH units. Use of Booster Aerial.	3	Jun 2014	Α
GA04	Work In or Near Public Places	2	Mar 2012	Α
GA05	Lone Working (IWA)	4	Sep 2017	Α
GA06	Assisted Lifting Section A – Use of Lifting Tackle Section B – Use of Lift Trucks	2	Mar 2012	А
GA07	Loading/Unloading Wagons and Vehicles	3	Jun 2014	Α
GA08	Ground Penetration and Excavations	3	06/13	Α
GA09	Entry Into Confined Spaces	2	Mar 2012	Α
GA10	Working Over or Near Water	2	Mar 2012	Α
GA11	Working with and Mixing Concrete	2	Mar 2012	Α
GA12	Working on or near batteries	2	Mar 2012	Α
GA13	Young Persons (aged 16-18), New Recruits & New & Expectant Mothers	2	Mar 2012	Α
GA14	Attendant and Manual Operation of Level Crossings (Including Road Traffic Management) Section A –Attendance at Level Crossings Section B – Highways and Road Traffic	2	Mar 2012	А
GA15	Operation of Manual/Powered Ground Frames and Manual/Powered Points	2	Mar 2012	А
GA16	Storage, transport and use of detonators	2	Mar 2012	Α
GA17	Decanting Fuel and Fuelling Small Plant	3	Jul 2013	Α
GA18	Working with on Track Machines	2	Mar 2012	А
GA19	Working with or near Mobile Plant	2	Mar 2012	Α

NR/L3/MTC/RCS0216/	Title (and Sections, if applicable)	Issue	Issue Date	Price
GA20	Working Adjacent to DC Electrified Rails Risk Level 1-3 Section A – All risk Levels Section B – Risk Level 1 Mandatory Isolation Section C – Risk Level 2 Working Live <300mm Section D – Risk Level 3 Work >300mm	3	Dec 2013	A
GA21	Working Near Electrical Overhead Line Equipment	3	Jun 2017	Α
GA22	Removal of Discarded Needles and Syringes	2	Mar 2012	Α
GA23	Jet washing of level crossings	2	Mar 2012	А
GA24	Installation of troughing	2	Mar 2012	А
GA25	Line Sde Materials and Equipment	5	Jun 2015	Α
GA26	Working on Network Rail Infrastructure between Pelaw and South Hylton (All Disciplines)	1	Mar 2012	Α
GA27	Use of Jafco Concrete Lid Tilter	1	Mar 2012	Α
GH01	Manual Handling	3	Mar 2012	Α
GH02	Underfoot Conditions	3	Mar 2012	Α
GH03	Biological & Chemical Hazards Section A – Biological Hazards Section B- Chemical Hazards	3	Jun 2014	A
GH04	Working at Height Section A – All Risks Working at Height Section B – Work on Roofs Section C – Portable Ladders Section D – Fixed Ladders Section E – Portable and Trolley Mounted Scaffold Section F – Mobile Elevated Work Platform Boom or Scissor	7	Jun 2014	В
GH05	Asbestos	2	Mar 2012	Α
GH06	Working on or near HV/DC Cables/Cable Routes Section A – Working within 1m of HV cables/cable routes Section B – Working on or near DC traction power cables/cable routes	1	Sep 2017	A
GHE01	Environmental – Invasive and Injurious Plants	2	Mar 2012	Α
GHE02	Waste Storage and Segregation	2	Mar 2012	A
GHE03	NOISE - Working near homes / schools / hospitals	2	Mar 2012	Α
GHE04	Working in or near Protected Sites	2	Mar 2012	A
GHE05	Refuelling	2	Mar 2012	A
GHE06	Storage of Oil, Lubricants and Chemicals	2	Mar 2012	A
GHE07	Work that may Kill, damage animals and plants	2	Mar 2012	A
GHE08	Discharge to water	2	Mar 2012	A
LW01	Live Booster Transformer Oil Sampling	2	Mar 2012	A
LW02	Work on Signals Near Live OLE: CE45 & CE46	2	Mar 2012	A
LW03	Work on OLE Near to Live OLE	2	Mar 2012	A
LW04	Working Under Live OLE: Dumper Mounted RRV Cranes – Lifting Operations	3	Mar 2012	A
LW05	Working Under Live OLE: Mini Diggers changing Road crossing Panels	2	Mar 2012	A
LW06	Working Under Live OLE: 360 RRV Excavators	4	Jun 2017	A
MP01	Use and Control of On Track Plant Section A – All Tasks Section B – Pre Use Checks Section C – Machine Controller Duties Section D – Crane Operator Duties	4	Jun 2017	В
MP02	Delivery and Safe Storage of OTP and Transit from storage Point to ON/OFF Tracking Point	2	Mar 2012	А
MP03	ON/OFF Cross Tracking Self Propelled OTP, RMMM, Trailers and Attachments	2	Mar 2012	А
MP04	Load / Unloading Materials and People onto OTP	2	Mar 2012	Α
MP05	Transit of OTP With/Without Machine Controller Present Section A – All Risks Section B – Additional Requirement for Transit without machine Controller	2	Mar 2012	A
MP06	Lifting and Thimbling Operations Section A – All Risks Section B – Risks for Tandem Lifting Section C – Risks for Thimbling	2	Mar 2012	A
MP07	Use of OTP with Attachments	2	Mar 2012	Α
MP08	Use of OTP for Excavation	2	Mar 2012	Α
MP09	Use of Mobile Elevated Work Platform - Boom	4	Jun 2014	A
MP10	Use of Mobile Elevated Work Platform - Scissor	3	Mar 2012	Α
MP11	Use of OTP with Drainage/Jetting Units	2	Mar 2012	Α
MP12	Use of Motorised Trolleys	3	Mar 2012	A
MP13	Use of OTP for Flailing Operations	2	Mar 2012	A
MP14	Use of OTP Lorry	2	Mar 2012	A

NR/L3/MTC/RCS0216/	Title (and Sections, if applicable)	Issue	Issue Date	Price
MP15	Use of OTP for Piling	2	Mar 2012	А
MP16	Driving and Operating a Flash Butt Welding Road/Rail machine	3	Mar 2012	Α
MP17	Use of Rastic MK3 Rail Staightener Machine	2	Mar 2012	Α
MP18	Use of Mini Tamper	2	Mar 2012	Α
MP19	Use of Mini Stoneblower	2	Mar 2012	Α
MP20	Use of Rozzi R53/LE Pincer Grab to Lift rails and Sleepers	2	Mar 2012	A
MP21	Use of Quick Hitch	2	Mar 2012	Α
MP22	Use of Harsco Technologies Rail mover	3	Jun 2014	Α
MP23	Use of Vacuum Lifting Device	2	Mar 2012	Α
MP24	Machine Operator acting as a Machine Controller whe operating OTP	2	Mar 2012	Α
MP25	Use of Rail Croppers for Scrap Rail recovery	2	Mar 2012	A
MP26	Use of Road Rail Drainage Machine	2	Mar 2012	A
MP50	Delivery and working Non rail Mounted Mobile Plant and Vehicles at Site of work	2	Mar 2012	T <sub>A</sub>
MP51	Delivery and Working Non rail Mounted Plant to Depots	2	Mar 2012	A
MP52	Working of Non Rail Mounted Dumpers	2	Mar 2012	A
OCR01	Recovery and Running Out of Catenary and Contact Wire, Preparation and Clipping In of Catenary and Contact Wire	3	Mar 2012	А
OCR02	Inspection of Catenary and Contact wire	2	Mar 2012	A
OCR03	Supporting of Balance Weights	2	Mar 2012	Α
OCR04	Autotransformer Bridge Drilling, Construction Tasks Using OTP	2	Mar 2012	Α
OCR05	Construction work Within Tunnels using RRV/Wiring Train	2	Mar 2012	Α
OCR06	Autotransformer Conductor Installation Tasks On OLE Using OFF TRACK PLANT	2	Mar 2012	Α
OCR08	Construction Preparation work on OLE Using RRV	2	Mar 2012	Α
OCR09	Construction Work On OLE Using RRV	2	Mar 2012	Α
OCR10	Safe Access for Isolation of OLE	2	Mar 2012	A
OCR11	Unloading ballast from Sidetipper or Autoballaster	1	Jun 18	A
OCR12	Switch and Crossing Panel Vehicles (SPVC Tilting Wagons)	1	Jun 18	T <sub>A</sub>
OCR13	Rail Milling and Grinding Truck	1	Jun 18	A
OCR14	Continuous Welded Rail (CWR) delivery by Rail Delivery Train (RDT)	1	Jun 18	A
OCR15	Working with On Track Machines, Tamper, Ballast Regulator, Stoneblower	1	Jun 18	A
OCR16	Working with On Track Machines, Rail Grinding and Support Teams	1	Jun 18	A
OCR17	Working with On Track Machines, Rail Grinders	1	Jun 18	A
OCR18	Continuous Welded Rail (CWR) delivery/recovery by Long Welded Rail Train (LWRT)	1	Jun 18	A
OLE01	Ground Level Work with OLE Live, Replacement of APC Magnet, ground Level Bonding	2	Mar 2012	A
OLE02	Working on Red Bonds/Impedance Bonds	2	Mar 2012	A
OLE03	Isolation and Earthing of OLE	3	Jun 2017	A
OLE04	Removal of obstacles from Live OLE (including icicles)	2	Mar 2012	A
OLE05	Taking Heights and Staggers with OLE Live	2	Mar 2012	A
OLE06	High Level OLE Work Section A – All Tasks Section B – Use of MEWP	3	Mar 2012	A
	Section C – Using Scaffold Tower Section D – Using Ladder			
OLE07	Dismantling of OLE and Work Under Tension	3	Mar 2012	Α
OLE08	Running Out of OLE Conductors	2	Mar 2012	Α
OLE09	Vegetation Clearance	3	Mar 2012	Α
OLE10	Rapid Response to Damaged OLE	4	Sep 2017	А
OLE11	Temporary Bonding	2	Mar 2012	Α
OLE12	OLE Insulator Replacement	2	Mar 2012	Α
OLE13	OLE Balance weight Fault Rectification	2	Mar 2012	А
OLE14	Use of Pole Mounted Equipment (Cameras/Cutter etc.)	5	Jun 2017	Α
OLE15	Use of Stranded Conductor Clamp	1	Mar 2012	А
OLE16	Use of Powered Tirfor & Dynafor	2	Jun 2014	А
OLE17	Work associated with the Sunderland Direct Metro System when there are impedance and/or continuity Bonds damaged, missing or disconnected	1	Mar 2012	А
OLE18	OLE Lifting Activities	2	Oct 2014	А
OLE19	On/Off Tracking, Travelling and Working under a LOAC	1	Jun 2017	Α
OT01	Inspect Vegetation	2	Mar 2012	А
OT02	Inspect, Maintain , Repair, Renew Fencing and Other Boundary Measures	2	Mar 2012	Α
OT03	Inspect, maintain Cess path, walking Route, Access Point	2	Mar 2012	Α
OT04	Inspect, maintain, Repair Level crossing	2	Mar 2012	А
	Inspect, Maintain Drainage Including Rodding and Jetting	2	Mar 2012	Α

NR/L3/MTC/RCS0216/	Title (and Sections, if applicable)	Issue	Issue Date	Price
OT06	Maintain Vegetation – Mechanised Flailing, Mowing, Mulching, Cutting	3	Mar 2012	Α
OT07	Maintain Vegetation – Mechanised Weedspraying	3	Mar 2012	Α
OT08	Maintain Vegetation – Motor Manual Chipping	5	Jun 2018	Α
OT09	Maintain Vegetation – Motor Manual – Brush Cutting/Scrub Clearance	4	Mar 2012	A
OT10	Maintain Vegetation – Manual Weed Spraying	2	Mar 2012	A
OT11	Maintain Vegetation – Manual Tree Climbing	3	Mar 2012	А
OT12	Maintain Vegetation – Motor Manual Stump Grinding	3	Mar 2012	A
OT13	Maintain Vegetation – Motor Manual Tree Felling	3	Mar 2012	A
OT14	Maintain Vegetation – Motor Manual Cutting/Pruning	5	Mar 2012	A
OT15	Maintain Painting, Clearing Graffiti	2	Mar 2012	A
OT16	Maintain Litter Clearance, Fly Tipping Collection Clearance	2	Mar 2012	A
OT17	Maintain Vermin Control	2	Mar 2012	A
OT18	Maintain/Renew Signage	2	Mar 2012	A
OT19	Scrap removal Manual and Mechanised	2	Mar 2012	A
OT20	Access Improvement using Tarmac	1	Mar 2012	A
OT21	Maintain Vegetation – Mechanised BRACKE 16A/ Cutting shredding/chipping	1	Mar 2012	A
OT22	Use of LUF Bushfighter	1	Mar 2012	A
PR01	Bitumen Boiler Usage	2	Mar 2012	A
PR02	Carpentry and Joinery	2	Mar 2012	A
PR03	Demolition of Structure	2	Mar 2012	A
PR04 PR05	Dry Lining  Felouset	2	Mar 2012 Mar 2012	A
	Falsework	2	Mar 2012	
PR06	Glazing			A
PR07	Lead Work	2	Mar 2012 Mar 2012	A
PR08	LPG/Gas Welding Use and Storage			A
PR09	Painting	2	Mar 2012	A
PR10	Plumbing	2	Mar 2012	A
PR11	High Pressure/Steam Washing	2	Mar 2012	A
PR12	Stonwork/Brickwork/Blockwork	2	Mar 2012	A
PR13	Drainage/Toilets/septic Tanks	2	Mar 2012	Α .
PR14	Access/Egress	2	Mar 2012	A
PR15	Fixed Scaffolding/Platform	2	Mar 2012	A
SIG01	Working on Signals (Semaphore & Coloured Light), includes working on Signal Post and Gantry	3	Jul 2013	A
SIG02	Working on Point Equipment( Powered and Mechanical)	4	Jul 2013	A
SIG03	Working on Train Detection, Track Circuits and Bonds	2	Mar 2012	A
SIG04	Working on Train Protection Equipment	2	Mar 2012	A
SIG05	Working on Electrical apparatus (relay Rooms, REBs, IECCs and location cases	2	Mar 2012	A
SIG06	Working in Signal boxes	2	Mar 2012	Α
SIG07	Working on Oil Lamps	2	Mar 2012	Α
SIG08	Working on Ground Frames	2	Mar 2012	Α
SIG09	Working on Level Crossings	2	Mar 2012	Α
SIG10	Working on Signal wire Runs, Rodding, Treadles and Plungers	3	Jul 2013	A
SIG11	Working on Control and Interface Systems	2	Mar 2012	A
SIG12	Working on Hot Axle Box Detectors	2	Mar 2012	А
SIG13	Repairing and Jointing Cables	2	Mar 2012	Α
SIG14	Working on CCTV Equipment	2	Mar 2012	Α
SIG15	Working on Lineside Services, Cable Routes and Troughing	3	Jul 2013	Α
SIG16	Working on Miscellaneous Signalling Equipment	2	Mar 2012	А
SP01	Use of Abrasive Wheels and Angle Grinders	3	Jun 2014	Α
SP02	Use of Chainsaws	3	Mar 2012	А
SP03	Use of Cartridge Tools	2	Mar 2012	Α
SP04	Use of Hand Held Power Tools	2	Mar 2012	А
SP05	Use of Cable Avoidance Tool (CAT)	2	Mar 2012	Α
SP06	Use of Cobra TT / Hilti TE905 Tamping Hammers	3	Mar 2012	А
SP07	Use of Iron Men	2	Mar 2012	А
SP08	Use of Manual Trolleys / Rail Skate / Scooter	2	Mar 2012	А
SP09	Use of Impact Wrench	2	Mar 2012	Α
SP10	Use of Rail & Non-Rail Disc Cutters	4	Jun 2014	Α
SP11	Use of Jacks	2	Mar 2012	A
	Use of Portable and Welding Generators	2	Mar 2012	A

NR/L3/MTC/RCS0216/	Title (and Sections, if applicable)	Issue	Issue Date	Price
SP13	Use of Permaquip / Geismar THR542 Stressing Equipment	3	Mar 2012	Α
SP14	Use of Rail Grinders	3	Sep 2018	Α
SP15	Use of Rail / Sleeper Drill	2	Mar 2012	Α
SP16	Use of Site Lights	3	Mar 2012	Α
SP17	Use of Rail Mounted Coachscrewing Machines	2	Mar 2012	A
SP18	Use of Rail Mounted Clipping Machines	3	Mar 2012	Α
SP19	Use of Hydraulic Crimping Equipment	2	Mar 2012	A
SP20	Use of Weld Trimmer	2	Mar 2012	A
SP21	Use of Brush Cutter / Strimmer / Hedge Trimmer / Mechanised Pole Saw	4	Mar 2012	A
SP22	Use of Electrode Ovens	2	Mar 2012	A
SP23	Use of Cold Bolt Expansion Equipment	2	Mar 2012	A
SP24	Use of Huck Gun	2	Mar 2012	A
SP25	Use of Hydraulic Power Packs	2	Mar 2012	A
SP27	Use of Trolley Mounted Gas Cylinder Frames	2	Mar 2012	A
SP28	Use of Weld Alignment Devices	2	Mar 2012	A
SP29	Use of Power Liner	1	Mar 2012	A
SP30	Use of Leaf Blower	1	Jun 2014	A
TEL01	Cable Routes	3	Jul 2013	A
TEL02		2	Mar 2012	
	Copper, Fibre Optical Cables PETS	2		A
TEL03		+	Mar 2012	A
TEL04	Radio Systems	2	Mar 2012	A
TEL05	Concentrators/Power Systems	2	Mar 2012	A
TEL06	Cable Distribution Frames and Location cases	2	Mar 2012	A
TEL07	Earth and Screening Systems	2	Mar 2012	A
TEL08	Control Systems	2	Mar 2012	A
TEL09	Lineside, non linesidephones, Plug Points and Tunnel Emergency Communication Systems (Pinch Wires)	2	Mar 2012	A
TEL10	Digital Transmission systems	2	Mar 2012	A
TEL11	Equipment Rooms, REBs and FTN Sites	2	Mar 2012	A
TEL12	Station Information & Security Systems (SISS) and DOO Systems	2	Mar 2012	Α
TEL13	Working in Attics and Roof Spaces	2	Mar 2012	Α
TEL14	Climbing/Working up masts, Aerials or Poles	2	Mar 2012	Α
TEL15	Staple gun	2	Mar 2012	Α
TEL16	Water pumps	2	Mar 2012	Α
TEL17	Grease Filled Joints	2	Mar 2012	Α
TK00	Generic Track Risks	2	Mar 2012	Α
TK01	Track Patrol – Foot and Mechanical Section A – All Patrolling Section B – Foot Patrol Section C - Mechanical Patrol	2	Mar 2012	A
TK02	Track Inspections – Includes Longitudinal Timber and Flood	2	Mar 2012	Α
TK10	Unloading Ballast – Manually, from Train or OTP Section A – All Unloading Section B – Unloading Ballast from Train Section C – Unloading Ballast from OTP	2	Mar 2012	A
TK11	Working with Ballast - Regulate, Glue, Shoulder Clean, Contaminate, & Wet Beds	3	Mar 2012	А
TK12	Use of Automatic Ballast Sampler	1	Mar 2012	А
TK20	Fix/Fit/Remove Guage Stop Ends, restraint Plates and Tie and Stretcher Bars	3	Jun 2014	Α
TK30	Ultrasonic Testing	3	Jun 2014	Α
TK31	Magnetic Particle/Liquid Penetrant Testing	2	Mar 2012	Α
TK40	Working with Rail- Jointed, Check and CWR Section A – All tasks Section B – Additional Requirements for CWR Section C – Additional Requirements for Insulated Block Joints Section D - Additional Requirements for Fish Plate Renewal	3	Mar 2012	A
TK41	Adjust Rail Expansion Gap and Switch	2	Mar 2012	А
TK42	Stressing CWR and stress monitoring (Not CWR)	2	Mar 2012	А
TK43	Pull Through and Plug Timber	2	Mar 2012	А
TK44	Stone Blowing Hand Held	2	Mar 2012	А
TK45	Rail Mounted Lubricators and Cold Bolt hole Expansion	2	Mar 2012	Α
TK46	Track Geometry marking - Paint	2	Mar 2012	A
TK48	Cold Bolt Hole Expansion	1	Mar 2012	A
-	Use of Panpuller – Remove Frozen Clips	3	Mar 2012	A

NR/L3/MTC/RCS0216/	Title (and Sections, if applicable)	Issue	Issue Date	Price
TK50	Working with Switches and Crossings Section A – All tasks Section B – Work only to be Undertaken in a Green Zone	4	Jun 2014	A
TK51	S&C Cast Crossing Crack Monitoring	2	Mar 2012	Α
TK52	Renew Crossing, Half Set of Switches and Check Rails	2	Mar 2012	Α
TK53	Change Bearers Timber and Concrete	2	Mar 2012	А
TK54	Change Sleepers Timber and Concrete Section A – All Tasks Timber and Concrete Section B – Wooden Sleepers Plain Line	3	Mar 2012	A
TK55	Switch Diamond – White Paint	3	Jun 2014	Α
TK60	Welding	3	Mar 2012	Α
TK61	Alumino Thermic Welding	2	Mar 2012	Α
TK62	Electric Arc Welding	2	Mar 2012	Α
TK63	Erection, Dismantling and Use of Welding Tents/Umbrella and Support clamp	2	Mar 2012	Α
TK64	Oxygen Fuel Gas Cutting and Heating	2	Mar 2012	Α

NR/L3/MTC/SE0089	New Starters Mentoring (Passport Scheme) Issue 2; Jun 08	Compliance	Replaces
		26/08/08	NR/PRC/MTC/SE0089
			lss 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.

Price: C

NR/L3/MTC/SE0090	Health & Safety Notice Boards Issue 3; Jun 10	Compliance	Replaces
		04/09/10	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

Price: C

NR/L3/MTC/SE0091	Worksafe Review Procedure Issue 2; Jun 08	Compliance	Replaces
		26/08/08	NR/PRC/MTC/SE0091
			lss 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.

Price: B

NR/L3/MTC/SE0115	Confined Spaces – Working and Entry Procedure	Compliance	Replaces
	Issue 2; Jun 08	26/08/08	NR/PRC/MTC/SE0115
			lss 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.

Price: C

NR/L3/MTC/SE0116	Work Activity Risk Management Issue 2; Jun 08	Compliance	Replaces
		26/08/08	NR/L3/MTC/SE0116
			Issue 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

Price: C

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NR/L3/MTC/SE0120	Supply and Maintenance of Personal Protective Equipment	Compliance	Replaces
	Issue 2; Jun 08	26/08/08	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.

Price: B

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	ı

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.

Price: C

NR/L3/MTC/SE0206	Introduction and Management of Lookout Operated Warning	Compliance	Replaces
	System (LOWS) Equipment Issue 1; Mar 09	06/06/09	New at Issue 71

The purpose of this procedure is to detail the arrangements to manage the safe, consistent introduction and management of Lookout Operated Warning Sytems (LOWS) equipment into operational use on Network Rail infrastructure by Maintenance Delivery Units and other Network Rail delivery functions.

Price: D

NR/L3/MTC/SE0207	Use of Lookout Operated Warning System (LOWS)	Compliance	Replaces
	Equipment Issue 1; Mar 09	06/06/09	New at Issue 71

The purpose of this work instruction is to detail the consistent set up and operation of Lookout Operated Warning System (LOWS) equipment in use on the infrastructure

Price: C (Contains NR/BS/LI/242 (Expired))

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.

Price: D

NR/L3/MTC/SE0220	Working Safely at Height Manual Issue 1; Dec 10	Compliance	Replaces
		04/03/12	New at Issue 78

This standard defines the processes to be followed within Network Rail Infrastructure Maintenance to enable employees who carry out work at heights to do so safely, and within the requirements of the Network Rail Policy NR/L2/OHS/022.

Price: E

NR/L3/MTC/SG0019	Failure Escalation of Servo Type Hot Axle Bearing Detector	Compliance	Replaces
	(HABD) Equipment Issue 2; Aug 08	26/08/08	NR/PRC/MTC/SG0019
			Iss 1; Feb 06

This document covers the failure escalation process for failures of HABD equipment on Network Rail infrastructure.

Price: C

NR/L3/MTC/TE0066	Inspection and Surveillance of Telecoms Activities Issue 2; Aug 08	<b>Compliance</b> 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.

Price: B

#### **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.

Price: B

# NR/GN/MTC/MG0226 Infrastructure Maintenance Restructure - Guidance on the Track and Off Track Replaces Organisation Issue 2; Sep 10

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

Price: D

# NR/GN/MTC/MG0227 Infrastructure Maintenance Restructure - Guidance on the Electrification & Replaces Plant Organisation Issue 2; Sep 10

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

Price: D

# NR/GN/MTC/MG0228 Infrastructure Maintenance Restructure - Guidance on the Signalling Replaces Organisation Issue 2; Sep 10

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

Price: D

4.13 INTEGRATED RISK **RSK** Level 1 / 2

#### 4.13 INTEGRATED RISK

NR/L1/RSK/001	Network Rail Risk Policy Issue 2; Mar 18	Compliance	Replaces
		03/03/2018	NR/L1/RSK/001 Iss 1; Dec 15

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.

Price: C

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NR/L2/RSK/001	Enterprise Risk Management Issue 2; Sep 18	<b>Compliance</b> 01/12/2018	Replaces NR/L2/RSK/001 Iss 1; Mar 16
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This standard sets out a principle based approach for the management of Enterprise Risks in Network Rail to enable:

- the effective and consistent management of all risks to strategic objectives;
- risks to be managed in accordance with the Risk Management Policy and Board approved corporate risk appetite statements;
- the identification, prioritisation and management of interrelated risks to support successful delivery of the Company's strategic objectives;
- strategic objectives to be managed in accordance with the UK Corporate Governance Code and governance requirements under licence condition 15 of the Network Licence.

Price: D

#### 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.

Price: C

NR/PRC/MPI/ST0029 Signalling Scheme Plan Number Controls Issue 2; Apr 06 Compliance Replaces

New; Issue 1 not released.

This document is designed to provide a clear guide to the process for allocation of signalling scheme plan numbers to be adopted in respect of all schemes that make alterations or otherwise impact on the functionality of signalling installations on Network Rail Controlled infrastructure.

Price: B

NR/PRC/MPI/TK0022 Critical Rail Temperature (CRT) Management Plan 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.

Price: C

Level 1

Network Rail's policy is to use Engineering Design Technology (EDT) to improve the efficiency and effectiveness of the engineering design and construction of the railway infrastructure. This requires suitable processes and tools to be available and adequately supported and engineering information to be managed.

This standard specifies the principles and cross-organisational responsibilities, involved in the supply and management of EDT.

Price: B

NR/L1/INI/P3M/100 Project, Programme and Portfolio Management (P3M) Compliance Replaces
Framework Policy Issue 1; Sep 17 31/03/18 New at Issue 105

Network Rail delivers in excess of £2.5bn of CAPEX investment into use on the operation railway every year; this investment is delivered through projects and programmes initiated through our internal Long Term Planning process undertaken by the Systems Operator or directly remitted by an external Client/Funder.

Clarity of requirements, control and transparency in delivery, and the capability to provide assurance to our stakeholders that funding is being effectively managed provides confidence that the benefits, outcomes, and outputs remitted will be delivered.

Network Rail achieves this level of control through the project, programme and portfolio management (P3M) framework, implementation of which will reduce the reputational and financial risk related to the delivery of complex projects.

Price: C

Level 2

NR/L2/INI/02009 Engineering Management for Projects Issue 6; Sep 15 Compliance 05/03/16 Replaces NR/L2/INI/02009 Iss 5; Jun 11

This issue primarily seeks to align Network Rail engineering practices with UK and EU legislative instruments specifically the Construction (Design and Management) Regulations and the Common Safety Methods for Risk Evaluation and Assessment.

Price: E Standard only; Complete, F Additional Excel Content Available: Phone See below for details of modules and individual pricing

NR/L2/INI/02009/	Module	Issue	Issue Date	Price
01	Roles, responsibilities and accountabilities	1	Sep 15	D
02	Authority to Work (AtW) Competence Requirements	1	Sep 15	С

NR/L2/INI/CP0043	Management of Third Party Works on Network Rail	Compliance	Replaces
	Infrastructure Issue 3; Dec 08	01/03/09	NR/SP/OHS/043 lss 2; Feb 05
			(RT/LS/P/043)

This Standard sets out the requirements to be followed when external bodies (often referred to as "Third Parties") wish to specify, manage and/or deliver infrastructure projects upon Network Rail's managed infrastructure. The provisions of this standard are to mandate equivalent controls and processes are applied to the safety management of infrastructure projects when undertaken by Third Parties.

Price: D

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## 4.14 INVESTMENT PROJECTS

NR/L2/INI/CP0061	Access Through Land Belonging to an Outside Party	Compliance	Replaces
	Issue 1; Mar 09	06/06/09	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.

Price: D

NR/L2/INI/CP0070	Principal Contractor Licensing Scheme Issue 5; Jun 17	Compliance	Replaces
		02/09/17	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.

Price: D

NR/L2/INI/CP0075	Procedure for the Entry into Operational Service of Railway	Compliance	Replaces
	Infrastructure Issue 1; Mar 11	04/06/11	New at Issue 79

This procedure demonstrates 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 procedure provides the requirements for a project to plan in advance of EIS activities starting, how new or altered Railway Infrastructure shall be Entered into Operational Service. The requirements for EIS are also described, including the relationship with discipline specific EIS standards and the roles and responsibilities of people involved with the process.

Additional Excel Content Available: Phone

NR/L2/INI/EDT/CP0091	Specification for Computer Aided Design	Compliance	Replaces
	Issue 3; Dec 17	02/12/17	NR/L2/INI/EDT/CP0091
			lss 2; Jun 16

The purpose of this standard is to specify requirements relating to the production of all Computer Aided Design files for models and drawings representing railway infrastructure and property.

Price: E Additional Excel Content Available: Phone

NR/L2/INI/PG114	Implementation of the Network Rail Project Control Cycle	Compliance	Replaces
	Issue 3: Jun 12	02/06/12	NR/L2/INI/PG114 lss 2: Jun 10

This standard forms part of the suite of documents comprising the Planning and Programme Controls standard. The purpose of this document is to define the minimum mandatory Project Control Cycle (PCC) processes and instructions that can be followed by all programmes and projects within Network Rail Infrastructure Investment and how compliance with these instructions shall be monitored.

Price: C

NR/L2/INI/P3M/101	Governance for Railway Investment Projects (GRIP) – Projects (formerly NR/L1/INI/PM/GRIP/100) Issue 5; Sep 17	Compliance 31/03/18	Replaces NR/L1/INI/PM/GRIP/100 Iss 4
			NR/L3/INI/PG115/PS/001 Iss 3

"Governance for Railway Investment Projects" (GRIP) describes how Network Rail manages and controls projects that enhance or renew the national rail network. It forms part of the project, programme and portfolio (P3M) framework and outlines the six Level 3 standards for projects.

Price: D

NR/L2/INI/P3M/102	Governance for Railway Investment Projects (GRIP) -	Compliance	Replaces
	Programmes (formerly NR/L1/INI/PM/GRIP/102) Issue 2; Sep 17	31/03/18	NR/L1/INI/PM/GRIP/102 Iss 1

"Governance for Railway Investment Projects" (GRIP) describes how Network Rail manages and controls projects that enhance or renew the national rail network.

Price: C

NR/L2/INI/P3M/104	Network Rail Requirements (formerly NR/L1/INI/CP0095)	Compliance	Replaces
	Issue 2; Sep 17	31/03/18	NR/L1/INI/CP0095 Iss 1

The purpose of this standard is to further Network Rail's commitment to embedding consistent requirements practice across its business; not only to improve project and programme outcomes, but to reduce costs, and to meet client expectations, legislative governance and assurance requirements.

Price: C

## 4.14 INVESTMENT PROJECTS

NR/L2/INI/P3M/105 Assurance of Project, Programme and Portfolio (P3M) Compliance Replaces
Investment Issue 1; Dec 17 31/03/18 New at Issue 106

The purpose of this standard is to describe the Network Rail assurance activities undertaken in relation to the project, programme and portfolio (P3M) framework and identify who is accountable for carrying out the activities. The assurance activities provide Network Rail with oversight and confidence in the progress of its infrastructure portfolio.

Price: C

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NR/L3/INI/CI0029	Project Procedure for Land Negotiations (Temporary and	Compliance	Replaces
	Permanent) Issue 2; Jun 08	26/08/08	NR/PRC/MPI/CI0029
			Iss 1; Sep 05

The objective of the revised approach is to provide a consistent, cost effective and transparent approach to dealing with property negotiations. This SPP sets out the procedures to be adopted in negotiations on future land deals, recognising that, wherever possible, it will be Network Rail's preference to agree reasonable terms through negotiation.

Price: C

NR/L3/INI/CP0028	Contract Requirements - Quality Issue 3; Jun 12	Compliance	Replaces
		01/09/12	NR/L3/INI/CP0028 Iss 2; Mar 09

The purpose of this document is to specify the minimum contract requirements for Quality, which are to be addressed by the Contractor.

Price: D

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.

Price: C

NR/L3/INI/CP0063	Piling Adjacent to the Running Line Issue 1; Mar 10	Compliance	Replaces
		05/06/10	New at Issue 75

This document will define the minimum standards which must be adopted for all piling works to be undertaken adjacent to an operational railway. It is also intended to assist the designers and operational teams of both Network Rail and outside party constructors/developers to understand, at an early stage, the constraints which may be imposed on the design solution selected.

Price: D

NR/L3/INI/CP0064	Delivering Works Within Possessions Issue 5; Jun 17	Compliance	Replaces
		02/12/17	NR/L3/INI/CP0064 Iss 4; Sep 14

Network Rail is fully committed to reducing the number of possession overruns and their impact on both the travelling public and operational railway. The processes and controls contained within NR/L3/INI/CP0064 are key to achieving this.

Price: E

NR/L3/INI/CP0067	Formal Briefing Process Arrangements Within Infrastructure	Compliance	Replaces
	Projects Issue 2; Jun 12	02/06/12	NR/L3/INI/CP0067 Iss 1; Jun 10

The process contained within this standard identifies the formal communication arrangements for the cascade of information within Infrastructure Projects.

Price: B

NR/L3/INI/CP0074	Drainet Advise Note (DAN) Drange Issue 1: Con 10	Compliance	Danlages
NK/L3/INI/CPUU/4	Project Advice Note (PAN) Process Issue 1; Sep 10	Compliance	Replaces
		04/40/40	Name of January 77
		04/12/10	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.

Price: C

## **Associated Document**

NR/L3/INI/CP0074//	Module	Issue	Issue Date	Price
F0030	PAN (Project Advice Note) Register	23	Jun 2018	Α

#### NR/L3/INI/CP0077 Signalling Pre-Commissioning Verification Requirements Compliance Replaces Issue 1; Mar 11 04/06/11 New at Issue 79

This standard describes the requirements for undertaking pre-commissioning verification prior to commencing a major signalling commissioning. The standard identifies documentation required to be produced prior to commissioning, details responsibilities for production and associated timescales which are clearly linked to points in time prior to the commissioning date in order that workload can be prioritised in a timely manner. This standard is required to be read in conjunction with NR/L3/INI/CP0064 and specifies additional requirements regarding Delivering Work within Possessions.

Price: D

NR/L3/INI/PG115 Planning & Programme Controls Standard Issue 5; Jun 12 Compliance Replaces 02/06/12 NR/L3/INI/PG115 Iss 4; Jun 11

This Network Rail standard with its individual modules comprises the Infrastructure Projects and Asset Management (Renewals) Planning and Programme Controls standard.

This Network Rail standard provides the index and version control for the modules in the Planning and Programme Controls standard.

Price: B Standard only; Complete, Phone See below for details of modules and individual pricing

Module	Title	Issue	Issue Date	Price
Functional – Instructions & Gui	dance			
NR/L3/INI/PG115	Planning and Programme Controls standard	5	Jun 2012	В
NR/L3/INI/PG115/FO/002	Project Closeout (Formerly NR/L3/INI/PG115/BM/002)	2	Jun 2010	С
Project Planning Services - Ins	tructions & Guidance	<u>'</u>		
NR/L3/INI/PG115/PS/002	Mandated Primavera Codes and Milestones (Formerly NR/L3/INI/PG115/P/002)	4	Jun 2011	В
NR/L3/INI/PG115/PS/004	Guidance on the Interface with Contractor Plans	1	Jun 2010	С
NR/L3/INI/PG115/PS/005	Guidance on Network Rail Oracle Projects and Primavera Interface (Formerly NR/GN/INI/PG115/P/005)	2	Jun 2010	С
NR/L3/INI/PG115/PS/006	Guidance on Work Breakdown Structure (Formerly NR/L3/INI/PG115/P/006)	2	Jun 2010	В
NR/L3/INI/PG115/PS/010	Profiling of OLE Wiremen Demand	1	Jun 2010	С
NR/L3/INI/PG115/PS/011	Requesting Engineering Access to the Rail Network within Investment Projects & Asset Management (Renewals)	Withdrawn – please refer to NR/L3/INI/CP0064, Delivering Work Within Possessions		livering
NR/L3/INI/PG115/PS/012	Guidance on Project Schedule Model Evaluation	1	Jun 2010	А
NR/L3/INI/PG115/PS/013	Guidance on Project Schedule Model Baseline Management	1	Jun 2010	В
NR/L3/INI/PG115/PS/014	Guidance on Project Schedule Model Change Control	1	Jun 2010	А
NR/L3/INI/PG115/PS/015*	Use of Earned Value Reporting in Investment Projects	2	Dec 2010	е
NR/L3/INI/PG115/PS/016*	Earned Value Reporting - Guidance on definitions and acceptable practices-	2	Dec 2010	е
NR/L3/INI/PG115/PS/017*	Earned Value Reporting - Guidance on Set Up and Maintenance of Primavera Schedules-	4	<del>Jun 2010</del>	е
NR/L3/INI/PG115/PS/018	Management of Change to Authorised Baselines	1	Jun 2012	D
Project Cost Management Serv	ces			
NR/L3/INI/PG115/CMS/002	Guidance on Estimated Final Cost (Formerly NR/L3/INI/PG115/BM/003)	2	Jun 2010	А
<b>Business Information Services</b>				
NR/L3/INI/PG115/BIS/001*	Document Management (Formerly NR/L3/INI/PG115/DM/001)	2	<del>Jun 2010</del>	е
NR/L3/INI/PG115/BIS/002 **	Corporate KPIs — Generation of the IPI Measures for Investment Projects- (Formerly NR/L3/INI/PG115/RC/002, Corporate KPIs — Generation of the IPI Measures for Infrastructure Investment)	2-	<del>Jun 2010</del>	е

<sup>\*</sup> Withdrawn by the publication of NR/L3/P3M/130 Iss 1 and NR/L3/INI/P3M/131 Iss 1.

<sup>\*\*</sup> Withdrawn by the publication of NR/L3/INI/P3M/129 Iss 1

NR/L3/INI/P3M/120	Governance for Railway Investment Projects (GRIP) -	Compliance	Replaces
	Starting a Project Issue 1; Sep 17	31/03/18	New at Issue 105

The overall purpose of this standard is to record the activities to be undertaken when supporting development on behalf of a Sponsor. This is in accordance with the Clienting Principles.

Price: C

NR/L3/INI/P3M/121	Governance for Railway Investment Projects (GRIP) –	Compliance	Replaces
	Initiating a Project Issue 1; Sep 17	31/03/18	New at Issue 105

The purpose of this standard is to mandate that all projects define core project management activities for the management of the project and assessment of its overall success.

Price: C

# INI (MPI) Level 3

## 4.14 INVESTMENT PROJECTS

NR/L3/INI/P3M/122	Governance for Railway Investment Projects (GRIP) -	Compliance	Replaces
	Leading a Project Issue 1; Sep 17	31/03/18	New at Issue 105

This standard describes how Network Rail sponsors capital investment in the railway infrastructure across all lifecycle stages.

Price: C

NR/L3/INI/P3M/123 Governance for Railway Investment Projects (GRIP) - Compliance Controlling a Stage Issue 1; Sep 17 Sep 17 Replaces New at Issue 105

The purpose of this standard is to define and mandate the processes for controlling individual project stages from initial concept to close out.

Price: C

NR/L3/INI/P3M/124	Governance for Railway Investment Projects (GRIP) -	Compliance	Replaces
	Managing a Stage Boundary Issue 1; Sep 17	31/03/18	New at Issue 105

The purpose of this standard is to:

- provide a fixed point at which acceptance for the project product is confirmed; or
- confirm that the project has nothing more to contribute by continuing.

Price: C

NR/L3/INI/P3M/125	Governance for Railway Investment Projects (GRIP) - Closing	Compliance	Replaces
	a Project Issue 1; Sep 17	31/03/18	New at Issue 105

The purpose of this standard is to:

- provide a fixed point at which acceptance for the project product is confirmed;
- recognise that objectives set out in the original Project Initiation Documentation (PID) have been achieved/approved changes to these
  objectives have been achieved; or
- confirm that the project has nothing more to contribute by continuation.

Price: C

NR/L3/INI/P3M/126	Network Rail Requirements Manual Issue 1; Sep 17	Compliance	Replaces	
1414/20/1141/1 0111/120	Network Run Requirements Manage 1, eep 17	Compilation	rtcpiaoco	
		04/00/40	Manual Lance 405	
*,		31/03/18	New at Issue 105	

This manual and its associated modules provide details on how the requirements principles set out in NR/L2/INI/P3M/104 are to be implemented.

Price: C Standard only; Complete, E See below for details of modules and individual pricing

NR/L3/INI/P3M/126/	Module	Issue	Issue Date	Price
01	The Network Rail Requirements Framework	1	Sep 17	С
02	Requirements Development and Management	1	Sep 17	С
03	Project Delivery Standard Specification (PDSS)	1	Sep 17	В

NR/L3/INI/P3M/127	Peer Reviews of Project, Programme and Portfolio (P3M)	Compliance	Replaces
INIT/L3/IINI/F3IVI/IZI	reel Reviews of Froject, Frogramme and Fortiono (F3M)	Compliance	replaces
	Investment Issue 1: Dec 17	31/03/18	New at Issue 106

The purpose of this standard is to describe where Peer Reviews fit into Network Rail's assurance activities as described in NR/L2/INI/P3M/105. The assurance activities provide Network Rail with an oversight and confidence in the progress of its infrastructure portfolio.

Price: D

NR/L3/INI/P3M/128	Project, Programme and Portfolio (P3M) Professions	Compliance	Replaces
	Assurance Issue 1; Dec 17	31/03/18	New at Issue 106

The purpose of this standard is to describe the Network Rail assurance activities undertaken in relation to the project, programme and portfolio framework (P3M), and to identify who is accountable for carrying out the activities.

Price: D

NR/L3/INI/P3M/129	Planning and Scheduling Manual Issue 1; Jun 18	Compliance	Replaces
		01/09/18	NR/L3/INI/PG115/BIS/002 Iss 2

This manual provides guidance and mandated requirements for planning and scheduling. The modules with this manual define and mandate the schedule requirements to develop and maintain quality project schedules.

Price: C Standard only; Complete, D See below for details of modules and individual pricing

NR/L3/INI/P3M/129/	Module	Issue	Issue Date	Price
01	Schedule Adherence	1	Jun 2018	С

NR/L3/INI/P3M/130	Controls Manual Issue 1; Mar 18	Compliance	Replaces	
		01/09/18	See helow	

Replaces: NR/L3/INI/PG115/PS/015 Iss 2, NR/L3/INI/PG115/PS/016 Iss 2, NR/L3/INI/PG115/PS/017 Iss 1

The purpose of this manual and its modules is to define and mandate the processes for controlling individual project stages from initial concept to close out. It supports NR/L3/INI/P3M/123 which is included in the P3M Framework, NR/L2/INI/P3M/101.

Price: B Standard only: Complete, D See below for details of modules and individual pricing

NR/L3/INI/P3M/130/	Module	Issue	Issue Date	Price	
01	Earned Value Management	1	Mar 18	С	

NR/L3/INI/P3M/131	Document Management Manual Issue 1; Mar 18	Compliance	Replaces
		01/09/18	NR/L3/INI/PG115/BIS/001 Iss 2

This manual specifies the Document management procedures. This manual and its modules define how documentation of all kinds should be managed from conception to close out.

Price: D Standard only; Complete, D See below for details of modules and individual pricing

NR/L3/INI/P3M/131/	Module	Issue	Issue Date	Price
01	Document Management Procedure	1	Mar 18	С

NR/L3/INI/P3M/132	Portfolio Integration Manual Issue 1; Mar 18	Compliance	Replaces
		01/09/18	New at Issue 107

This manual specifies the Consolidated Planning and the Prioritisation Processes. This manual and its modules provides visibility of planned requirements for key resources to inform the future resourcing needs of the business and provides a prioritisation process to identify the methods to be followed in order to identify the key projects to take place.

Price: C Standard only; Complete, D See below for details of modules and individual pricing

NR/L3/INI/P3M/132/	Module	Issue	Issue Date	Price
01	Consolidated Planning	1	Mar 18	С
02	Prioritisation Process	1	Mar 18	С

NR/L3/INI/TK0027	Test and Inspection Plan Issue 2; Jun 08	Compliance 26/08/08	Replaces NR/PRC/MPI/TK0027
			lss 1; Jan 06

This document defines the procedures that must be followed and the documentation that must be used for recording hidden works compliance to NR Standards, site particular specifications and the contract technical specification, on track renewal sites delivered by the MP&I (Track) Programme

Price: B

NR/L3/INI/TK0040	Reporting of Track Unit Rates (part of the Network Rail Cost	Compliance	Replaces
	Analysis Framework) Issue 2; Jun 08	26/08/08	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

Price: C

#### **Guidance Notes**

NR/GN/INI/001	Guidance on the Management of Door to Door Work and	Compliance	Replaces
	Travel Time Issue 1; Dec 08	n/a	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.

Price: B

NR/GN/INI/P3M/150	Sponsor's Handbook Issue 1; Mar 18	Compliance	Replaces
		n/a	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.

Price: C

4.15 LEVEL CROSSINGS **XNG** Level 1 / 2 / SINs

#### 4.15 LEVEL CROSSINGS

NR/L1/XNG/100	Level Crossing Asset Management Policy Issue 1; Jun 16	Compliance	Replaces
		01/04/19	New at Issue 100

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.

Price: E Standard only: Complete, F See below for details of modules and individual pricing

NR/L1/XNG/100	Module	Compliance	Issue	Issue Date	Price
01	Workbank Planning	01/04/19	1	Sep 2017	D
02	Level Crossing Technology Strategy	01/04/19	1	Sep 2016	С
06	Level Crossing Asset Data and Information	01/04/19	1	Jun 2018	С

NR/L2/XNG/200	Supplementary Audible Warning Device (SAWD) for Footpath and Bridleway Level Crossing Systems Protected by a	Compliance 04/03/17	Replaces New at Issue 102
	Whistle Board Issue 1; Dec 16		

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.

Price: C

NR/L2/XNG/300	Supplementary Audible Warning Device (SAWD) Route	Compliance	Replaces
	Business Process Issue 1; Jun 17	02/09/17	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.

Price: C

NR/L2/XNG/310	Product Specification for an Obstacle Detection System at	Compliance	Replaces
	Level Crossings Issue 1; Sep 18	01/12/18	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.

Price: E

# **Special Inspection Notices**

NR/SIN/158	Level Crossing Pedestal Trunion Bolts Issue 1; Nov 16	Compliance	Replaces
		09/12/17	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.

Price: C

NR/SIN/160	Covtec Supplementary Audible Warning Device (SAWD)	Compliance	Replaces
	Issue 1; Dec 16	30/04/17	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.

Price: C

NR/SIN/165	Special Inspection of AOCL/AOCL+B and ABCL Level	Compliance	Replaces
	Crossings Including Power Supplies Issue 1; Sep 17	16/03/18	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.

Price: C

4.15 LEVEL CROSSINGS **XNG SINs** 

NR/SIN/166	Inspection of Howells Re-Engineered Level Crossing Power	Compliance	Replaces
	Packs Issue 1; May 17	22/10/17	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.

Additional Excel Content Available: Phone

NR/SIN/173	Management of Risk at User Worked Level Crossings	Compliance	Replaces
	Equipped with Power Gate Openers (POGOs) or with Barriers	31/7/18	New at Issue 108
	and Miniature Stop Lights (MSLs) Issue 1; Apr 18		

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.

Price: C Standard (includes Spreadsheet Appendix B);

See below for details of modules and individual pricing Complete, D

NR/SIN/173/	Title	Issue	Issue Date	Price
Appendix C	Urgent Safety Advice 03/2017 Signs at Level Crossings	1	Apr 2018	А
Appendix D	Network Rail's Response to the RAIB's POGO USA	1	Apr 2018	С
Appendix E	Certificate of Acceptance Suspension PA05/05508	1	Apr 2018	В
Appendix F	POGO Update February 2018 FAQ	1	Apr 2018	А

NR/SIN/180	Manage Risk of Extended Closure Times at Automatic Level	Compliance	Replaces
	Crossings Issue 1; Mar 18	31/12/18	New at Issue 108

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.

Price: C

NR/SIN/180	Level Crossing Train Detection Configuration Issue 1; Mar 18	•	Replaces
<u> </u>		31/03/19	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

Additional Excel Content Available: Phone

# 4.16 NATIONAL DELIVERY SERVICE / NATIONAL SUPPLY CHAIN

NDS/NSC/SCO Level 2 / 3

#### 4.16.1 NATIONAL DELIVERY SERVICE

#### Level 2

NR/L2/NDS/203 Loading and Securing of Infrastructure Traffic Issue 3; Mar 12 Compliance 03/03/12 Replaces NR/L2/NDS/203 Iss 2; Jun 07

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.

Price: B

NR/L2/NDS/205 Rail Delivery and Recovery Systems Overview
| Issue 2; Dec 10 | Systems Overview | Compliance | Replaces |
| O4/12/10 | O4/12/10

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.

Price: D (Contains NR/BS/LI/210 (Expired)



Additional Excel Content Available: Phone

#### Level:

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 lss 1; Jun 10
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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.

Price: D

 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.

Price: D (Contains NR/BS/LI/210 (Expired))

NR/L3/NDS/306 Planned General Safety Inspections Issue 1; Jun 10 Compliance Replaces
04/09/10 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

Price: D

NR/L3/NDS/307 NDS Waste Management Issue 1; Mar 12 Compliance 8 Replaces 02/06/12 New at Issue 83

This Standard describes the process for using National Delivery Service as a broker for the management of waste in order to comply with Duty of Care and other waste management requirements including the Network Rail commitment to the WRAP Construction Halving Waste to Landfill programme.

Price: C

Copyright Network Rail

Issue

Issue Date

Price

# 4.16 NATIONAL DELIVERY SERVICE / NATIONAL SUPPLY CHAIN

4.16.2 SUPPLY CHAIN OPERATIONS

#### 4.16.2 SUPPLY CHAIN OPERATIONS

#### evel 2

NR/L2/SCO/306 Disposal of Redundant Assets Issue 3; Jun 18 Compliance 01/09/18 Replaces NR/L2/CPR/306 Iss 2; Jun 17

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.

Price: D

NR/L3/NDS/308/

#### Level 3

NR/L3/SCO/308 The Loading Manual for Infrastructure Traffic Issue 2; Dec 17 Compliance 02/12/17 Replaces NR/L3/NDS/308 Iss 1; Mar 12

This standard provides the index and version control of the modules contained within The Loading Manual for Infrastructure Traffic. It also provides modules that contain all loading patterns applicable to infrastructure traffic.

Price: C Standard only; Complete, Phone

See below for details of modules and individual pricing

Section A					
LMA1	Basic Principles of Loading		1	Mar 2012	Α
LMA2	Load Restraint Equipment		1	Mar 2012	Α
LMA3	Dunnage		1	Mar 2012	Α
LMA4	Preparation for the re-use of wagons af	er discharge / unloading	1	Mar 2012	Α
LMA5	Bolsters and Floors		1	Mar 2012	Α
LMA6	Overhanging Loads		1	Mar 2012	Α
LMA7	Distribution of weight		1	Mar 2012	Α
LMA8	The Loading Gauge		1	Mar 2012	Α
LMA9	Load Criteria Levels		1	Mar 2012	Α
NR/L3/SCO/308/ A10	Certificate of Readiness		1	Dec 2017	А
NR/L3/NDS/308/	Wagon Type	Commodity	Issue	Issue Date	Price
Section B					
B1	Bulk / Materials				
B1.1	Bulk Loading	Bulk Materials	1	Mar 2012	В
B1.2	Wagons with side doors	Materials	1	Mar 2012	Α
B1.3	Solid Sided	Loose Materials	1	Mar 2012	Α
B1.4	OBA Bass	Lighting Towers	1	Mar 2012	Α
B2	Sleepers				
B2.1	YWA Salmon/FDA twin (flatbeds)	Sleepers	1	Mar 2012	Α
B2.2	YQA Parr	Sleepers	1	Mar 2012	Α
B2.3	Flat wagons	Returning dunnage	1	Mar 2012	А
B2.4	Bolstered wagon	Lifting Beam	1	Mar 2012	Α
B2.5	KRA / FEA (Balfour Beatty Rail)	Sleepers	1	Mar 2012	В
B2.6	IFA / YXA	Sleepers	1	Mar 2012	Α
B2.7	Slinger Trains 1 to 3	Sleepers	1	Mar 2012	Α
B2.8	Slinger Train 4	Sleepers and Long Rails	1	Mar 2012	Α
B2.9	Slinger Train 5	Sleepers	1	Mar 2012	Α
B3	Track Panels				
B3.1	YWA Salmon / FDA twin (Flatbed)	Track Panels (including Bullhead Panels fitted with Bolt through Sleepers and check rail guard rail panels)	1	Mar 2012	А
B3.2	YWA Salmon	Breather / Adjustment panel	1	Mar 2012	Α
B3.4	FDA	Steel Sleeper Track Panel	1	Mar 2012	Α
B3.5	YKA Osprey	Track Panels	1	Mar 2012	Α
B3.6	IFA (Switch & Crossing Panel Vehicle)	Modular S&C Panels	1	Mar 2012	В
B3.7	YWA Salmon / YKA Osprey	Modular Plainline Panels	1	Mar 2012	Α
B4	Rail				
B4.1	YLA Mullet	18.3 m Rails	1	Mar 2012	А
B4.2	YFA Salmon Stumec	18.3 m Rail	1	Mar 2012	Α
B4.3	YLA Mullet	18.3 m S&C	1	Mar 2012	А
B4.4	FZA Super Salmon / YLA Mullet	up to 35 m S&C	1	Mar 2012	А
B4.5	YLA Mullet	36 m Rails	1	Mar 2012	Α
B4.6	RRT (Rail Recovery Train)	91 m Rails	1	Mar 2012	Α
	I			1	1 -

IGA MkII (Corus Rail Train)

Mar 2012

В

91 m - 216 m Rails

B4.7

NR/L3/NDS/308/	Wagon Type	Commodity	Issue	Issue Date	Price
B4.8	YEA Perch LWRT	Rail up to 216 m	1	Mar 2012	В
B4.8.1	YEA Perch LWRT (Short set)	91 m – 93 m Rails	1	Mar 2012	В
B4.9	RDT (Rail Delivery Train)	180 m - 216 m Rails	1	Mar 2012	В
B4.10	YEA Putler	108 m Rails	1	Mar 2012	В
B4.11	YEA Stock Rail Carriers	108 m Rails	1	Mar 2012	А
B5	Plant & Machinery				
B5.1	KWA Fastrol	Bulldozers & Excavators	1	Mar 2012	Α
В6	Special Vehicles				
B6.1	FKA (with Cable Module)	Cable Drums	1	Mar 2012	А
B6.2	YVA	Cable Drums	1	Mar 2012	Α
B6.3	YWA Salmon	KIROW Sleeper Beam	1	Mar 2012	А
B6.4	YWA Salmon	KIROW Crane S&C	1	Mar 2012	А
B6.5	SPA Pike	Concrete Platform Sections	1	Mar 2012	А

NR/L3/NDS/308/	Title	Issue	Date	Price
Section C				
C1	Wagon Details	1	Mar 2012	D

NR/L3/SCO/311	Supply Chain Operations, T&RS and OTM Engineering and	Compliance	Replaces
	Management Manual Issue 3; Jun 18	02/06/2018	NR/L3/NSC/311 Iss 2; Apr 14

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.

Price: D Standard only; Complete, Phone See below for details of modules and individual pricing

NR/L3/SCO/311/	Title	Issue	Issue Date	Price
	Management Function	·		
01	Entity in Charge of Maintenance	1	June 2018	В
02	Risk, Competence and Asset Management System	1	June 2018	В
03	Technical Asset Management Meeting	1	June 2018	В
04	Engineering Change	1	June 2018	D
05	Contractual Arrangements	1	June 2018	В
06	Safety Performance Monitoring	1	June 2018	В
	Maintenance Development	'		'
07	Maintenance Document Control, Review and Revision	1	June 2018	В
	Maintenance Management			•
08	Removal and Release of Trains to Traffic	1	June 2018	В
09	Deferral of Maintenance or Repair	1	June 2018	С
10	Post-Accident and Incident	1	June 2018	В
11.	Level 1 Inspection	1	June 2018	В
12	Maintenance Programme	1	June 2018	В
	Maintenance Delivery			
13	Planning and Supervision of Maintenance	1	June 2018	С
14	Maintenance Recording	1	June 2018	В
15	Tools and Equipment	1	June 2018	В
16	Handling and Storage of Safety Related Components	1	June 2018	С
17	Asset Configuration Management	1	June 2018	В
18	Reporting of Corrective Maintenance and Repairs	1	June 2018	В
Operations				
19	Operational Requirements for SCO Fleet	1	June 2018	В

NR/L3/SCO/313	On-track Machines (OTMs) Driver and Operations Standards	Compliance	Replaces
	Manual Issue 3; Jun 18	01/09/18	NR/L3/SCO/313 Iss 2; Mar 18

This standard provides a central reference point of:

- Safety Management System (Transport Undertaking) and the supporting safety procedures to support the Mainline Certificate; and
- information, operational and procedural requirements for the operation of OTMs.

Price: C Standard only; Complete, Phone See below for details of modules and individual pricing

NR/L3/SCO/313/	Title	Issue	Issue Date	Price
SP-1.01	Professional OTM Driver Policy	1	Dec 15	В
SP-1.02	Recruitment and Selection of OTM Driver Operators	2	Jun 18	В
SP-1.03	Medical Standards for OTM Driver Operators	2	Jun 18	С

NR/L3/SCO/313/	Title	Issue	Issue Date	Price
SP-1.03/AA	Employee List of Visual Correction Measures	2	Jun 18	Α
SP-1.04	Training Needs Analysis for OTM Driver Operators	1	Dec 15	В
SP-1.04/AA	Training Needs Analysis Flowchart	1	Dec 15	Α
SP-1.04/AB	Standards (Example)	1	Dec 15	Α
SP-1.04/AC	Training Method Guidance	1	Dec 15	Α
SP-1.05	Change of NRN Equipment	1	Dec 15	Α
SP-1.06	Initial OTM Driver Training	1	Dec 15	D
SP-1.07	Transfer of OTM Drivers	1	Dec 15	В
SP-1.08	OTM Driver Competence Standards	2	Mar 18	D
SP-1.09	OTM Driver Development Plan	2	Jun 18	В
SP-1.10	OTM Driver Route Knowledge	1	Dec 15	С
SP-1.10/FB	Form B Route Refresher Request Form	1	Dec 15	Α
SP-1.10/FC	Form C Record of Signed Route Knowledge	1	Dec 15	Α
SP-1.11	OTM Type Knowledge (Traction)	1	Dec 15	В
SP-1.12	OTM Driver Licence Certificate	1	Dec 15	В
SP-2.01	Cab Access	1	Dec 15	В
SP-2.01/AA	Cab Access: Examples of Cab Passes	1	Dec 15	Α
SP-2.01/AC	Cab Access: Information to Driving Compartment Visitors	1	Dec 15	Α
SP-2.01/AD	Cab Access: Information Brief for Other FOC/OTM Drivers	1	Dec 15	Α
SP-2.02	Urgent Safety Related Operating Advice	1	Dec 15	Α
SP-2.03	Adhesion Preparation	1	Dec 15	В
SP-2.04	OTM Driver Personal Electronic Devices Protocol	1	Dec 15	Α
SP-2.04/AA	OTM Driver Mobile Communications and Personal Electronic Devices Brief	1	Dec 15	Α
SP-2.04/AB	OTM Driver Mobile Communications and Personal Electronic Devices Brief Acknowledgement form	1	Dec 15	Α
SP-2.04/AC	Non-OTM Crew / Safety Critical Staff or Manager, Mobile Communications and Personal Electronic Devices Brief	1	Dec 15	Α
SP-2.04/AD	Mobile Personal Electronic Device Permanent Notice Case Brief	1	Dec 15	Α
SP-2.05	Defective OTM Equipment	2	Mar 18	В
SP-2.05/AA	Defective OTM Equipment – List of OTM Equipment and Action To Be Taken	2	Mar 18	D
SP-2.06	Safety of The Line Investigations	1	Dec 15	В
SP-3.01	OTM Speed Management	1	Dec 15	С
SP-3.01/AC	OTM Speed Management – Approved Radar Speed Checking Equipment	1	Dec 15	Α
SP-3.02	On Train Data Recorder (OTDR) Operating Requirements	1	Dec 15	В
SP-3.03	Managing Fatigue In Safety Critical Workers	1	Dec 15	В
SP-3.04	Managing OTM Incidents	1	Dec 15	Α
SP-3.04/AA	Managing OTM Incidents: NR Guidance Table	1	Dec 15	Α
SP-3.05	Chain of Care	2	Jun 18	D
SP-3.06	Management of Signing On Points	2	Mar 18	D
SP-4.05	Operation of Vehicles Fitted With Wheelskates	1	Dec 15	Α
SP-4.11	Protection Arrangements for Working on OTMs	1	Dec 15	Α

NR/L3/SCO/320	Supplier Quality Assurance (SQA) Issue 1; Sep 18	Compliance	Replaces
		01/12/18	New at Issue 109

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.

Price: D

#### 4.17.1 OPERATIONS & CUSTOMER SERVICES

Level 2

NR/L2/OCS/009 Network Capability Management Procedure Issue 1; Mar 10 Compliance Replaces

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.

Price: D

NR/L2/OCS/031 Risk Assessment and Briefing of Timetable Change Compliance Replaces Issue 9; Sep 14 06/09/14 NR/L2/OCS/031 Iss 8; Mar 11

This standard describes the risk review and briefing of timetable change process.

Price: D

NR/L2/OCS/042 Railway Operational Code Implementation, Variation and Compliance Replaces Review Process Issue 3; Mar 11 05/03/11 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.

Price: C

NR/L2/OCS/050 Route Crime Risk Management Issue 1; Mar 08 Compliance Replaces NR/SP/RSC/01401 Iss 5 01/06/08

This specification sets out the high level requirements for Network Rail's management, monitoring, risk assessment and mitigation/reduction of route crime activity. It is set within the context of the wider management of railway crime and so contains frequent references to railway crime matters.

Price: B

NR/L2/OCS/060 **Customer requirements for the Provision of Train Running** Compliance Replaces Information on Stations Issue 1; Dec 08

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.

Price: D

NR/L2/OCS/070 Major Infrastructure Changes – the Provision of Staff Briefing Compliance Material to Train Operators Issue 4; Mar 11 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'

Price: B

NR/L2/OCS/095 High Risk Sites for Wrong Side Track Circuit Failures in Leaf Compliance Replaces Fall Areas and for Low Rail Adhesion Issue 5; Sep 15 NR/L2/OCS/095 Iss 4; Jun 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.

Additional Excel Content Available: Phone Price: C

NR/L2/OCS/098 Management of Short-term Network Change Issue 2; Jun 09 Compliance Replaces 06/06/09 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.

Price: D

## 4.17 OPERATIONS & CUSTOMER SERVICES / PRINCIPALS & STANDARDS

**OPS** 

Co Stds / Level 1 / 2

#### 4.17.2 OPERATIONS PRINCIPLES & STANDARDS

#### **Company Standards**

RT/LS/P/200 Network Rail Security Manual Issue 2; Apr 05

Replaces

RT/LS/P/020 Iss E1; Aug 04

The purpopse of this standard is to mandate the use of the Network Rail security manual and to describe the processes that shall be used to control the issue, use and amendment of the content.

Price: C

RT/LS/P/250 Emergency Response Manual Issue 2; Apr 05

Replaces

RT/LS/P/250 Iss 1; Aug 04

This purpose of this standard is to mandate the use of the Network Rail Emergency Response Manual and to describe the processes that shall be used to control the issue, use and amendment of the content.

Price: C

#### Level 1

NR/L1/OPS/010	Signals Passed at Danger and Signal Reversions	Compliance	Replaces
	Issue 12: Mar 10	06/03/10	Iss 11: Aug 08

The purpose of Signals Passed At Danger and Signal Reversions, is in accordance with the requirements applicable to an Infrastructure Manager in Railway Group Standard GO/RT3252, to provide a consistent and structured process for the immediate actions required in dealing with a Category A, B, C or D SPAD, gathering evidence following a SPAD incident and subsequent management of SPAD issues within Network Rail and in conjunction with Railway Undertakings. Signal reversions not resulting in Category B SPADs are also covered. Signals Passed At Danger and Signal Reversions shall be supplemented by detailed functional procedures.

Price: C

NR/L1/OPS/290 Network Rail Business Continuity Management Compliance Replaces
| Issue 1; Jun 17 | 02/09/17 | New at Issue 104

This document outlines the mandated requirements for the management of Business Continuity within Network Rail. It provides an overview of the Business Continuity Management (BCM) processes and procedures in place and what is required to satisfy corporate governance requirements. This policy is in place as part of the Business Continuity Management Framework (BCMF).

Price: C

#### Level 2

NR/L2/OPS/015	Working of Passenger Trains Over Non-Passenger Lines	Compliance	Replaces
	Issue 1; Dec 08	01/12/08	GO/RT3201

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.

Price: B

NR/L2/OPS/021 Weather – Managing the Operational Risks Issue 7; Sep 17 Compliance 02/12/17 Replaces NR/L2/OCS/021 Iss 6; Mar 16

The Railway Operational Code outlines the industry requirements to:

- sustain the operation of train services on the network in accordance with the working timetable;
- · restore operations following a disruption in accordance with the working timetable, taking into account
- 1. the interests of safety and security
- 2. the needs of passengers and freight customers
- 3. the efficient and economical operation of the network and of trains operating on it.

Price: D

NR/L2/OPS/033	Radio Communications for the Control Of Trains (Including On Track Machines and On-Track Plant) in Possessions	Compliance 06/06/09	Replaces NR/L2/OPS/033 Iss 1: Dec 08
	Issue 2; Mar 09	00/00/00	141422701 07000 100 1, 200 00

This protocol describes the arrangement that shall be in place for radio communication between drivers, On Track Plant (OTP) operators and those in control of train movement within an Engineering Supervisor's worksite when specified as an output of the work planning process that radios are to be used.

Price: B

## 4.17 OPERATIONS & CUSTOMER SERVICES / PRINCIPALS & STANDARDS

OPS Level 2

NR/L2/OPS/034	Management of Rule Book Change Issue 2; Jun 17	Compliance	Replaces
		02/09/17	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.

Price: B

NR/L2/OPS/035	Dissemination of Urgent Operating Advice Issue 4; Aug 08	Compliance	Replaces
		26/08/08	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.

Price: C

NR/L2/OPS/037	Management of Spoken Safety Communication	Compliance	Replaces
	Issue 2; Dec 07	01/12/07	RT/LS/P/037 Iss 1; Oct 01

This document details Network Rail's arrangements for the management of spoken safety communications.

Price: B

NR/L2/OPS/060	The Management of Heat Related Emergency Restrictions of	Compliance	Replaces
	Speed Resulting from High Air Temperatures Issue 3; Mar 10	06/03/10	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.

Price: C

NR/L2/OPS/100	Provision, Risk Assessment and Review of Level Crossings	Compliance	Replaces
	Issue 2; Jun 08	26/08/08	NR/SP/OPS/100 Iss 1; Dec 06

This document sets out the requirements that must be complied with for Network Rail to have a robust and consistent process for determining the safety requirements for new level crossings, and the risk assessment and management processes that shall apply to both new and existing level crossings.

Price: C

NR/L2/OPS/101	Temporary Vehicular Level Crossings and Temporary	Compliance	Replaces
	Increased use of Existing Level Crossings Issue 3; Mar 10	06/03/10	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.

Price: C

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.

Price: C

NR/L2/OPS/110	Requirements for the Weekly Operating Notice, Periodical	Compliance	Replaces
	Operating Notice and Local Operating Instructions (incl.	04/03/17	NR/L2/OPS/110 Iss 2; Jun 08
	Sectional Appendix) Issue 3; Dec 16		

This document mandates requirements for the production of information related to engineering work, alterations to track and signalling arrangements, and Local Operating Instructions.

Price: B

NR/L2/OPS/202	Principles, Timescales and Functional Responsibilities for	Compliance	Replaces
	Engineering Work, Access and Heavy Resource Planning	02/09/17	NR/L2/NDS/202 Iss 6; Mar 12
	Issue 7; Jun 17		

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.

## 4.17 OPERATIONS & CUSTOMER SERVICES / PRINCIPALS & STANDARDS

OPS Level 3

NR/L2/OPS/250 Network Rail National Emergency Plan (formerly NR/L2/OCS/250) Issue 6; Mar 16 Compliance 04/06/16 NR/L2/OCS/250 Iss 5; Sep 11

This document describes the arrangements in place to provide an effective response to accidents, incidents and other emergencies on or affecting Network Rail controlled infrastructure across Great Britain. It describes 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 is intended to implement the requirements of the Railway Group and Network Rail Company Standards and other applicable codes and legislation.

Price: E (Contains NR/BS/LI/405)

NR/L2/OPS/251	Air Operations Manual Issue 1; Dec 16	Compliance	Replaces
		03/12/16	New at issue 102

This document describes the arrangements in place to provide an effective response to accidents, incidents and other emergencies on or affecting Network Rail controlled infrastructure across Great Britain. It describes 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 is intended to implement the requirements of the Railway Group and Network Rail Company Standards and other applicable codes and legislation.

Price: B Standard only; Complete, C See below for details of modules and individual pricing

NR/L2/OPS/251/	Section 1 - Rules & Procedures	Issue	Issue Date	Price
1.1	Unmanned Aircraft System (Drone / UAV) Operations – Managing the Operational Risks	1	Dec 2016	Α

NR/L2/OPS/254	Manual for the Principles of Operational Simulation	Compliance	Replaces
	Issue 1; Dec 17	03/03/18	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.

Price: C Standard only; Complete, D See below for details of modules and individual pricing

NR/L2/OPS/254/	Title	Issue	Issue Date	Price
01	Signalling Simulation Operational Specification	1	Dec 2017	С

NR/L2/OPS/290	Business Continuity Management Issue 1; Mar 18	Compliance	Replaces	
		01/09/18	New at issue 107	

This standard is aligned to BS ISO 22301:2012 and BS EN ISO 22313:2014, and sets out a principles-based approach for effective BCM to enable:

- · The effective and consistent identification of organisational priorities, asset criticality, and the risks they face;
- Appropriate strategies and plans to be developed to manage disruption and restoration of services within the organisation's risk appetite;
- The effective governance and assurance of BCM, and consideration of BCM in the wider management and strategy decisions of Network Rail.

Price: C

#### Level:

NR/L3/OPS/002	Driving Cab Passes (formerly NR/L2/OCS/002)	Compliance	Replaces
	Issue 7; Sep 18	01/12/18	NR/L2/OCS/002 Iss 6; Mar 11

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.

Price: D

NR/L3/OPS/009	Track Circuit Operating Device (T-COD) Identification of	Compliance	Replaces
	Locations for use Issue 3; Aug 08	26/08/08	RT/LS/P/009 Iss 2; Apr 99

The purpose of Track Circuit Operating Device (T-COD) identification of locations for use is to specify the issues to be considered by Network Rail Routes when determining where T-COD may be applied in order to comply with the Rule Book.

Price: B

NR/L3/OPS/045	National Operating Procedures Index Issue 5; Sep 18	Compliance	Replaces
		01/12/18	NR/L3/OPS/045 Iss 4: Jun 18

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.

Price: C Standard only; Complete, Phone See below for details of modules and individual pricing

NR/L3/OPS/045	Title	Issue	Issue Date	Price
Section 1	Location Management & Self-Assurance			
1.01	Quarterly Health, Safety & Welfare Inspections of Staffed Operational Locations	1	Sep 2017	С

NR/L3/OPS/045	Title	Issue	Issue Date	Price
1.02	Self-Assurance	2	Jun 2018	A
Section 2	People, Training & Competence		0011 2010	171
2.01	Quality Assurance in Operational Competence	2	Jun 2018	С
2.02	Controller Competence Assessment Process	2	Jun 2018	D
	<u> </u>	3	Jun 2018	D
2.03	Electrical Control Operator Competence and Assessment Framework			+
2.05	Train Dispatch Competence – Assessment Process	2	Jun 2018	D
2.06	Competence Standard and Assessment Framework for Operating Signalling Equipment	2	Jun 2018	D
2.07	Level Crossing Manager Competence Framework	1	Sep 2017	С
2.11	Safety Critical Work	1	Sep 2017	A
2.12	Operational Development Day and Safety Briefings	1	Sep 2017	Α
2.13	Control of Excessive Working Hours for Persons Undertaking Safety Critical Work	2	Jun 2018	С
2.14	Additional Monitoring of Employees and Support Procedure	1	Sep 2017	В
2.15	Mandatory and Additional Visits to Employees at Operating Locations	2	Jun 2018	С
2.16	Monitoring the Quality Of Spoken Communications	2	Jun 2018	С
2.17	Signalling Location Training Plans	1	Sep 2017	С
2.18	Location Risk Assessment of Heavy Lever Pull	2	Sep 2018	С
2.19	Customer Service Assistance Competence Assessment Process	1	Jun 2018	D
Section 3	System Operations			
3.01	Level Crossings – Keeping a Record of Telephone Calls	1	Sep 2017	В
3.02	Preparation and Distribution of Local Instructions	2	Jun 2018	В
3.03	Preparation and Distribution of Blocked to Electric Trains (BTET) Instructions	1	Sep 2017	С
3.04	Signalling and Permanent Way Alterations Preparation of Supplementary Signalling Notices	1	Sep 2017	В
3.05	Radio Communication Failures	1	Sep 2017	С
3.06	Dynamic Risk Assessment Process	1	Sep 2017	В
3.07	Signalling System Failures, Lineside Safety Equipment Failures, Track Defects and Receiving and Responding to RT3185 Forms	2	Jun 2018	С
3.08	Risk Assessing Level Crossings	1	Sep 2017	С
3.09	Level Crossing Administration	1	Sep 2017	В
3.10	Isolations, Loss of Power or Damage to Third Rail Equipment	1	Sep 2017	Α
3.11	Electrical Isolations AC (OLE)	2	Jun 2018	В
3.12	Wrong Routing Incidents	1	Sep 2017	Α
3.13	Assistance for Disabled, Stranded and Failed Trains (Railway Operational Code)	1	Sep 2017	В
3.14	Station Stopping Incidents	1	Sep 2017	A
3.15	Defective On-Train Equipment	1	Sep 2017	A
3.16	Train Door Incidents	1	Sep 2017	A
3.17		1	Sep 2017	D‡
3.18	Weather Arrangements  Operation and Control of Haritage Trains	1	Sep 2017	C
	Operation and Control of Heritage Trains  Speed Restrictions	1_		+
3.19		2	Jun 2018	В
3.20	New / Late Change To Planned Possessions & Communications Protocol	1	Sep 2017	В
3.21	Asset Monitoring Systems Wheel Impact Load Detector (WILD) and Hot Axle Box Detector (HABD)	1	Sep 2017	С
3.22	Response to Remote Condition Monitoring Alarms	1	Sep 2017	Α
3.23	Train Service Management	1	Sep 2017	В
3.24	RIS-3350-TOM – Urgent Operating Advice and RIS-8250-RST – Safety Related Defect Reports	1	Sep 2017	Α
3.25	Additional Track Access (VSTP)	2	Jun 2018	С
3.26	Management of Freight Services During Disruption	1	Sep 2017	В
3.27	Briefing of Immediately Transferable Lessons From Serious Operational Incidents	1	Sep 2017	Α
3.28	Monitoring of Radio Electronic Token Block (RETB)	1	Sep 2017	В
3.29	Ground Frame Local Instructions	1	Sep 2017	Α
3.30	Detailed Assessment for Determining Suitability of Single Lines for Modified Working and Authorising the Use of Modified Working	2	Jun 2018	C ‡
3.31	Permissive Platform Working	1	Sep 2017	В‡
3.32	Temporary Block Working (TBW)	1	Sep 2017	Α
3.33	Authorising Trains to Coast with Pantographs Lowered	1	Sep 2017	Α
3.34	Bridge Strikes from Road Vehicles and Waterborne Vessels	1	Sep 2017	С
3.35	Managing the Files and Investigation of Signals Passed at Danger (SPAD) Events	1	Sep 2017	В
3.36	Signals Passed at Danger (SPAD) or Signals Passed at RED (SPAR)	1	Sep 2017	С
Section 4	Incident Management & Security			
4.01	Evacuation and Security Management of Signalling Locations, Controls, Stations and Trains	2	Jun 2018	С
4.02	Preparation and Distribution of Emergency Plans	2	Jun 2018	D
4.03	Emergency Arrangements	1	Sep 2017	A
4.04	Incident Management – Initial Advice and Guidance	1	Sep 2017	D
4.04				

## 4.17 OPERATIONS & CUSTOMER SERVICES / PRINCIPALS & STANDARDS

**OPS** Guidance

NR/L3/OPS/045	Title	Issue	Issue Date	Price
4.06	Station Overcrowding and Special Events	1	Sep 2017	Α
4.07	Taking Samples of Railhead Contamination	1	Sep 2017	С
4.08	Reporting of Dangerous Goods Events	1	Sep 2017	Α
4.09	Fires	1	Sep 2017	Α
4.10	Emergency Services Personnel On or Near the Line	2	Jun 2018	В
4.11	Reporting and Risk Assessing Railway Crime	1	Sep 2017	С
4.12	Gas Escapes and Gas Emergencies	1	Sep 2017	Α
4.13	Air Traffic Incidents	1	Sep 2017	Α
4.14	Control of Environmental Incident Procedures	2	Dec 2017	В
4.15	Managing Stranded Trains and Train Evacuation	2	Jun 2018	В
4.16	Person Struck by Train and Fatality Management	2	Jun 2018	Α
4.17	Security and Storage of Detonators	1	Sep 2017	В
4.18	Management of Station Security and Crime	2	Jun 2018	В
4.19	Station Incident Response and Event Plans	2	Jun 2018	Α
Section 5	Station Operations			
5.01	Planned General Inspections and Management of Faults and Defects	1	Sep 2017	С
5.02	Management of Escalators, Lifts and Other Station Equipment	1	Sep 2017	В
5.03	Management of Station Vehicles and Other Plant	1	Sep 2017	D
5.04	Management of Station Works	1	Sep 2017	D
5.05	Management of Access and Restricted Areas	1	Sep 2017	В
5.06	Management of the Operational Railway Interface	1	Sep 2017	В
5.07	Management of Filming, Photography, Exhibition Sites, Promotions and Charities	1	Sep 2017	В
5.08	Management of Retail Activities	1	Sep 2017	Α
5.09	Management of Station Safety Briefing	1	Sep 2017	С
5.10	Management of Environmental Arrangements	1	Sep 2017	С
5.11	Management of Adverse Weather at Stations	1	Sep 2017	Α
5.12	Management of Risk and Change	1	Sep 2017	В

‡ = Additional Excel Content Available: Phone

NR/L3/OPS/084	Line Clear Arrangements Following Engineering Works	Compliance	Replaces
	in Axle Counter Areas – Line Clear Verification Process	01/12/18	NR/L3/OCS/084 Iss 3; Dec 11
	(formerly NR/L3/OCS/084) Issue 4; Sep 18		

This document describes the Line Clear Verification Process (LCV) process. The LCV process is able to support the safe interim and final handback of a possession by providing a means of assessing that the line is clear in addition to conventional line clear procedures (as defined in GE/RT8000 or NR/OPS/NOI.

Price: D

NR/L3/OPS/111	Weekly Operating Notice - Format and Content Issue 4; Dec 16	Compliance	Replaces
		04/03/17	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.

Price: C

NR/L3/OPS/303	Possession of the Line for Engineering Work Delivery	Compliance	Replaces
	Requirements Issue 4: Jun 17	02/09/17	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.

Price: D

## Guidance Notes

NR/GN/OPS/005	Control and Testing with Rolling Stock Using Special Operating Instructions	Replaces
	Issue 2; Jun 09	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.

Price: C

#### 4.18 RAIL MOUNTED VEHICLE & PLANT

#### Specifications (including Procedures)

RT/E/S/40017 Core Maintenance Specification for Powered Scrubber/ Sweeper Replaces

Issue 1; Feb 1996

This is a generalised maintenance specification for powered scrubbers/sweepers.

Price: C

#### **Product Specifications**

RT/E/PS/00016 Lineside Hot Axle Bearing Detectors Issue 1; Oct 02 Replaces

This product specification states the technical requirements for hot axle bearing detector systems to be installed on Network Rail's operational infrastructure. Their purpose is to observe the rolling stock and identify and provide warning of an overheating axle bearing.

Price: C

Level 1

NR/L1/RMVP/0001 Plant and Traction and Rolling Stock (T&RS) Policy | Compliance | Sep 17 | Se

The implementation of this policy ensures Network Rail assets are properly managed to mitigate the following risks:

Non Compliance with current legislation and regulatory requirements; and the

· Operational safety risks on Network Rail Managed Infrastructure.

Price: D

#### Level 2

NR/L2/RMVP/0001	Design, Acquisition and Engineering Change for Rail	Compliance	Replaces
	Vehicles and On-track Plant Issue 3; Jun 17	02/09/17	NR/L2/RVE/0001 Iss 2; Jun 11

The implementation of this standard helps to mitigate the following risks:

- ordering or hiring in of vehicles or supply of safety critical products and services as defined in L1/RMVP/0001 that are not fit for purpose;
- engineering change on rail vehicles not properly managed; and
- inability to get NoBo/DeBo/AB/PAB approval of new vehicles or vehicle upgrades.

Price: D

NR/L2/RMVP/0002	Operation and Use of Rail Vehicles and On-track Plant	Compliance	Replaces
	Issue 2; Jun 17	02/09/17	NR/L2/RVE/0002 Iss 1; Dec 10

The implementation of this standard helps to mitigate the following risks:

- dangerous use of Network Rail owned or hired in vehicles due to incorrect work planning;
- operation of rail vehicles without the correct documentation in place; and
- lack of accident management process in place for rail vehicle accidents.

Price: D

NR/L2/RMVP/0087	Management of Portable and Transportable Plant	Compliance	Replaces
	Issue 1; Jun 11	03/09/11	NR/L3/RVE/0187
			(RT/E/P/40064) Iss 1; Oct 00

This standard controls the processes for the management of portable and transportable plant when used on Network Rail managed infrastructure.

Price: B

NR/L2/RMVP/0090	Management of Maintenance for Traction and Rolling Stock,	Compliance	Replaces
	On Track Machines and On Track Plant Issue 3; Jun 12	02/06/12	NR/L2/RMVP/0090 Iss 2; Sep 11

This Standard defines the engineering and management control requirements for the maintenance of all Traction and Rolling Stock (T&RS), On Track Machines (OTM) and On Track Plant (OTP) and associated equipment owned by Network Rail for use on Network Rail Managed Infrastructure

Price: D

ND/LO/DMV/D/0404	Destruction of Installation of Feedlines Laboration Offered	0	Danilana
NR/L2/RMVP/0131	Design and Installation of Fuelling, Lubrication Oil and	Compliance	Replaces
	Coolant Storage and Delivery Systems Issue 1: Dec 09	06/03/10	New at Issue 74
	Coolant Storage and Delivery Systems issue 1. Dec us	U0/U3/TU	New at 155ue 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.

#### 4.18 RAIL MOUNTED VEHICLE & PLANT RMVP (RVE)

NR/L2/RMVP/0139 Design and Installation of Traversers Issue 1; Dec 09 Compliance Replaces 06/03/10 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.

Price: C

NR/L2/RMVP/0140 Design and Installation of Turntables Issue 1; Dec 09 Compliance Replaces 06/03/10 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.

Price: C

NR/L2/RMVP/0142 Refurbishment of Underfloor Wheel Lathes Issue 1; Dec 09 Compliance Replaces 06/03/10 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.

Price: D

NR/L2/RMVP/0172 Management of the Control and Calibration of Inspection, Compliance Replaces Measuring and Test Equipment Issue 2; Sep 11 03/12/11 NR/L2/RMVP/0172 Iss 1; Mar 11

This standard provides for the control and calibration of inspection, measuring and test equipment (IMTE) and specific tools. Examples of IMTE and specific tools are:

- Track level gauges
- Signalling measuring instruments
- Electrification & Plant height and stagger gauges
- Torque wrenches

Price: D

NR/L2/RMVP/0200	Infrastructure Plant Manual Issue 9; Jun 17	Compliance	Replaces
		04/09/17	NR/PLANT/0200 Iss 8; Jun 16

This manual details requirements and guidance when using plant for the installation, renewal and maintenance of Network Rail's Managed Infrastructure.

Price: D Standard only; Complete, Phone Additional Excel Content Available: Phone See below for details of modules and individual pricing

NR/L2/RMVP/0200/	Module Title	Issue	Issue Date	Price
P100	Reporting and Investigation of Plant Related Events	2	Jun 2017	С
P101	Monitoring Plant Activities	2	Jun 2017	В
P102	Hand Arm Vibration Management	2	Jun 2017	В
P300	Plant Approval and Design	3	Jun 2017	С
P301	Road Rail Access Points	2	Jun 2017	D
P302	Approval and Review of Plant Suppliers	2	Jun 2017	В
P500	Competence and Fitness	2	Jun 2017	В
P501	Systems of Work	3	Jun 2017	D
P502	Planning for Use	2	Jun 2017	В
P503	Planning for Lifting Operations	3	Jun 2017	С
P504	Plant Documentation and Marking	2	Jun 2017	В
P505	Safe Working With Plant	2	Jun 2017	D
P506	On-Track Machines	2	Jun 2017	В
P507	On-Track Plant	2	Jun 2017	С
P508	Mobile Elevating Work Platforms (MEWPS)	2	Jun 2017	С
P509	Trailers and Attachments	2	Jun 2017	С
P510	Safe Use of Quick Hitch Systems	2	Jun 2017	С
P511	Flails and Mulchers	2	Jun 2017	В
P512	Powered Cutters and Saws	2	Jun 2017	В
P513	Mobile Plant (Non-Rail Mounted) and Road Vehicles	2	Jun 2017	С
P514	Hand-Controlled Trolleys	3	Jun 2017	С
P515	Track Jacks	2	Jun 2017	В
P516	Undertaking Lifting Operations	2	Jun 2017	С
P517	Handling Rail	3	Jun 2017	С
P518	Loading Trailers	2	Jun 2017	С
P519	Planning for the use of On-Track Plant	2	Jun 2017	С

NR/L2/RMVP/0200/	Module Title	Issue	Issue Date	Price
P520	Alert Notification System for Network Rail Owned Unimog U400 MEWP	1	May 2014	С
P521	On-Track Plant Operations Scheme	2	Jun 2017	D
P700	Plant Maintenance	2	Jun 2017	С
P701	On-Track Plant Maintenance	2	Jun 2017	С
P702	Portable and Transportable Plant Maintenance	2	Jun 2017	В

NR/L2/RMVP/1332	Wheelset and Axle Bearings Manual Issue 4; Jun 17	Compliance	Replaces
		02/09/17	NR/L2/RMVP/1332 Iss 3: Jun 12

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.

Price: F

NR/L2/RMVP/27701 Management of Industrial Rail Vehicles Issue 1; Jun 17 Compliance Replaces 31/01/18 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.

Price: C

NR/L2/RVE/0003 Assurance, Performance and Monitoring of Rail Vehicles Compliance Replaces 05/03/11 NR/L1/RVE/0003 Iss 2; Jan 09 Issue 1: Dec 10

This company standard describes the engineering technical requirements for the assurance, performance and monitoring of Rail Vehicles and OTP owned by Network Rail.

Price: D

NR/L2/RVE/0130 **Design and Installation of Carriage Washing Machines** Compliance Replaces 01/03/09 RT/E/C/27031 Iss 1; Dec 04 Issue 1; Dec 08

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.

Price: C

NR/L2/RVE/0132 Design and Installation of Cranes Issue 1; Dec 08 Compliance Replaces 01/03/09 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.

Price: D

NR/L2/RVE/0133 **Design and Installation of Underfloor Wheel Lathes** Compliance Replaces Issue 1; Dec 08 01/03/09 New at Issue 70

This specification lavs 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

Price: C

NR/L2/RVE/0134 Shunting Vehicles for use with Underfloor Wheel Lathe Compliance Replaces 01/03/09 Facilities Issue 1; Dec 08 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.

Price: C

NR/L2/RVE/0135 Mobile Wheel Reprofiling Machines Issue 1; Dec 08 Compliance 01/03/09 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.

Price: C

## 4.18 RAIL MOUNTED VEHICLE & PLANT

RMVP (RVE) Level 3

NR/L2/RVE/0136 Vehicle Lifting Jacks Issue 1; Dec 08 Compliance Replaces
01/03/09 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.

Price: D

NR/L2/RVE/01327 Depot Facilities Issue 1; Jun 08 Compliance Replaces 01/09/08 New at Issue 68

This Company Standard defines the minimum engineering requirements for facilities used for the servicing and maintenance of rail vehicles which are owned, hired or leased by Network Rail, where Network Rail has engineering responsibility.

Price: D

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.

Price: C

ND# 0#170#170#1

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).

Price: B Standard only, Complete, Phone See below for details of modules and individual pricing

NR/L3/MTC/ME201/	Title	Issue	Issue Date	Price
CAL087	Calibration of Statimeter Dynamometers	1	Jun 08	Α
CAL090	Calibration of Magnetic Strength & Polarity Meter Co/Man/130	1	Jun 08	Α
CAL210	Calibration and Test Section of Calibration of Optical Height and Stagger Gauges	1	Jun 08	Α
CAL223	Calibration of Megger BM8/2 Insulation Tester	1	Jun 08	Α
CAL224	Calibration of Metrohm 9A Insulation and Continuity Testers	1	Jun 08	Α
CAL225	Calibration of Megger CBT2 RCD Tester	1	Jun 08	Α
CAL226	Calibration of Torque Wrench	1	Jun 08	Α
CAL227	Calibration of OHLE Structure to Rail Bond Tester	1	Jun 08	Α
CAL228	Calibration of Megger Pat 2 Portable Appliance Tester	1	Jun 08	Α
CAL230	Calibration of Edgcumbe 11kv Live Conductor Tester	1	Jun 08	Α
CAL231	Calibration of Robin Digital RCD Tester	1	Jun 08	Α
CAL232	Calibration of Clare High Current Ohmmeter	1	Jun 08	Α
CAL233	Calibration of Megger WM4/3 and Series 3 Insulation and Continuity Tester	1	Jun 08	Α
CAL234	Calibration of Megger ET3 and ET3/2 Earth Testers	1	Jun 08	Α
CAL235	Calibration of W&G Digital Level Meter Type Pmp20	1	Jun 08	Α
CAL236	Calibration of DC Ammeter/Mv Range 0 – 3000A / 75mv	1	Jun 08	Α
CAL237	Calibration on Megger Circuit Testing OHM Meter 0 – 3/30 OHMS	1	Jun 08	Α
CAL238	Calibration of Edgcumbe 33kv Live Conductor Tester	1	Jun 08	Α
CAL239	Calibration of Secondary Current Injection Test Set - Instruments Only	1	Jun 08	Α
CAL241	Calibration of Megger BM14 - 2.5kv/5kv Insulation Tester	1	Jun 08	Α
CAL242	Calibration of Beckman Digital Capacitance Meter	1	Jun 08	Α
CAL243	Calibration of Eurotherm Millivolt Source	1	Jun 08	Α
CAL244	Calibration of Comark Digital Thermometers	1	Jun 08	Α
CAL245	Calibration of Kane-May Digital Thermometers	1	Jun 08	Α
CAL246	Calibration of Metrohm Digital Insulation and Continuity Tester	1	Jun 08	Α
CAL247	Calibration of Biccotest 40KV D.C. Test Set	1	Jun 08	Α
CAL248	Calibration of Temperature Test Sets	1	Jun 08	Α
CAL249	Calibration of GEC Precision D.C. Voltmeter 0 – 1500V	1	Jun 08	Α
CAL250	Calibration of Megger BM7 – 500 Insulation and Continuity Tester	1	Jun 08	Α
CAL251	Calibration of Megger BM6 Insulation and Continuity Tester	1	Jun 08	Α
CAL252	Calibration of Kane-May 3003 Digital Thermometers	1	Jun 08	Α
CAL253	Calibration of Weir 6 Inch D.C. Voltmeter 0 – 50V	1	Jun 08	А
CAL254	Calibration of Weir 6 Inch D.C. Ammeter - Mv Meter Range 200A - 150mv	1	Jun 08	Α
CAL255	Calibration of Weir 6 Inch D.C. Ammeter with Internal Shunt 0 –150A -100mv Movement	1	Jun 08	Α
CAL256	Calibration of Elliott D.C. Portable Ammeter 1000A-75mv and Shunt	1	Jun 08	А

# 4.18 RAIL MOUNTED VEHICLE & PLANT

NR/L3/MTC/ME201/	Title	Issue	Issue Date	Price
CAL257	Calibration of Hatfield L.M.S. Type 1008A	1	Jun 08	Α
CAL258	Calibration of Megger MJ4-2 Insulation and Continuity Tester	1	Jun 08	Α
CAL259	Calibration of Megger Series 4 Insulation and Continuity Tester	1	Jun 08	Α
CAL260	Calibration of Kane-May 451 Digital Thermometers	1	Jun 08	Α
CAL261	Calibration of Kent Moore Four Probe Digital Thermometer	1	Jun 08	Α
CAL262	Calibration of Norbar Torque Wrench	1	Jun 08	Α
CAL263	Calibration of GTRM 25kv Overhead Live Line Tester	1	Jun 08	Α
CAL264	Calibration of Ferranti Rail Type Multirange Clip-On Ammeter 0 to 500 A.A.C.	1	Jun 08	Α
CAL265	Calibration of Optical Height and Stagger Gauge	1	Jun 08	Α
CAL266	Calibration of Amprobe A.C. Clampmeter	1	Jun 08	Α
CAL267	Calibration of D.C. Ammeter - Mv Range 0–5000A - 83–3mv	1	Jun 08	Α
CAL268	Calibration of Megger D201 Ducter Digital Ohm Meter (20 Ohm)	1	Jun 08	Α
CAL269	Calibration of Kane-May Dependatherm Analogue Thermometer Type MRC - 2	1	Jun 08	Α
CAL270	Calibration of B.E.H.A. Digital Thermometer	1	Jun 08	Α
CAL271	Calibration of Metertech Digital Capacitance Meter	1	Jun 08	Α
CAL272	Calibration of Weir 6 Inch Analogue D.C. Ammeter 0 – 10 Amp	1	Jun 08	Α
CAL273	Calibration of Shunts	1	Jun 08	Α
CAL274	Calibration of Megger D007 Analogue Ducter Ohm Mete	1	Jun 08	Α
CAL275	Calibration of Kane-May 3000 Digital Thermometer	1	Jun 08	Α
CAL276	Calibration of Ferranti Panel Mounted Meter 0 – 100ma - 50Hz	1	Jun 08	Α
CAL277	Calibration of Ferranti Panel Mounted Meter 0 – 10 - 40kv 50 Hz - Fitted to Glove Test Set	1	Jun 08	Α
CAL278	Calibration of R.S. Digital Thermometers	1	Jun 08	Α
CAL279	Calibration of Megger D201 Ducter Digital OHM Meter - 0 – 60 Ohms	1	Jun 08	Α
CAL281	Calibration of Kane-May 450S Digital Thermometers	1	Jun 08	Α
ÇAL282	Calibration of Vixen Digital Thermometers	1	Jun 08	A
CAL283	Calibration of BM100 Series Insulation and Continuity Testers	1	Jun 08	Α
CAL284	Calibration of Levell TM3A - TM3B A.C. Microvoltmeter	1	Jun 08	A
CAL285	Calibration of Megger PAT 2-2 Portable Appliance Tester	1	Jun 08	A
CAL286	Calibration of Megger BM200 Series Insulation and Continuity Tester.d	1	Jun 08	A
CAL287	Calibration of Megger PAT 101 Portable Appliance Tester	1	Jun 08	Α
CAL288	Calibration of Metrohm 16D Series Digital Insulation and Continuity Testers	1	Jun 08	Α
CAL289	Calibration of Megger WM5-WM6 Insulation and Continuity Tester	1	Jun 08	A
CAL290	Calibration of Robin 3131 Insulation and Continuity Tester	1	Jun 08	A
CAL291	Calibration of Megger PAT 32 Portable Appliance Tester	1	Jun 08	A
CAL291	Calibration of Metrohm PAT D210 - 2 or Metrotest mpAT - 30 Portable Appliance Tester	1	Jun 08	A
CAL293		1	Jun 08	A
CAL293	Calibration of Megger BM400 Series Insulation and Continuity Tester  Calibration of Robin 3228K Digital Thermometer	1	Jun 08	A
CAL294 CAL295	Calibration of Megger DET5 - 2D Earth Tester	1	Jun 08	A
CAL293	Calibration of Rhopoint Milliohmmeter Model M210	1	Jun 08	A
CAL297 CAL298	Calibration of Megger BMD3 Insulation and Continuity Tester	1	Jun 08	A
CAL298 CAL299	Calibration of Megger BM80 Series Digital Insulation and Continuity Testers	1	Jun 08	A
CAL300	Calibration of Megger MJ10 Insulation and Continuity Tester	1	Jun 08	A
CAL300	Calibration of 0 – 1 Inch and 0 – 25mm External Micrometers	1	Jun 08	A
CAL301 CAL302	Calibration of Robin Kmp Series Digital PSC Loop Tester	1	Jun 08	A
CAL302 CAL304	Calibration of Metrohm Digital P-E Loop Testers	1	Jun 08	A
CAL304 CAL305	Calibration of Metrohm Analogue P-E Loop Tester	1	Jun 08	A
CAL306	Calibration of RS Digital Pocket Thermometer	1	Jun 08	Α
CAL307 CAL308	Calibration of Robin 3131 Insulation & Continuity Tester	1	Jun 08	A
	Calibration of Megger LT7 Digital Loop Tester	1	Jun 08	
CAL309	Calibration of Track Circuit Shunt Resistor Box 0 – 11 Ohm		Jun 08	Α
CAL311	Calibration of a Conductor Rail Test Lamp	1	Jun 08	Α
NR/L3/RMVP/0201/	Title	Issue	Issue Date	D

NR/L3/RMVP/0201/	Title	Issue	Issue Date	Price
CAL211	Calibration of Laser Height and Stagger Gauges	1	Sep 11	Α
CAL400	Calibration of Track Welder Nibbed Straight Edges	1	Mar 11	Α
CAL401	Calibration of Electrode Drying Ovens	1	Mar 11	Α
CAL402	Calibration of AC Electromagnets and Permanent Magnets	1	Mar 11	Α
CAL403	Calibration of Engineers Squares	1	Mar 11	Α
CAL404	Calibration of Metric Feeler Gauges	1	Mar 11	Α
CAL405	Calibration of Rail Depth Gauges	1	Mar 11	Α

NR/L3/RMVP/0201/	Title	Issue	Issue Date	Price
CAL406	Calibration of Starrett Taper Gauges	1	Mar 11	Α
CAL407	Calibration of Lawton Tools Combination Gauge and TW(GB) Ltd Cut-Out/200mm Edges	1	Mar 11	А
CAL408	Calibration of Weld Inspection Gauges	1	Mar 11	Α
CAL409	Calibration of Rail Depth Gauge Validation Blocks	1	Mar 11	Α
CAL410	Calibration of Rail Head Repair Depth Gauges	1	Mar 11	Α
CAL411	Calibration of Thermit Preheaters (Propane, Acetylene)	1	Sep 11	А
CAL501	Calibration of Oxy-Fuel Gas Equipment	2	Sep 11	D
CAL601	Calibration of CB87 Ultrasonic Calibration Block	1	Sep 11	А
CAL602	Calibration of CB91 Ultrasonic Calibration Block	1	Sep 11	А
CAL603	Calibration of STD2 Ultrasonic Reference Rail	1	Sep 11	Α
CAL604	Calibration of STD3 Ultrasonic Calibration Block	1	Sep 11	А
CAL605	Calibration of Ultrasonic Flaw Detectors	1	Sep 11	В
CAL606	Calibration of Ultrasonic Transducers	1	Sep 11	В
CAL608	Calibration of Sperry RSU-RTS Pump Gauge	1	Sep 11	А
CAL609	Visual Inspection of Ultrasonic Calibration Blocks	1	Sep 11	А
CAL610	Functional Check of Hand Held GPS Receiver	1	Sep 11	В
CAL611	Calibration of Ultrasonic Thickness Meters	1	Sep 11	Α

NR/L3/RMVP/1006	Technical Audit Procedure for Plant and Traction and Rolling	Compliance	Replaces
	Stock Issue 2; Jun 18	01/09/18	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.

Price: D

NR/L3/RMVP/40028	Core Maintenance for Traversers Issue 2; Sep 18	Compliance	Replaces
		01/12/18	RT/E/S/40028 lss 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.

Price: C

NR/L3/RMVP/40031	Core Maintenance for Wheel/Bogie Drops Issue 2; Sep 18	Compliance	Replaces
		01/12/18	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.

Price: C

# Guidance Notes (including Codes of Practice)

RT/E/C/27035 Depot Protection Equipment List (formerly CP-PM-023) Issue Com	ompliance R	Replaces
1; Dec 04 NA	4	

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

Price: D

NR/GN/RMVP/27700	Plant Product Introduction Process Issue 1; Jun 17	Compliance	Replaces
		NA	New at Issue 104

The purpose of this guidance note is to:

- provide best practice for capturing and delivering the required function and purpose of plant products;
- indicate where to find the relevant standards, controls and processes required for compliant and effective introduction of plant products;
- · provide reference to additional information sources that might support the development of further best practice.

## 4.19 SAFETY & COMPLIANCE

## 4.19.1 Accident Investigation

NR/L2/INV/002	Accident and Incident Reporting and Investigation	Compliance	Replaces
	Issue 13; Dec 11	03/03/12	NR/L2/INV/002 Iss 12; Sep 10

The purpose of this Network Rail standard is to mandate the use of the Reporting and Investigation Manual:

Price: C

NR/L3/INV/3001	Reporting and Investigation Manual Issue 5; Jun 16	Compliance	Replaces
		04/06/16	NR/L3/INV/3001 Iss 4; Mar 15

The purpose of this Network Rail standard is to specify the requirements and guidance for the reporting and investigation of accidents and incidents.

Price: B Standard only; Complete, Phone

See below for details of modules and individual pricing

Additional Excel Content Available: Phone

NR/L3/INV/3001/	Title	Issue	Issue Date	Price
RIM101	Reporting of Accidents, Incidents and Occupational III Health	3	Mar 2015	D; + Excel, Phone
RIM102	Reporting of Accidents, Incidents and Occupational III Health to SMIS	1	Dec 2011	С
RIM106	Communicating With Outside Parties on Accidents and Incidents	1	Dec 2011	A
RIM110	Irregular Working – Reporting and Risk Ranking	1	Dec 2011	С
RIM113	Statutory Reporting of Accidents, Incidents and Occupational III Health	1	Dec 2011	D
RIM114	Advising Safety Representatives of Accidents and Incidents	1	Dec 2011	В
RIM115	Network Rail and National Safety Authority (ORR) Interface and Liaison Arrangements	2	Mar 2012	В
RIM116	Reporting of and Responding to Enforcement Action	3	Jun 2016	С
RIM117	Management of Recommendations from ORR Inspection Plan Reports	1	Dec 2011	С
RIM201	Deciding the Lead Organisation and Level of Investigation	2	Dec 2014	С
RIM202	External Agency Investigations	1	Dec 2011	С
RIM205	Network Rail Led Investigations	2	Dec 2014	D
RIM206	Investigations Led by Other Railway Group Members	1	Dec 2011	В
RIM301	Tracking of Investigations, Recommendations and Local Actions	1	Dec 2011	С
RIM302	Management of Recommendations and Local Actions	1	Dec 2011	D

#### 4.19.2 Assurance

#### Level 2

NR/L2/ASR/036	Network Rail Assurance Framework Issue 5; Dec 17	Compliance	Replaces
		03/03/18	NR/SP/ASR/036 Issue 4; Apr 07

This specification describes the framework through which:

- it is confirmed that the risk controls defined in company standards and control documents are well designed and implemented as planned;
- the outputs from these assurance activities are analysed and reviewed;
- action is taken to improve risk controls and the assurance activities.

Price: C

## 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.

Price: B

NR/L1/HSS/00126	Prevention Through Engineering and Design (PtED) Policy	Compliance	Replaces
	Issue 1; Dec 16	04/12/17	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.

Price: C

	mpliance Replaces 12/15 NR/L2/HSS/020 Iss 9; Mar 09
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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.

Price: C

#### 4.19.4 Occupational Health & Safety

## **Company Standards**

NR/CS/OHS/002 Policy on Working Safely Issue 1; Feb 07 Compliance Replaces 07/04/07

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.

Price: B

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.

Price: B

### **Specifications (including Procedures)**

NR/SP/OHS/501 Replaces Track Warning Systems Issue 1; Aug 05

The purpose of this document is to mandate the requirements for the safe use of Track Warning Systems on Network Rail controlled infrastructure.

Price: F

NR/SP/OHS/00114 Specialist Risk Assessment - Hand Arm Vibration Compliance Replaces 07/04/07 Issue 1: Aug 06

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.

Price: C

NR/SP/OHS/00122 Specialist Risk Assessment - Workplace Noise Compliance Replaces Issue 1; Aug 06 07/04/07

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.

Price: D

RT/CE/S/069 Lineside Facilities For Personal Safety Issue 2; Feb 05 Replaces RT/CE/S/069 Iss 1; Dec 98

This specification has two purposes:

- to set out the design, construction and maintenance requirements for facilities providing access onto, along and across the track for persons whose duties require them to be on or near the line:
- to give the criteria for the provision of these facilities, in terms of linespeed and number of tracks.

Price: C

NR/L1/OHS/051 Drugs and Alcohol Policy Issue 6; Dec 15 Compliance Replaces 05/03/16 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.

Price: C

NR/L1/OHS/210 **Management of Occupational Road Risk Policy** Compliance Replaces Issue 1: Mar 17 New at Issue 103

The implementation of this policy contributes to:

- achieving a high standard of safety and risk management for Network Rail's road vehicle fleet and authorised drivers;
- providing information to employees, contractors and suppliers on what actions are needed to reduce or remove road risk on business iournevs:
- the avoidance of unnecessary journeys made by road; and
- Network Rail's goal of making sure that everyone gets home safely every day.

Price: C

NR/L2/OHS/003	Fatigue Risk Management (formely NR/L2/ERG/003)	Compliance	Replaces
	Issue 6; Jun 18	29/10/2022	NR/L2/ERG/003 Iss 5; Jun 11

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.

Price: C Standard only; Complete, D See below for details of modules and individual pricing

NR/L2/OHS/003/	Title	Issue	Issue Date	Price
01	Fatigue Risk Index Principles	1	Jun 2018	С

NR/L2/OHS/005	"High Street" Environment & Conditions for Work Outside	Compliance	Replaces
	Network Rail Managed Infrastructure Issue 7: Sep 10	04/12/10	RT/LS/P/005 Iss 5: Apr 05
			(Iss 6 withdrawn, unpublished)

The purpose of this standard is to specify the requirements for the segregation of work activities on, or adjacent to, Network Rail Managed Infrastructure (NRMI) from railway operations. This allows work to take place without the necessity to apply the specific control measures associated with the operational railway (i.e. in a "High Street" environment), but in doing so requires other controls and a controlled environment.

Price: C

NR/L2/OHS/019	Safety of People Working on or Near the Line Issue 9; Mar 17	Compliance	Replaces
		03/07/17	NR/L2/OHS/019 Iss 8; Sep 10
			NR/L2/OHS/133 Iss 1; Mar 15

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".

Price: D Standard only; Complete, E See below for details of modules and individual pricing

NR/L2/OHS/019/	Title	Issue	Issue Date	Price
01	Planning and Working During Incident Response	1	Mar 2017	В
02	Planning and Working in a Possession	1	Mar 2017	С
03	Planning and Working Using Protection Arrangements	1	Mar 2017	С
04	Planning and Working Using Warning Arrangements	1	Mar 2017	В
BRIEFING	Briefing	1	Dec 2016	Α

NR/L2/OHS/020	Track Visitor Permits Issue 5; Aug 08	Compliance	Replaces
NK/LZ/UH3/UZU	Track visitor Fermits issue 5, Aug 06	Compliance	Replaces
		01/12/08	RT/LS/S/020 Iss 4: Feb 05
		01/12/00	K 1/L3/3/020 ISS 4. FED 03

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.

Price: B

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
		00,00,00	

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

Price: B

NR/L2/OHS/022	Working Safely at Height Issue 1; Sep 10	Compliance	Replaces
		04/03/12	New at Issue 77

This standard defines the processes to be followed within Network Rail to enable employees who design, plan, manage and carry out work at heights to do so safely, and within the requirements of the relevant legislation.

This standard 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.

The procedure also requires designers of equipment and structures, that may require work at height during their construction, operation, maintenance or demolition, who are evaluating the hazards and risks within their designs to apply the principle of "Safety by Design" as enshrined in the Construction Design and Management Regulations 2007.

Price: D

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
		=0,01,11	

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

Price: E

NR/L2/OHS/0047	Application of the Construction (Design and Management)	Compliance	Replaces
	Regulations to Network Rail Construction Projects Issue 6; Jun 15	06/06/15	NR/L2/INI/CP0047 Iss 5; Jun 14

The purpose of this standard is to outline the requirements to be implemented by Network Rail to discharge its duties under the Construction (Design and Management) Regulations.

Price: D Standard only; Complete, E See below for details of modules and individual pricing

NR/L2/OHS/0047/	Title	Issue	Issue Date	Price
AB	Awareness Briefing	1	Jun 2015	D
ТВ	Technical Briefing	1	Jun 2015	D

NR/L2/OHS/050	Sentinel Scheme Rules Issue 4; Mar 11	Compliance	Replaces
		04/06/11	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

Price: D (Contains NR/BS/LI/326)

NR/L2/OHS/052	Traumatic Incident Management Issue 1; Jun 16	Compliance	Replaces
		03/09/16	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.

Price: C

NR/L2/OHS/053	Assessing the Risk of Stress in the Workplace	Compliance	Replaces
	Issue 1; Jun 16	03/09/16	New at Issue 100

This standard is designed to:

- a. provide an effective and consistent process for how Network Rail manages the risk of stress in the workplace; and
- b. control and manage the risk of stress in the workplace to protect the health and wellbeing of employees.

Price: C

NR/L2/OHS/00102	Work Activity Risk Assessments Issue 5; Jun 17	Compliance	Replaces
		02/09/17	NR/SP/OHS/00102 lss 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

Price: D

NR/L2/OHS/00103	Specialist Risk Assessment COSHH Issue 3; Mar 09	Compliance	Replaces
		06/06/09	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.

Price: C

NR/L2/OHS/00106	Management of Manual Handling Risk Issue 3; Jun 18	Compliance	Replaces
		01/09/2018	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

Price: D

NR/L2/OHS/00107	Management Procedure - Display Screen Equipment	Compliance	Replaces
	Issue 3; Jun 10	05/06/10	NR/SP/OHS/00107 lss 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	Replaces
		03/03/18	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.

Additional Excel Content Available: Phone

NR/L2/OHS/00112	Worksafe Procedure Issue 2; Dec 09	Compliance 05/12/09	Replaces NR/SP/OHS/00112
			lss 1; Jun 06

This document details the process by which Network Rail provides a method for employees to deal with immediate safety problems. It is designed to give employees confidence that if they question the safety of working systems their views will be given serious consideration by the organisation and they will not face recriminations. It requires work stops and the system is changed, if potential or imminent serious risk of accident or incident arises.

Price: B

NR/L2/OHS/00113	Health Surveillance and Management of Diagnoses for Hand-	Compliance	Replaces
	Arm Vibration Syndrome Issue 5; Mar 16	04/06/16	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.

Price: D

NR/L2/OHS/00117	Specialist Risk Assessment – New and Expectant Mothers	Compliance	Replaces
	Issue 2; Mar 10	05/06/10	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.

Price: D

NR/L2/OHS/00120	Testing for Drugs and Alcohol Issue 5; Dec 15	Compliance	Replaces
		05/03/16	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.

Price: D

NR/L2/OHS/00123	Health Screening and Health Surveillance for Noise Induced	Compliance	Replaces
	Hearing Loss Issue 1; Mar 08	01/03/09	

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.

Price: C

NR/L2/OHS/00124	Competence Specific Medical Fitness Requirements and	Compliance	Replaces
	Occupational Health Provider Requirements for Medical	04/03/17	See below
	Assessments Issue 3; Dec 16		

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.

Price: D

NR/L2/OHS/157	Health Surveillance for Silica and Asbestos and the	Compliance	Replaces
	Management of Diagnosed Occupational Respiratory	03/06/17	New at Issue 103
	Conditions Issue 1; Mar 17		

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

#### Level 3

NR/L3/OHS/019-IP	Planning and Delivering Safe Work - Implementation	Compliance	Replaces
	Principles for Infrastructure Projects Issue 1; Jun 18	24/09/18	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.

Price: D

NR/L3/OHS/0046	The Reporting, Investigation and Recording of Safety and	Compliance	Replaces
	Sustainable Development Events and Close Calls within	01/09/18	NR/L3/INI/CP0046 lss 2; Jun 11
	Infrastructure Projects Issue 3; Jun 18		

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.

Price: D

NR/L3/OHS/00125	Specialist Risk Assessment - COSHH for Functions other	Compliance	Replaces
	than Maintenance, Operations and Customer Services and	06/06/09	New at Issue 71
	the National Delivery Service (NDS) Issue 1; Mar 09		

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.

Price: B

NR/L3/OHS/133	Planning and Delivering Safe Work Using Proscient in the	Compliance	Replaces
	East Midlands Issue 1; Jun 17	02/09/17	New at Issue 104

Implementing the permit to work system described in this standard, will support Network Rail Infrastructure Projects East Midlands (IPEM) in reducing incidents and accidents by:

- increasing clarity associated with responsibilities;
- enhancing the planning process by involving those delivering the work; and
- reducing the number of uncontrolled or late changes to the plan.

Price: D

NR/L3/OHS/MTC/0150 Specialist Risk Assessment - COSHH for Infrastructure	Compliance	Replaces
Maintenance Issue 3; Mar 09	07/03/09	NR/L2/MTC/SE0150
		lss 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.

Price: C

NR/L3/OHS/NDS/301	Specialist Risk Assessment - COSHH For NDS	Compliance	Replaces
	Issue 1; Mar 09	06/06/09	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.

Price: C

### 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.

### Specifications (including Procedures)

NR/SP/SIG/02023 Requirements for TASS Infrastructure – System Design Issue 2; Dec 05

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'.

Price: F

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".

Price: D

NR/SP/SIG/10040 IECC Applications Manual Contents Issue 8; Dec 06

Issue 2; Oct 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.

Price: D

NR/SP/SIG/11130 Requirements for the Provision of SPAD Alarms at Signalling Control Centres

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.

Price: C

NR/SP/SIG/19253 Westinghouse Signals Style 63 Point Machine (Sigwen 002)

Issue 3; Jun 07 02/06/07 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

Price: C

NR/SP/SIG/19812

Cross Track Cable Management Issue 1; Feb 07

Compliance

Replaces

01/04/07

The purpose of this specification is to provide details of the requirements for cross track cable management.

Price: D

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 lss 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.

Price: D

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.

Price: D

NR/SP/SIG/50004

Methodology for the Demonstration of Electrical Compatibility with DC (ACimmune) 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.

Price: D

Copyright Network Rail

NR/SP/SIG/50006 Methodology for the Demonstration of Compatibility with 50Hz Double Rail Replaces Track Circuits Issue 1; Apr 06

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.

Price: D

NR/SP/SIG/50011 Methodology for the Demonstration of Electrical Compatibility with Axle Replaces Counters Issue 1; Apr 06

The purpose of this document is to provide a methodology for the demonstration of electromagnetic compatibility of rolling stock with Axle Counters installed on Network Rail controlled infrastructure.

Price: F

NR/SP/SIG/50012 Methodology for the Demonstration of Compatibility with TPWS Trackside Replaces RT/E/C/50012 Iss 1; Feb 03 Equipment Issue 2: Apr 06

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.

Price: C

NR/SP/SIG/50015 Methodology for the Demonstration of Compatibility with Reed FDM Systems Replaces on the AC and DC Railways Issue 2; Feb 07 RT/E/C/50015 Iss 1; Feb 03

The purpose of this document is to provide a methodology to demonstrate compatibility with reed FDM systems installed on the AC and DC electrified railway on Network Rail controlled infrastructure.

Price: D

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.

Price: C

RT/E/P/10024 Signaller's Operating Guide for the use of the IECC Signalling Workstation Replaces Issue 4; Aug 04 RT/E/P/10024 Iss 3; Aug 03

This document is the signaller's operating guide for the Integrated Electronic Control Centre (IECC).

Price: E

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.

Price. E

RT/E/S/02026 Requirements for the Provision and Management of TASS Infrastructure Data Replaces Issue 1; Jun 05

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.

Price: E

RT/E/S/10029 Operation and Maintenance of Non-intrusive Earth Leakage Test Adapter for Replaces Reed FDM Systems Produced to Specification EDS 01/96 MOD State 3 Issue 1; Aug 98

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.

Price: C

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.

SIG **Specs** 

RT/E/S/10062 Requirement Specification for Performance of Long Range Colour Light Replaces Signals Issue 1; Aug 99

This specification is for the performance requirements of long range colour light signals.

Price: D

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

Price: D

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.

Price: B

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.

Price: C

RT/E/S/10083 Preventative and Corrective Maintenance of Mechanical Signalling Wire Runs Replaces and Rodding Issue 1; Dec 97

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.

Price: C

RT/E/S/10110 Requirement Specification for Performance of Position Light Signals Replaces Issue 1; Aug 99

This specification is for the performance requirements of position light signals

Price: D

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

This document specifies the requirements for SL35 filament lamps used with the Long Range Colour Light Signals.

Price: C

RT/E/S/10131 Requirement Specification for "Signals On" Controls for SSI Schemes 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).

Price: C

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.

Price: F

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.

SIG Specs

RT/E/S/10137 TPWS - Selection of Signals and Other Locations for Provision of Track Sub-Replaces

system Issue 3; Apr 04 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.

Price: F (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).

Price: E (Contains TI 022)

Additional Excel Content Available: Phone

RT/E/S/10178 TPWS in Areas Where the Control of Train Movements is by RETB Signalling Replaces

Issue 1: Apr 04

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).

Price: F

RT/E/S/11752 Train Detection Issue 2; Aug 01 Replaces

RT/E/S/11752 Iss 1; Dec 00

RT/E/S/10002

This specification gives the necessary requirements for train detection systems to satisfy the mandatory requirements laid down in GK/RT0011.

Price: Phone

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.

Price: D

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.

Price: C

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.

Price: D

RT/E/S/17504 IECC Operating Specification for Signalling Control and Indications Purposes Replaces

Issue 3; Dec 03 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.

Price: F

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.

Price: D

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### **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.

Price: C

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.

Price: C

NR/SPEC/1003 **Overlay Miniature Stop Light Equipment Specification** Issue 1; Jun 15

Compliance

05/09/15

Replaces New at Issue 96

This document specifies the product acceptance criteria for the Overlay Miniature Stop Light system for use at user worked, footpath and bridleway level crossings. the design of signalling works applicable to the infrastructure;

Price: C

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.

Price: C

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.

Price: D

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.

Price: F

RT/E/PS/00011

Train Protection and Warning System (TPWS) - Failure Indication Unit

Replaces

Issue 1: Apr 01

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.

Price: C

RT/E/PS/00012

Specification for the Preparation and Implementation of Train Describer

Replaces

System Parameter Tables Issue 1; Aug 01

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.

Price: F

RT/E/PS/00032

TPWS Self Powered Overspeed Sensor (SPOSS) Battery Procurement

Replaces

Specification Issue 1: Dec 03

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).

Price: B

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.

SIG Prod Specs

#### 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.

Price: E

### 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.

Price: E

#### 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.

Price: F

### 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.

Price: F

### 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.

Price: E

### 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.

Price: E

#### RT/E/PS/11764 Track Circuit Interrupters Issue 1; Dec 00

Replaces

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.

Price: C

## 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.

Price: E

#### RT/E/S/10015 Rail Cla

Rail Clamp Point Lock Performance Specification for the Microswitch with

Replaces

Independent Contacts Issue 1; Feb 98

This standard defines the performance requirements for microswitches with independent contacts used in rail point clamp lock detection circuitry.

Price: C

### 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.

Price: D

## RT/E/S/10041 Requirement Specification for an IECC System Monitor Terminal

Replaces

Issue 1; Dec 99

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 Replaces
Issue 1; Aug 98

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.

Price: C

RT/E/S/10065 Requirement Specification for a Barrier Operation Relay for L.C. Barriers Replaces
Issue 1: Feb 99

This specification identifies the requirements for a barrier operation relay (24V dc working) for controlling level crossing barriers.

Price: D

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.

Price: D

#### Level 1

NR/L1/SIG/30040EMC Strategy for Network RailIssue 1; Aug 08ComplianceReplacesNR/L1/RSE/30040EMC Strategy for Network Rail01/12/08New at Issue 69

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

Price: C

 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.

Price: D Standard only; Complete, F See below for details of modules and individual pricing

NR/L1/SIG/50021	Module	Issue	Issue Date	Price
01	Workbank Planning	1	Jun 2016	D
02	Technology	2	Dec 2016	D
03	Maintenance	1	Jun 2016	С
04	Environmental and Social Performance	1	Jun 2016	В

#### 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.

Price: C

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.

Price: B

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.

Price: C Additional Excel Content Available: Phone

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NR/L2/SIG/10028	Inspection of Signal Engineering Maintenance Assests	Compliance	Replaces
	Issue 7; Dec 15	05/03/16	NR/L2/SIG/10028 lss 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.

Price: F

NR/L2/SIG/10047	Management of Safety Related Reports for Signalling and	Compliance	Replaces
	Telecoms Failures Issue 16; Jun 17	02/09/17	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

Price: C

NR/L2/SIG/10157	Signal Sighting Assessment Process Issue 3; Mar 17	Compliance	Replaces
		03/04/17	NR/L2/SIG/10157 Iss 2: Aug 08

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.

Price: D

NR/L2/SIG/10158	Specification for Signal Sighting Assessment Issue 1; Mar 17	Compliance	Replaces
		03/04/17	NR/L2/SIG/10157 Iss 2; Aug 08

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.

Price: E

NR/L2/SIG/10160	Signal Engineering: Implementation of IRSE Licensing	Compliance	Replaces
	Scheme - the Route to Competence Issue 2; Sep 11	03/09/11	RT/E/P/10160 lss 1; Apr 04

This standard sets out the requirement for the mandatory application of the IRSE Licensing Scheme to Network Rail's own engineers and technicians as well as those of its contractors and/or consultants.

Price: C

NR/L2/SIG/10173	TPWS – Track Sub-system Installation Requirements	Compliance	Replaces
	Issue 4; Aug 08	26/08/08	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).

Price: F

NR/L2/SIG/11010	Management of Signalling and Communication Systems	Compliance	Replaces
	Issue 3: Sep 11	03/09/11	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.

Price: B

NR/L2/SIG/11107	Silver Migration Issue 4; Mar 12	Compliance	Replaces
		03/03/12	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.

Price: C

NR/L2/SIG/11120	Process for Management of Signal Engineering Technical	Compliance	Replaces
	Instructions and Notice Boards Issue 10: Aug 08	26/08/08	RT/F/P/11120 Iss 9: Feb 05

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.

Price: C

NR/L2/SIG/11129 Life Management of Signalling Relays, Searchlight and Banner Signals Issue 6; Sep 11 Compliance 30/09/2014 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.

Price: D

 NR/L2/SIG/11201
 Signalling Design Handbook Issue 11; Jun 18
 Compliance 01/12/2018
 Replaces NR/L2/SIG/11201 Iss 10; Jun 15

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

Price: C Standard only; Complete, Phone See below for details of modules and individual pricing

NR/L2/SIG/11201/	Title	Issue	Issue Date	Price
Protocol	Signalling – Design Policy	1	Jun 2018	С
Mod A1-1	Competency	1	Jun 2018	В
Mod A1-2	Signalling Design- Overview	1	Jun 2018	С
Mod A1-3	Signalling Design Specifications	1	Jun 2018	С
Mod A2-1	Design Media	1	Jun 2018	В
Mod A2-2	Drawing Techniques	1	Jun 2018	В
Mod A2-3	Design Drawing Control	1	Jun 2018	С
Mod A2-4	Configuration Control (Including Title Blocks & Indexing)	1	Jun 2018	D
Mod A2-5	Source Records- Ordering & Return	1	Jun 2018	В
Mod A2-6	Source Records 'Update	1	Jun 2018	В
Mod A2-7	Source Records 'As Built' Technical Review	1	Jun 2018	В
Mod A2-8	Design Presentation & Conventions	1	Jun 2018	С
Mod A2-9	Functionally Equivalent Design	1	Jun 2018	D
Mod A2-10	Signalling Design Production Process	1	Jun 2018	С
Mod A2-11	Certification & Verification Process	1	Jun 2018	С
Mod A2-12	Overlapping & Parallel Design	1	Jun 2018	D
Mod A2-13	Signalling Stageworks & Partially Commissioned Design Work	1	Jun 2018	В
Mod A2-14	Design Logs	1	Jun 2018	В
Mod A2-16	Dependability (Including RAMS)	1	Jun 2018	В
Mod A2-17	Risk Assessments & Safety System	1	Jun 2018	С
Mod A2-19	Assessment of Signalling Systems before Signalling Design Alterations	1	Jun 2018	В
Mod A2-20	Correlation of Signalling Records	1	Jun 2018	С
Mod A2-21	Design Modifications	1	Jun 2018	С
Mod A2-23	Recovery of Redundant Assets	1	Jun 2018	С
Mod A2-24	Data Systems	1	Jun 2018	В
Mod A2-25	SSI Systems	1	Jun 2018	В
Mod A2-26	IECC Data Systems	1	Jun 2018	С
Mod A2-27	Intelligent Infrastructure	1	Jun 2018	С
Mod A3-1	Operating Requirements Review	1	Jun 2018	В
Mod A3-2	Project Requirements for Signalling Schemes	1	Jun 2018	С
Mod A3-3	Signalling Scheme Plans	1	Jun 2018	E
Mod A3-4	Equipment Identity Grids	1	Jun 2018	В
Mod A3-5	Signal Spacing Parameters	1	Jun 2018	В
Mod A3-6	Aspect Sequence charts	1	Jun 2018	В
Mod A3-7	Signal Sighting	1	Jun 2018	В
Mod A3-10	Signalling Scheme Plans Best Practice	1	Jun 2018	В
Mod A4-2	Signalling Plan & Signal Box Notes (including GFs and Level Crossings)	1	Jun 2018	С
Mod A4-3	Location Area Plan & Cable Route Plan	1	Jun 2018	В
Mod A4-4	Bonding Plans	1	Jun 2018	В
Mod A4-5	Switch and Crossing (S&C) Plans	1	Jun 2018	В
Mod A4-6	Cable Plans & Power Schematic Plans	1	Jun 2018	С
Mod A4-7	Mechanical Locking & Mechanical Engineering Detail	1	Jun 2018	В

NR/L2/SIG/11201/	Title	Issue	Issue Date	Price
Mod A4-8	Signal Box, Interlocking & Lineside Location Circuits	1	Jun 2018	Е
Mod A4-9	Electronic Systems	1	Jun 2018	В
Mod A4-10	Operation and Maintenance Details	1	Jun 2018	В
Mod A5-1	Symbols for Plans and Sketches used in Signalling Applications	1	Jun 2018	D
Mod A5-2	Symbols for Signalling Circuit Diagrams	1	Jun 2018	D
Mod A5-3	Signalling Design Control tables	1	Jun 2018	D
Mod A5-3/Appendix A	Conventions, General Notes, Dollar Notes and Signallers Route Lists	1	Jun 2018	D
Mod A5-3/Appendix B	RRI Signal and aspect control tables	1	Jun 2018	С
Mod A5-3/Appendix C	RRI point and ground frame control tables	1	Jun 2018	С
Mod A5-3/Appendix D	Control tables for level crossings	1	Jun 2018	D
Mod A5-3/Appendix E	Control tables for train warning and protection systems	1	Jun 2018	С
Mod A5-3/Appendix F	Control Tables For Staff Protection Systems (TOWS)	1	Jun 2018	В
Mod A5-3/Appendix G	Control Tables For Block Systems & Electro-mechanical	1	Jun 2018	С
Mod A5-3/Appendix H	SSI Control Tables	1	Jun 2018	E
Mod A5-3/Appendix J	SIMIS – W Control Tables	1	Jun 2018	С
Mod A5-3/Appendix K	Signalling Control Tables – MCB-OD Level Crossings	1	Jun 2018	С
Mod A5-4	Definitions	1	Jun 2018	D
Mod A5-4	Signalling Control Centres	1	Jun 2018	Phone
Mod A5-6	CAD Cell Library	1	Jun 2018	C
Mod B1	Circuits - General Introduction	5	Jun 2018	В
Mod B2	Safety Hazards	5	Jun 2018	В
Mod B3	Circuits - General	7	Jun 2018	D
Mod B4	Circuits – Fusing & Looping of Signalling Circuits	5	Jun 2018	С
Mod B5	Circuits – Electromagnetic Compatibility of Electronic Equipment	5	Jun 2018	С
Mod B6	Circuits – Insulation and Earthing for Occupational Safety	5	Jun 2018	С
Mod B7	Interlockings – General	7	Jun 2018	F
Mod B8	Interlockings – Lever Frame Interlocking Guidelines	5	Jun 2018	D
Mod B9	Interlockings – Free-Wired Route Setting Interlocking Guidelines	5	Jun 2018	D
Mod B10	Interlockings – Geographical Relay Interlocking Guidelines	5	Jun 2018	D
Mod B11	Interlockings – Electronic Interlocking Guidelines	5	Jun 2018	С
Mod B12	Transmission Systems - (Cable terminations & Cable routes)	5	Jun 2018	D
Mod B13	Points - General	5	Jun 2018	С
Mod B17	Signals – General	5	Jun 2018	С
Mod B19	Signals – Relay Circuits	5	Jun 2018	С
Mod X01	Level Crossings - General	1	Sep 2011	С
Mod X02	Level Crossings - Common Design Requirements	2	Jun 2012	D
Mod X10	Level Crossings - Automatic Half Barriers (AHB)	1	Sep 2011	С
Mod X11	Level Crossings - Automatic Barrier Crossing Locally Monitored (ABCL)	2	Jun 2012	D
Mod X12	Level Crossings - Automatic Open Crossing Locally Monitored (AOCL)	2	Jun 2012	С
Mod X13	Level Crossings - Automatic Open Crossing Locally Monitored Plus Barriers (AOCL + B)	1	Sep 2011	В
Mod X14	Level Crossings - Open Crossing With Additional Flashing Lights	1	Sep 2011	В
Mod X20	Level Crossings - Manned Gated Crossings (MG)	1	Sep 2011	A
Mod X21	Level Crossings - Manually Controlled Barriers With Obstacle Detector (MCB-OD)	3	Jun 2012	С
Mod X22	Level Crossings - Manually Controlled Barriers (MCB)	2	Jun 2012	С
Mod X23	Level Crossings - Manually Controlled Barriers With Closed Circuit Television (MCB- CCTV)	1	Sep 2011	В
Mod X24	Level Crossings - On Call Barriers (MCB-OC)	2	Jun 2012	С
Mod X25	Level Crossings - Wicket Gate Magnetic Locks	1	Sep 2011	В
Mod X30	Level Crossings - Traincrew Operated Gates (TOG)	1	Sep 2011	Α
Mod X31	Level Crossings - Traincrew Operated Barriers (TOB)	1	Sep 2011	С
Mod X39	System Application Specification for Overlay Miniature Stop Light Level Crossings	1	Jun 2015	С
Mod X40	Level Crossings - Miniature Stop Lights (MSL)	2	Jun 2012	В
Mod X41	Level Crossings - User Worked Barriers	1	Sep 2011	Α
Mod X42	Level Crossings - Power Operated Gate Openers (POGO)	1	Sep 2011	В
Mod X99	Level Crossings - History Of Level Crossing Protection	1	Sep 2011	С
		1	1	

NR/L2/SIG/11213	Signalling Cable Equivalent Sizes Issue 2; Sep 11	Compliance	Replaces
		03/09/2011	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.

Price: B

NR/L2/SIG/11400	HPSS Handbook Issue 6; Jun 12	Compliance	Replaces
		01/12/12	RT/E/C/11400 Iss 5; Dec 10

This Level 2 standard mandates the application of the sections of the HPSS Handbook which is intended to provide instruction and guidance to signalling designers, installers, maintainers and trainers on the application of HPSS on Network Rail Infrastructure. Inclusion of documentation (including those issued by IAD Rail Systems) within this Handbook authorises it for use on Network Rail's infrastructure.

Price: D Standard only; Complete, Phone See below for details of modules and individual pricing

NR/L2/SIG/11400/	Module	Issue	Issue Date	Price
ER/R/1/0037	HPSS Corrective Maintenance Procedures: HPSA Point Machine Plain Lead Switches: UIC54 & RT60	11	Apr 2012	E
ER/R/1/0111	HPSS Corrective Maintenance Procedures: Powerlink Backdrive Plain Lead Switches: UIC54 & RT60	7	Apr 2012	D
ER/R/1/0169	HPSS Power Pack: Design Guide	5	Nov 2012	С
ER/R/1/0183	HPSS Spares Catalogue	2	Oct 2012	E
ER/R/1/0224	HPSS Installation Manual: HPSS for Plain Lead Switches (UIC54 & RT60)	1	Jun 2009	Е
HPSS/IBP	New HPSS Documentation: Introductory Briefing Pack	1	Jun 2009	С

NR/L2/SIG/11655	Management of Cable & Wire Insulation Issue 3; Dec 11	Compliance	Replaces
		03/12/11	NR/L2/SIG/11655 lss 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.

Price: D

NR/L2/SIG/11704	Signalling Requirements for the Application Design &	Compliance	Replaces
	Management of Points Issue 3; Sep 11	03/09/11	NR/L2/SIG/11704 Iss 2; Jun 10

This standard defines the signalling requirements for the application design and management of points used on Network Rail controlled infrastructure

Price: D (Contains NR/BS/LI/308 (Expired), NR/BS/LI/407)

NR/L2/SIG/11711	Digital Railway Ready Signalling Issue 2; Mar 18	Compliance	Replaces
		31/05/18	RT/F/C/11711 lss 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.

Price: D

NR/L2/SIG/11766	Aster and Aster21 Track Circuit Manual Issue 1; Jun 16	Compliance	Replaces
		03/09/16	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.

Price: B Standard only; Complete F See below for details of modules and individual pricing

NR/L2/SIG/11766	Title	Issue	Issue Date	Price
A010	The Aster Type 'U' Jointless Track Circuits for Non-Electrified Lines		Jan 1980	E
A020	Aster21 Track Circuit Application Manual	4	Jun 2016	D
A040	Modifications to EBI Track 200 Tl21 Tuning Unit and ETU T1/T2 Connections and Trackside Wiring Recommendations	3	Jan 2012	В
D010	Aster21 Training Brief	1	Apr 2016	D

Page 136

NR/L2/SIG/11774	Clamp Lock Handbook Issue 3; Jun 12	Compliance	Replaces
		01/12/12	RT/F/C/11774 Iss 2: Feb 03

This Level 2 standard has been updated and mandates the application of the Clamp Lock Handbook. It is intended to provide instruction and guidance on the application of the Rail Clamp Point Lock on Network Rail Infrastructure.

Price: C Standard only; Complete, Phone

See below for details of modules and individual pricing

NR/L2/SIG/11774	Title	Issue	Issue Date	Price
SR0001GA	Clamp Lock Pointcare (aka NR/L2/SIG/11774/A113)	1	Jun 2012	D
SR0001GB	Clamp Lock Installation Pre-Inspection (aka NR/L2/SIG/11774/A114)	1	Jun 2012	С
SR0001IA	Clamp Lock General Information (aka NR/L2/SIG/11774/A110)	1	Jun 2012	E
SR0001IB	Clamp Lock Run-Throughs (aka NR/L2/SIG/11774/A111)	1	Jun 2012	А
SR0001IC	Clamp Lock Associated Equipment (aka NR/L2/SIG/11774/A112)	1	Jun 2012	В
SR0001SA	Clamp Lock Equipment Catalogue (aka NR/L2/SIG/11774/A116)	1	Jun 2012	D
SR0001SB	Clamp Lock Torque Specifications (aka NR/L2/SIG/11774/A117)	1	Jun 2012	Α
SR0001SC	Clamp Lock Special Tools & Gauges (aka NR/L2/SIG/11774/A119)	1	Jun 2012	Α
SR0001SD	Clamp Lock Standard Tools (aka NR/L2/SIG/11774/A118)	1	Jun 2012	Α
SR0001SE	Clamp Lock Handbook Reference Documentation (aka NR/L2/SIG/11774/A120)	1	Jun 2012	А
SR0001TA	Clamp Lock Fault Finding (aka NR/L2/SIG/11774/A115)	1	Jun 2012	С
SRA0101RA	Clamp Lock NR60 In-Bearer Installation (aka NR/L2/SIG/11774/B110)	1	Jun 2012	С
SRA0201RA	Clamp Lock Rail Clamp Point Lock Installation (aka NR/L2/SIG/11774/C110)	1	Jun 2012	С
SRA0301RA	Clamp Lock UIC54B Installation (aka NR/L2/SIG/11774/D110)	1	Jun 2012	С
SRA0401RA	Clamp Lock switch Diamond Installation (NR/L2/SIG/11774/E110)	1	Jun 2012	С

NR/L2/SIG/13251	Signalling Infrastructure Condition Assessment (SICA)	Compliance	Replaces
	Handbook Issue 3; Aug 08	26/08/08	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.

Price: C

#### **Associated Document**

NR/L2/SIG/13251/	Module	Issue	Issue Date	Price
SICA UM	SICA3 User Manual	1	Jun 2004	F

NR/L2/SIG/14201	Signalling Risk Assessment Handbook Issue 3; Sep 18	Compliance	Replaces
		01/12/18	See below

Replaces: NR/L2/SIG/14201 Iss 2; RT/E/S/14200 Iss 1; NR/GN/SIG/14202 Iss 2, NR/TI095 Iss 4

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.

Price: B Standard only; Complete, Phone See below for details of modules and individual pricing

NR/L2/SIG/14201/	Title	Issue	Issue Date	Price
Mod01	Prevention and Mitigation of Overruns - Procedure for Risk Assessment of Signals	1	Sep 2018	D
Mod02	Prevention and Mitigation of Overruns - Preliminary Assessment Specification	1	Sep 2018	В
Mod03	Prevention and Mitigation of Overruns - Junction Screening Tool Specification	1	Sep 2018	С
Mod04	Prevention and Mitigation of Overruns - Signal Overrun Risk Assessment Tool Specification	1	Sep 2018	D
Mod05	Prevention and Mitigation of Overruns - Signal Overrun Risk Assessment Tool – Level Crossing Specification	1	Sep 2018	Е
Mod06	Layout Risk Workshop Specification	1	Sep 2018	D
Mod07	Competence Requirements	1	Sep 2018	С

NR/L2/SIG/17002	SSI Applications Manual Contents Issue 26; Sep 18	Compliance	Replaces
		01/12/18	NR/L2/SIG/17002 lss 25; Sep 15

The SSI Applications Manual provides requirements and guidance, to support Solid State Interlocking (SSI) installation onto Network Rail's signalling infrastructure.

Price: C Standard only; Complete, Phone See below for details of modules and individual pricing

Number	Title	Issue	Issue Date	Price
SSI8003-10	Interlocking:			
Chapter A	Table of Contents	9	Mar 2012	В
Chapter B	Introductory Information	4	Mar 2012	D
Chapter C	Data Format, I/L ID, Identity Files, Etc.	4	Mar 2012	С
Chapter D	Data Files Source Language	3	Mar 2012	D

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Number	Title	Issue	Issue Date	Price
Chapter E	IPT, PFM and PRR Files	9	Mar 2012	D
Chapter F	FOP and MAP Files	7	Mar 2012	С
Chapter G	OPT File	9	Mar 2012	D
Chapter H	Timing Constraints, Failures and Related Documentation	5	Aug 2004	В
SSI8003-20	Panel Processor:			
Chapter A	Table of Contents	6	Apr 2008	Α
Chapter B	Introductory Information	6	Apr 2008	С
Chapter C	Data Files and Related Documentation	7	Mar 2012	D
SSI8003-30	Diagnostic	4	Sep 2015	D
SSI8003-40	Simulator:			
Chapter A	Table of Contents	2	Feb 2002	A
Chapter B	Introduction and TFM and Interlocking Simulation	2	Feb 2002	В
Chapter C	Train Simulation	2	Feb 2002	D
SSI8003-51	Communications With Other Interlockings:	+-	1 00 2002	+
Chapter A	Table of Contents	9	Jun 2011	A
Chapter B	Introduction and Simpler Boundaries	6	Dec 2010	C
·	Route Locking Across Boundaries	11	Sep 2015	E
Chapter C		11	· '	-
Chapter D	Communications with other Interlockings: Boundaries Through Crossovers, SSI/RRI Boundaries, and Relay Interfaces Between SSIs		TBC	
Chapter E	Special and More Complex Features	5	Apr 2008	С
SSI8003-52	Timing Constraints on Interlocking Data Complexity	8	Sep 2015	D
SSI8003-52 SSI8003-53	Interfacing with IECC/ARS	"	TBC	+5
SSI8003-53	Data/Compiler/Program Compatibility		TBC	+
		2	-	С
SSI8003-55	Data Style		Aug 1999	
SSI8003-56	Signal Group Replacement Control	3	Sep 2015	С
SSI8003-61	TISP and TORR	5	Sep 2015	D
SSI8003-62	Automatic and Distant Signals	7	Sep 2015	С
SSI8003-63	Route Class Selection and Overlap Releasing	10	Dec 2010	D
SSI8003-64	Ground Frames and Shunter's Releases	6	Mar 2012	D
SSI8003-65	Swinging Overlaps:			
Chapter A	Table of Contents	8	Mar 2012	В
Chapter B	Principles and Examples 1 & 2	7	Mar 2012	С
Chapter C	Examples 3 & 4	7	Sep 2015	D
Chapter D	Alternative Methods, Preferred and Non- Permitted Overlaps and Alternative Execution Clauses	7	Dec 2010	D
Chapter E	Additional Methods	6	Sep 2015	E
SSI8003-66	Restoration of Points	9	Sep 2015	D
SSI8003-67	Searchlight Signals and Banner Repeating Signals	6	Sep 2015	D
SSI8003-68	Preset Shunts:			
Chapter A	Table of Contents	6	Oct 2005	Α
Chapter B	Principles and Data Preparation	6	Dec 2010	С
Chapter C	More Complex Data Example	8	Dec 2010	С
SSI8003-69	Junction Signalling:			
Chapter A	Table of Contents	6	Jun 2011	Α
Chapter B	Principles and Data Preparation		TBC	
Chapter C	More Complex Data Example		TBC	
SSI8003-71	Divided Sets of Points	2	Feb 2002	В
S\$I8003-72	Co-Acting Signals	4	Sep 2015	С
SSI8003-73	Opposing Locking Omitted	2	Feb 2002	A
S\$I8003-74	Lockout Devices	4	Apr 2008	D
SSI8003-75	Track Circuit Interrupters and Wide-to-gauge Trap Points	2	Feb 2002	C
SSI8003-76	AWS & SPAD Inductors	+-	TBC	+-
SSI8003-77	Bi-directional Signalling with Automatic or Semiautomatic Signals	6	Sep 2015	D
S\$18003-78	Consecutive Double Yellow Aspect Sequences	2	Feb 2002	C
\$\$18003-78 \$\$18003-79	Special Signal Controls	-	TBC	+
SSI8003-79	One Train System Without Staff	1		С
		1	Aug 2004	
SSI8003-81	TPWS	1.	TBC	-
SSI8003-82	Sequential Proving of Track Circuits	1	Feb 2002	D
0010000 57	Permissive Controls	4	Jun 2012	D
SSI8003-83		_		- D
SSI8003-84	Relay Interfaced Signals	2	Mar 2012	D
SSI8003-84 SSI8003-85	Robust Train Protection	3	Sep 2015	D
SSI8003-84	· · · · · ·			

Number	Title	Issue	Issue Date	Price
SSI8150	SSI Software Record:		B 0	1
Chapter A	Table of Contents	8	Dec 2009	С
Chapter B	Main Document	7	Sep 2015	D
Chapter C	Appendix 1	8	Sep 2015	D
Chapter D	Appendices 2 to 5	7	Sep 2015	D
Chapter E	Appendices 6, 7 & 9	11	Jun 2012	С
SSI8151	Retrospective and Other Amendments	3	Sep 2015	E
SSI8500	Design of SSI Schemes:			<u> </u>
Chapter A	Table of Contents	12	Mar 2012	В
Chapter B	Scope of Document	7	Sep 2015	A
Chapter C	SSI General Description	8	Sep 2015	В
Chapter D	Signalling Schemes	16	Sep 2015	E
Chapter E	Power Supplies	6	Sep 2015	В
Chapter F	Signaller's Console	5	Mar 2012	С
Chapter G	Cabling and Connections	12	Sep 2015	D
Chapter H	Accommodation and Locations	6	Sep 2015	В
Chapter I	Equipment Procurement and Specifications	7	Sep 2015	С
Chapter J	Documentation	5	Feb 2002	A
SSI8503	Earthing and Bonding of Solid State Interlocking Equipment	4	Mar 2011	D
SSI8505	SSI Data Procedures:		0 0	
Chapter A	Table of Contents	6	Sep 2015	В
Chapter B	General Information	6	Sep 2015	В
Chapter C	Data Production	4	Feb 2002	D
Chapter D	Installation	6	Sep 2015	D
Chapter E	Maintenance	1	Feb 2002	A
Chapter F	Record Keeping	2	Sep 2015	В
Chapter G	EPROM and Memory Module Programming	1 -	Feb 2002	С
SSI8506	MkII Paged Technician's Terminal Installation Manual	2	Sep 2015	С
SSI8507	Relay Interfaced SSI	3	Dec 2011	D
SSI8508	SSI Technician's Terminal Logger Recorder User Guide	4	Dec 2009	D
SSI8509	SSI Graphical Replay User's Guide	6	Dec 2009	D
SSIDIS018	Electro-Hydraulic Trainstops	3	Jun 2005	С
SSIDIS101	Non Panel Interfaces	3	Nov 2010	В
SSIDIS105	Override Emergency Route Setting	6	Dec 2001	В
SSIDIS106	TFM Mk 111 Flashing Yellow Lamp Proving	8	Jul 2002	В
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	В
SSIDIS109	TPWS Method 3 and Flashing Aspects	5	Dec 2002	В
SSIDIS112	Axle Counter Data	21	Jan 2013	E
SSIDIS114	Aspect Restriction Following Axle Counter Restoration		TBC	-
SSIDIS121	Relay Interfaced Signal Temporary Nomenclature for MCS	2	Jan 2004	A
SSIDIS126	Axle Country Preparatory Reset and Restoration Data	4	Dec 2005	С
SSIDIS129	Crossing Stopping/Non-stopping switch Data & Non provision of Power On Input (MSL Crossings only)	8	Mar 2012	С
SSIDIS131	Sequential Calling of Point Ends with the Same Number	3	Sep 2005	В
SSIDIS136	Flashing Aspects - Proving Double Yellow	2	Dec 2006	Α
SSIDIS137	Directional Interlocking	3	Mar 2007	С
SSIDIS138	Over-run Detection	10	Aug 2011	D
SSIDIS145	MCB Level Crossing Controls	4	Jan 2008	D
SSIDIS145/	MCB-OD Typical Circuit Extracts	2	Apr 2007	С
Appendix B				
SSIDIS145/	MCB/CCTV Stopping/Non-Stopping Controls	2	Jan 2013	В
Appendix C				
SSIDIS146	Two and Three Aspect LED Banner Repeaters		TBC	
SSIDIS148	Operation of E.P Points Using SSI TFMs	2	Mar 2008	В
SSIDIS149	PoSA Signals		TBC	1
SSIDIS150	SSI Data Link Test Point Provision	3	Sep 2008	В
SSIDIS161	Directional Interlocking Cross Boundary Relay Interface and Internal Datalink	2	Nov 2009	С
SSIDIS162	Swinging Overlap across a Boundary - Crossover with Separately Numbered Point Ends	2	Nov 2009	D
SSIDIS165	Set to Work and Cross Boundary Best Practice	6	Feb 2011	В
SSIDIS166	Separate Permissive and Non Permissive Shunt Routes	2	Feb 2010	В
SSIDIS171	Directional Interlocking: 3 Position Switch		TBC	
SSIDIS171	Directional Interlocking: 3 Position Switch: Working Across a Relay Interface		TBC	

Number	Title	Issue	Issue Date	Price
SSIDIS172	Sequential Operation of Point Ends	2	Jan 2013	С
SSIDIS176	Swinging Overlaps Where Hinge Points May Be Subject to Conflicting Calls in Quick Succession	2	Feb 2013	Α
SSIDIS177	MCB-OD Level Crossing Interface		TBC	
SSIDIS177 – Appendix A	Appendix A – MCB-OD Interface to SSI	4	Jun 2014	С
SSIDIS178	Splitting Distant and Flashing Aspect Signals: Data Correction	2	Mar 2014	В
SSIDIS180	Problem with Obsolescent Horizontal Boundary Data	1	Jun 2013	В
SSIDIS183	Implementation of Overrun Detection and Management for IECC	1	Sep 2013	В
SSIDIS184	TPWS Zero	1	July 2013	В
SSIDIS188	Swinging Overlaps: Defensive Data		TBC	
SSIDIS190	Ground Frame with Route Setting Release		TBC	
SSIDIS192	Alston Modular Signalling Relay-Interfaced Signals		TBC	
SSIDIS193	Over-Run Protection	1	Dec 2014	С
SSIDIS200	Slots and Route Releases		TBC	
SSIDIS206	Simplified Swinging Overlap Data		TBC	

NR/L2/SIG/19608	Level Crossing Asset Inspection and Implementation of	Compliance	Replaces
	Minmum Action Codes Issue 7; May 14	06/09/14	NR/L2/SIG/19608 lss 6; Jun 11

This document provides Level Crossing Managers (LCMs) and Delivery Unit staff, see RACI in clause 4, with acceptable means of compliance for the inspection of level crossing assets.

Price: D

NR/L2/SIG/19609	Requirements for Colour Light Junction Signalling	Compliance	Replaces
	Issue 1; Oct 07	01/01/08	BP 5400 lss 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.

Price: D

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	ı

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.

Price: C

NR/L2/SIG/19807	Prioritisation of Signal Engineering Equipment Defects	Compliance	Replaces
	Issue 3; Jun 10	04/09/10	NR/L2/SIG/19807 lss 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.)

Price: D

NR/L2/SIG/19809	Business Process for Selection of Point Operating	Compliance	Replaces
	Equipment Issue 2; Sep 16	04/03/17	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.

Price: C

NR/L2/SIG/19820	Signalling Product Specifiactions Issue 1; Jun 18	Compliance	Replaces
		01/09/2018	New at Issue 108

This manual contains Signalling product specifications that define Network Rail customer requirements. Product specifications provide the following benefits:

- Signalling products are developed and manufactured to Network Rail requirements;
- · improved asset compatibility and reliability through the setting of customer requirements to follow the process set out in NR/L2/RSE/0005;
- helps manufacturers to understand Network Rail's requirements and gain product acceptance.

Price: C Standard only; Complete, Phone See below for details of modules and individual pricing

NR/L2/SIG/19820/	Title	Issue	Issue Date	Price
C01	Electronic Treadle	1	Jun 2018	D
E01	Combined Alphanumeric Route Indicator	1	Jun 2018	С

NR/L2/SIG/30003 Engineering Assurance Arrangements for Signalling Compliance Engineering Schemes and Services Issue 1; Jun 11 O3/09/11 New at Issue 80

This document describes the engineering assurance processes for changes to Signalling Infrastructure or changes to other parts of the railway infrastructure which may impact on the continued safe operation of the signalling system.

Price: C

 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.

Price: C

NR/L2/SIG/30009 Signalling Principles Handbook Issue 15; Sep 18 Compliance Replaces 01/12/18 NR/L2/SIG/30009 Iss 14; Jun 18

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.

Price: B Standard only; Complete, Phone See below for details of modules and individual pricing

NR/L2/SIG/3009/	Title	Issue	Issue Date	Price
C320	Interface between Running Lines and Sidings or Depots	1	Sep 2018	С
C410	Application fo Tail Light Cameras	1	Mar 2010	В
D120	Identification of Primary and Slotted Signals	1	Dec 2007	В
D220	Signal Spacing	1	Dec 2009	С
D225	Former SR Two Thirds Rule	1	Dec 2008	С
D310	Control of Signals	3	Jun 2017	С
D410	Trapping Protection	1	Sep 2009	С
E063	Approach Locking and Train Operated Route Release	1	Mar 2018	С
E120	Replacement Facilities	1	Dec 2008	В
E420	Overrun Detection and Controls	2	Mar 2015	D
E421	Application of Overrun Management	1	Jun 2018	D
E430	Provision of Derailment Detectors	1	Dec 2007	В
E450	Overlap Proving	2	Sep 2018	D
E610	Signalling Principles Handbook - Restoration of Trapping Protection	1	Sep 2009	В
E810	Reasonable Opportunity Assessment for Signalling Alterations	2	Jun 2016	D
F140	Aspect and Indication Proving	1	Sep 2009	В
F210	Application of Banner Signals	2	Jun 2012	В
Z110	Staff Protection Systems	1	Sep 2009	D
Z115	Train Activated Warning Systems	1	Dec 2011	В
Z210	National Deviations and Variations	2	Jun 2016	В
GKRT0039	Semaphore And Mechanical Signalling (Former Railway Group Standard GK/RT0039)	1	Sep 2014	А
GKRT0041	Track Circuit Block (Former Railway Group Standard GK/RT0041)	1	Sep 2014	А
GKRT0042	Absolute Block (Former Railway Group Standard GK/RT0042)	1	Sep 2014	Α
GKRT0051	Single Line Control (Former Railway Group Standard GK/RT0051)	1	Sep 2014	А
GKRT0054	Radio Electronic Token Block (Former Railway Group Standard GK/RT0054)	2	Mar 2015	D
GKRT0060	Interlocking Principles (Former Railway Group Standard GK/RT0060)	2	Mar 2015	D
GKRT0061	Shunters Releases, Ground Frames, Switch Panels and Gate Boxes (Former Railway Group Standard GK/RT0061)	1	Sep 2014	А
GKRT0064	Provision of Overlaps, Flank Protection and Trapping (Former Railway Group Standard GK/RT0064)	3	Sep 2018	В
GERT8071	Control Facilities for use during Lineside Signalling Failures	1	Mar 2015	D

NR/L2/SIG/30010	Tracklink 2/HSD2000 Platform Identification Beacon System	Compliance	Replaces
	(PIBS) For Selective Door Operation (SDO) Issue 1; Dec 09	06/03/10	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 13; Mar 18 Compliance Replaces 02/06/18 NR/L2/SIG/30014 Iss 12; Dec 16

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.

Additional Excel Content Available: Phone Price: Phone Standard only; Complete, Phone See below for details of modules and individual pricing

Module	Title	Issue	Issue Date	Price
A100	Selection of Standards for Signalling Testing	01	Sep 2011	В
A110	Signalling Works Testing	04	Sep 2014	D
A210	Design and Testing Processes for Minor or Repetitive Alterations	03	Sep 2014	В
A310	Signalling Testing Processes for Modular S&C Schemes	01	Sep 2014	С
B110	Signalling Works Testing IRSE Licensing Requirements	02	Dec 2011	В
B210	Appointment of Signalling Works Testing Certificate of Competency Authorisers	02	Dec 2011	В
B310	Signalling Works Testing Training and Competence Modules	03	Jun 2012	D
B410	Signalling Works Testing Staff Competence Assessment	02	Jun 2012	D
B510	Project Specific Appointment of Signalling Testers In Charge	03	Sep 2014	С
C110	Testing Strategy	02	Jun 2012	С
C120	Test Plans	03	Sep 2014	D
C210	Acceptance of Testing Planning Documentation	02	Jun 2012	С
C310	Check Marking and Recording on Test Copies	04	Sep 2014	Е
C410	Error Reporting	03	Jun 2012	D
C510	Handover for Signalling Works Testing	01	Jun 2012	В
D110	Signalling Works Test Specification and Certificate Requirements	05	Sep 2014	С
D115/DT1-01	Defined Inspection Check - Check for Correct Type	01	Mar 2011	A
D115/DT1-02	Defined Inspection Check - Check for No Damage	02	Jun 2012	A
D115/DT1-03	Defined Inspection Check - Check for Correct Position	01	Mar 2011	A
D115/DT1-04	Defined Inspection Check - Check for Correct Labelling	01	Mar 2011	A
D115/DT1-11	Defined Inspection Check - Check for Correct Commissioning Copies	01	Mar 2011	A
D115/DT2-01	Defined Technical Verification Test - Wire Count	02	Jun 2012	A
D115/DT2-02	Defined Technical Verification Test - Continuity Test	02	Jun 2012	A
D115/DT2-11	Defined Technical Verification Test - SSI Plug Coupler Verification	01	Mar 2011	A
D115/DT2-15	Defined Technical Verification Test - Changeover Preparation Check	01	Jun 2012	A
D115/DT2-21	Defined Technical Verification Test - Recovery Identification Check	02	Jun 2012	A
D115/DT2-22	Defined Technical Verification Test - Wiring Recoveries	03	Sep 2014	A
D115/DT3-01	Defined Function Test - Power Supply Tests	02	Jun 2012	A
D115/DT3-11	Defined Function Test - Relay Circuitry Set to Work Test	01	Mar 2011	A
D115/DT3-12	Defined Function Test - Circuit Function Test	04	Mar 2018	A
D115/DT3-13	Defined Function Test - Strap and Function Test	04	Mar 2018	A
D115/DT3-14	Defined Function Test - Test for Timers Adjusted and Sealed	01	Mar 2011	A
D115/DT3-21	Defined Function Test - SSI TFM Exercise Test	01	Mar 2011	A
D115/DT3-21	Defined Function Test - Point Local Function Tests	02	Sep 2014	A
D115/DT3-51	Defined Function Test - Point Current and Motor Timer Cut-Off Tests	02	Sep 2014	A
D115/DT3-52 D115/DT3-61	Defined Function Test - Busbar Earth Tests	01	Mar 2011	A
D115/DT3-61	Defined Function Test - Busbal Earth Tests  Defined Function Test - Earth Electrode Test	01	Jun 2012	A
D115/DT3-02 D115/DT4-01	Defined Correspondence Test - Point Control, Detection and Correspondence Tests	02	Sep 2014	A
D115/DT4-01	Defined Changeover Technique - Testing Led Changeover	03	Mar 2018	A
D115/DT5-01 D115/DT5-02	Defined Changeover Technique - Testing Led Changeover  Defined Changeover Technique - Construction Led Changeover	03	Mar 2018	A
D120/TS3-01	Cable Signalling Works Test Specification	03	Sep 2014	В
D120/TS3-01 D120/TS4-01		03	<u> </u>	
	Equipment Housing Signalling Works Test Specification		Sep 2014	В
D120/TS5-01 D120/TS5-05	DC Track Circuit Test Specification  Diode Track Circuit Signalling Works Test Specification	03	Jun 2012	
:	Diode Track Circuit Signalling Works Test Specification	03	Sep 2014	Α
D120/TS5-11	EBI Track 200 TI21 Track Circuit  AC Double Beil Track Circuit Signalling Works Test Specification	03	Dec 2011	A
D120/TS5-21	AC Double Rail Track Circuit Signalling Works Test Specification	03	Sep 2014	A
D120/TS5-22	AC Single Rail Track Circuit Signalling Works Test Specification	03	Sep 2014	A
D120/TS5-23 D120/TS5-31	AC VT1 (SP) Track Circuit Signalling Works Test Specification  FS2600 Track Circuit Signalling Works Test Specification	03	Sep 2014 Sep 2014	A C

Module	Title	Issue	Issue Date	Price
D120/TS5-51	Track Circuit Interrupter Signalling Works Test Specification	04	Sep 2014	A
D120/TS5-62	Thales AzLM Axle Counter Data Link Test Specification	01	June 2012	Α
D120/TS5-65	Frauscher RSR123 Wheel Sensor Signalling Works Test Specification	01	Sep 2014	Α
D120/TS5-66	Frauscher FAdC Axle Counter Evaluator System Signalling Works Test Specification	01	Sep 2014	В
D120/TS5-67	Frauscher Axle Counter Communications System Signalling Works Test Specification	01	Sep 2014	В
D120/TS5-71	Siemens AzSM Axle Counter Signalling Works Test Specification	03	Sep 2014	В
D120/TS5-72	Siemens ACM 100 WSD Wheel Detector Signalling Works Test Specification	02	Sep 2014	В
D120/TS5-73	Siemens ACM 100 Axle Counter System Test Specification	01	Dec 2012	В
D120/TS5-74	Siemens ZPD43 Wheel Detector and Trackside Connection Box Signalling Works Test Specification	01	Sep 2014	В
D120/TS5-75	Siemens Az S 350 U Axle Counter Evaluator System Signalling Works Test Specification	01	Sep 2014	С
D120/TS5-81	GETS Treadle System Test Specification	01	Dec 2016	В
D120/TS5-91	Physical Dimensions Track Circuit Test Specification	04	Dec 2012	Α
D120/TS5-95	Mechanical Treadle Signalling Works Test Specification	02	Sep 2014	Α
D120/TS5-99	Generic Axle Counter Physical Dimensions Signalling Works Test Specification	01	Sep 2014	Α
D120/TS6-01	Point End Inspection and Mechanical Set Up Handover Specification	01	Sep 2014	Α
D120/TS6-11	Mechanically Operated Point End Signalling Works Test Specification	03	Dec 2016	В
D120/TS6-21	Point Machine Signalling Works Test Specification	02	Dec 2016	В
D120/TS6-31	Rail Clamp Point Lock (RCPL) Test Specification	03	Mar 2018	В
D120/TS6-35	In Bearer Clamp Lock (IBCL) Test Specification	02	Dec 2016	В
D120/TS6-61	HPSS Signalling Works Testing Specification	01	Mar 18	С
D120/TS7-01	Filament or LED Type Signal Signalling Works Test Specification	02	Sep 2014	В
D120/TS7-11	Semaphore Signal Signalling Works Test Specification	02	Sep 2014	A
D120/TS7-31	Siemens Application Filament Signal Test Specification	01	Dec 2012	Α
D120/TS7-51	Signage Signalling Works Test Specification	02	Sep 2014	Α
D120/TS7-91	Inspection to SSF and Signal Sighting Signalling Works Test Specification	02	Sep 2014	В
D120/TS8-01	AWS Signalling Works Test Specification	05	Mar 2018	В
D120/TS8-11	TPWS (Standard Fitment) Signalling Works Test Specification	04	Sep 2014	С
D120/TS8-12	TPWS (SPOSS) Signalling Works Test Specification	04	Sep 2014	В
D120/TS8-21	ATP Beacon / Loop (GWML) Test Specification	01	Dec 2012	В
D120/TS8-25	ATP Loop (Chilterns) Test Specification	01	Dec 2012	A
D120/TS8-31	TASS Balise Test Specification	01	Jun 2012	Α
D120/TS9-01	Operator's Control / Indication Panel	02	Mar 2018	A
D120/TS10-01	Mechanical Signal Box Test Specification and Checklist	03	Dec 2016	В
D120/TS10-10	Block Systems Test Specification	01	Mar 2012	В
D120/TS11-01	Control Tables and Principles Testing Test Specification	02	Sep 2014	A
D120/TS12-01	SSI Central Interlocking Test Specification	01	Jun 2012	D
D120/TS12-02	SSI Data Link Test Specification	01	Jun 2012	С
D120/TS12-04	SSI Technician's Terminal Test Specification	01	Jun 2012	D
D120/TS12-05	SSI to VDU based SCS Integration Test Specification	01	Dec 2012	В
D120/TS13-01	Train Describer (TD) Test Specification	01	Dec 2012	C
D120/TS13-11	Reed FDM System Test Specification	01	Jun 2012	В
D120/TS13-21	TDM Remote Control System Test Specification	01	Dec 2012	A
D120/TS13-51	Panel Multiplexer (PMUX) System Test Specification	01	Dec 2012	A
D120/TS13-61	CCTV System Test Specification	01	Jun 2012	В
D120/TS13-71	Hot Axle Box Detector (HABD) System Test Specification	01	Dec 2012	A
D120/TS14-01	Automatic Half Barrier Crossing (AHBC) Test Specification	02	Sep 2010	D
D120/TS14-02	Automatic Darrier Crossing Locally Monitored (ABCL) Test Specification	02	Sep 2010	D
D120/TS14-03 D120/TS14-04	Automatic Open Crossing Locally Monitored (AOCL) Test Specification	02	Sep 2010 Sep 2010	D D
D120/TS14-04 D120/TS14-05	Miniature Stop Light Crossing (MSL) Test Specification  Manually Controlled Barriers (MCB) Test Specification	02	+	D
	Manually Controlled Barriers (MCB) Test Specification		Sep 2010	F
D120/TS14-21 D120/TS14-81	Test a Manually Controlled Barrier Crossing (MCB-OD) [4 Barrier]  Test an Obstacle Detector RADAR	02	Dec 2016 Dec 2016	A
D120/TS14-81	Test an Obstacle Detector KADAR  Test an Obstacle Detector LIDAR	02	Dec 2016	В
D120/TS14-82	Level Crossing Appello Sounders	01	Mar 2018	А
D120/TS15-01	Staff Protection Device / System	01	Dec 2011	A
D120/TS15-01	Operator's Control Unit	01	Dec 2011	A
D120/TS15-10	Scheme Plan Verification Test Specification	01	Dec 2011	A
D120/TS10-01	Integration Testing - Relay Through Circuit Test Specification	02	Mar 2018	A
D120/TS17-01	Integration Testing - Relay Through Circuit Test Specification  Integration Testing - SSI Module Test Specification	02	Dec 2012	A
	Integration Testing - SSI Module Test Specification  Integration Testing - Correspondence Test Specification	01	Dec 2012	A
D120/TS17-51	I Integration resting Correspondence Test Openhoalion	01	D00 2012	1.73
D120/TS17-51 D120/TS17-61	Integration Testing – Supplementary Tests Test Specification	01	Dec 2012	Α

Module	Title	Issue	Issue Date	Price
F110	The Verification and Validation of Relay Based Interlockings	02	Sep 2014	Е
F120	The Verification and Validation of Western Region E10,000 Relay Interlockings	01	Sep 2014	D
F210	The Verification and Validation of Electronic Interlockings	01	Sep 2014	E
G110	Signalling Non-Conceptual Works and Emergency Testing	01	Sep 2011	С
G130/A&R01	Temporary Alteration to Point Detection	01	Sep 2011	Α
G130/A&R02	Temporary Alteration to Track Circuit Bonding	01	Sep 2011	Α
G130/A&R03	Temporary Single Railing of 50Hz AC Double Rail Track Circuits	01	Sep 2011	Α
G130/A&R04	Temporary Alteration to Signal Proving	01	Sep 2011	Α
G130/A&R05	Temporary Alteration to Ground Frame Proving	01	Sep 2011	Α
G130/AP51	Install a TPWS Filter Module	01	Sep 2011	Α
G130/EL51	Install a Track Circuit Relay Counter	01	Sep 2011	Α
G130/EL52	Install a Varistor Surge Protector	01	Sep 2011	Α
G130/EL53	Convert PIN Code 202 (Style QS1) Relay and Plugboard to PIN Code 201 (Style QS2) Relay and Plugboard	01	Jun 2012	A
G130/SG51	Fitment of LED DCIs	01	Sep 2011	Α
G130/SG52	Fitment of LED MSLs	01	Sep 2011	Α
G130/SG53	Fitment of LED Level Crossing Road Traffic Lights	01	Sep 2011	Α
G130/SS51	Install a New or Replacement SSI LDT Filter	01	Sep 2011	Α

NR/L2/SIG/30015	Specification for Station, Footpath, Bridleway, and User	Compliance	Replaces
	Worked Level Crossings Issue 1; Mar 10	05/06/10	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.

Price: E

NR/L2/SIG/30017	Requirements for Level Crossings Issue 2; Sep 11	Compliance	Replaces
		03/09/11	NR/L2/SIG/30017 Iss 1; Sep 09

This document mandates the requirements for the design, construction, inspection, maintenance, operation and decommissioning of level

Price: C Standard only; Complete, E See below for details of modules and individual pricing

NR/L2/SIG/30017/	Module	Issue	Issue Date	Price
Module D	Telephone Systems at Level Crossings	1	Sep 09	В
Module F	Track and Electrification Systems at Level Crossings	1	Sep 09	Α
Module G	Level Crossing Geometry and Surfaces	1	Sep 09	В
Module H	Lighting and CCTV Systems at Level Crossings	1	Sep 09	В
Module J	Construction, Testing and Commissioning of Level Crossings	1	Sep 09	А
Module K	Operation, Maintenance and Inspection of Level Crossings	1	Sep 09	В
Module L	Change of Legal Status and Decommissioning of Level Crossings Following Closure	1	Sep 09	Α

NR/L2/SIG/30019	Process for Closing or Downgrading Public Level Crossings	Compliance	Replaces
	Issue 1; Sep 10	04/09/10	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.

Price: B

NR/L2/SIG/30021	Alterations to Authorised Line Speeds Issue 2; Sep 11	Compliance	Replaces
		03/03/11	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.

Price: D

NR/L2/SIG/30027	Product Specification - Plug Couplers for Connection of	Compliance	Replaces
	Cables to Lineside Signalling Equipment Issue 2; Dec 10	04/12/10	NR/L2/SIG/30027 lss 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.

Price: C

NR/L2/SIG/30035	Signalling Scheme Plan Technical Approval Process	Compliance	Replaces
	Issue 3: Jun 12	01/09/12	NR/L2/SIG/30035 Iss 2: Sep 11

This Document defines the Review and Sign Off process to be adopted in respect of all Signalling Scheme Plans that make alterations or otherwise impact on the functionality of signalling installations on Network Rail Managed infrastructure.

Price: D

NR/L2/SIG/30036	Intelligent Infrastructure Management - Data Logging	Compliance	Replaces
	Specification Issue 1; Jun 09		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

Price: D

NR/L2/SIG/30038	Supplementary Audible Warning Devices (AWDs) at Footpath	Compliance	Replaces
	and Bridleway Level Crossings Protected by a Whistle Board	03/09/16	New at Issue 100
	Issue 1; Jun 16		

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

Price: C

NR/L2/SIG/30050	Signalling Power Circuit Principles Issue 1; Dec 08	Compliance	Replaces
		06/06/09	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.

Price: C

NR/L2/SIG/30060	Product Specification for AzLM Axle Counter Cable	Compliance	Replaces
	Issue 3; Mar 12	02/06/12	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.

Price: C

NR/L2/SIG/30070	Signalling of Modular Switch and Crossing Renewals	Compliance	Replaces
	Issue 1; Jun 09	06/06/09	New at Issue 72

This standard details the signalling processes to be followed when planning and implementing a switch and crossing renewal using the prefabricated, modular techniques.

Price: D

NR/L2/SIG/30080	Axle Counter System – Operational and safety principles	Compliance	Replaces
	Issue 1; Sep 09	05/12/09	New at Issue 73
			NR/SP/SIG/10129 Iss 2: Apr 06

This standard details the operational rules and safety principles for axle counter systems including the methods of reset following failure, provisions for engineering work and for trains which may fail to count correctly. The standard includes details of the core functionality to enable signallers to fulfil their responsibilities and identifies the core procedural steps to be enforced by the systems.

Price: E

NR/L2/SIG/30081	Axle Counter System Design Principles & Generic	Compliance	Replaces
	Application Rules Issue 1; Sep 09	05/12/09	New at Issue 73
			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.

Price: D Standard only; Complete, Phone

See below for details of modules and individual pricing

L2/SIG/30097/	Title	Issue	Issue Date	Price
AppA	Appendix A: System Architecture	3	Apr 2014	С
АррВ	Appendices B and B1: System Components	3	Apr 2014	С
AppC	Appendix C: System Functionality	3	Apr 2014	D
AppD	Appendix D: Non-functional Requirements	3	Apr 2014	С
AppD1	Appendix D1: Ergonomic Requirements	2	Jun 2012	С
AppE	Appendix E: Maintenance	3	Apr 2014	С
AppF	Appendix F: Statement of Application & Compliance	2	Apr 2014	Phone
AppG	Appendix G: Governance and Procurement	2	Jun 2012	С
АррН	Appendix H: GRIP Stages 1 and 3 - Feasibility Assessment and Requirements Analysis	3	Apr 2014	D
АррН1	Appendix H1: Implementation and Commissioning Planning	3	Apr 2014	С
AppH2	Appendix H2: Implementation and Commissioning Outline Designs	3	Apr 2014	D
АррН3	Appendix H3: Scheme Design Guidance	3	Apr 2014	D
АррН4	Appendix H4: Signal Overrun Risk Assessment	3	Apr 2014	С
АррН5	Appendix H5: Equipment and Drawing Identification	2	Jun 2012	С
Appl	Appendix I: GRIP Stage 4 - Preliminary Scheme Design	3	Apr 2014	С
AppJ	Appendix J: GRIP Stage 5 - Signalling Detailed Design	3	Apr 2014	С
АррК	Appendix K: Verification and Validation (Testing)	2	Jun 2012	С
AppL	Appendix L: GRIP Stage 6 - Installation and Commissioning	2	Jun 2012	С
АррМ	Appendix M: Hand Back to Operations & Maintenance (GRIP Stage 7 & 8)	2	Jun 2012	D
AppN	Appendix N: Non-signalling Designs	2	Jun 2012	В
АррО	Appendix O: Assurance	2	Jun 2012	В

NR/L2/SIG/30099	Mechanical Locking Handbook Issue 1; Jun 12	Compliance	Replaces
		01/12/12	NR/L3/SIG/SG0190 lss 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.

Price: B Standard only; Complete D Additional Excel Content Available: Phone See below for details of modules and individual pricing

Module	Title	Issue	Issue Date	Price
005	Mechanical Locking: Process & Management	1	Jun 2012	В
010	Mechanical Locking: Lever Frame Overhaul – 10 Yearly Periodic Activity	1	Jun 2012	А
011	Mechanical Locking: Electrical Locking Equipment Overhaul - 7 Yearly Activity	1	Jun 2012	Α
091	Mechanical Locking: Replace an Annette's Key	1	Jun 2012	Α
092	Mechanical Locking: Replace an Annette's Lock	1	Jun 2012	Α
093	Mechanical Locking: Replace a Token Keys	1	Jun 2012	Α
094	Mechanical Locking: Replace a Token Lock	1	Jun 2012	A

NR/L2/SIG/50010	Methodology for the Demonstration of Electrical	Compliance	Replaces
	Compatibility with Train Detection System in use on Non-	26/08/08	NR/L2/SIG/50010
	Electrified Lines Issue 2; Aug 08		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.

Price: E

NR/L2/SIG/50019	Control of the Issue of S & T Keys from Unipart Rail	Compliance	Replaces
	Issue 4; Mar 12	03/03/12	NR/L2/SIG/50019 lss 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.

Price: B

## 4.20 SIGNAL ENGINEERING

Compliance NR/L2/SIGELP/27408 Product Specification for Signalling Power Distribution Replaces NR/L2/ELP/27408 Iss 2; Jun 15 Cables Issue 3; Mar 17 03/06/17

This specification defines cable construction and performance requirements for signalling power distribution cables to be used in railway signalling systems.

Price: C

NR/L2/SIGELP/27409 Product Specification for Functional Supply Points (FSP) Compliance Replaces Issue 2; Jun 15 06/06/15 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.

Price: D

NR/L2/SIGELP/27410 Specification for Class II Based Signalling Power Distribution Compliance Replaces NR/L2/ELP/27410 Iss 1; Dec 11 Systems Issue 2; Jun 15 06/06/15

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.

Price: D

NR/L2/SIGELP/27416 Alterations to Signalling Power Systems Issue 1; Mar 17 Compliance 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).

Price: E

NR/L2/SIGELP/27417 Signalling Power Distribution Diagrams Issue 1; Dec 15 Compliance Replaces 05/03/16 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

Price: D Standard only; Complete E See below for details of modules and individual pricing

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	В
MOD C	CAD Cell Symbol Library – EP Low Voltage Operational Equipment	1	Dec 2015	С

ND/L 2/SICEL D/27/119	Design, Installation and Testing of Earthing in Signalling	Compliance	Replaces
NK/LZ/SIGELF/Z/410	Design, installation and resting of Earthing in Signalling	Compliance	Replaces
	Power Systems Issue 1: Sep 15	05/09/15	New at Issue 97
	I UWCI UVSICIIIS ISSUC I. OCD 10	03/03/13	INCW at 133UE 31

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.

Price: D Standard only; Complete E See below for details of modules and individual pricing

NR/L2/SIGELP/27418	Title	Issue	Issue Date	Price
MOD A	Earth Electrode Installation Process	1	Sep 2015	В
MOD B	Earth Mat Installation Process	1	Sep 2015	Α
MOD C	Template Earthing Construction Drawings	1	Sep 2015	D
MOD D	Earthing Testing Methods	1	Sep 2015	Α
MOD E	RDU Scanner Selection	1	Sep 2015	Α

NR/L2/SIGELP/27419	Product Specification for Distribution Interface Transformer	Compliance	Replaces
	Assemblies (DITA) for Signalling Power Distribution Systems	06/06/15	New at Issue 96
	Issue 1; Jun 15		

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	Compliance	Replaces
	Signalling Power Distribution Systems Issue 1; Jun 15	06/06/15	New at Issue 96

This specification defines the requirements for flexible insulating conduits to be used in Class II based signalling power distribution systems.

Price: B

NR/L2/SIGELP/27422 Product Specification - Cable Glands for use in Class II Based Compliance Signalling Power Distribution Systems Issue 1; Jun 15 06/06/15 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.

Price: B

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.

Price: C

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.

Price: B

NR/L2/SIGELP/27725	Insulation Monitoring and Fault Location Systems for Use on	Compliance	Replaces
	Signalling Power Systems Issue 1; Mar 17	03/06/17	New at Issue 103

This standard defines Network Rail's requirements for Insulation Monitoring Devices/Systems (IMDs) and Insulation Fault Location Systems (IFLSs).

Price: D

NR/L2/SIGELP/30007	Product Specification for Power Transformers for Signalling	Compliance	Replaces
	Systems Issue 3; Jun 15	31/12/15	NR/L2/SIG/30007 lss 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.

Price: D

NR/L2/SIGELP/50000 Safe Working and Maintenance on or near Si	gnalling Power Compliance	Replaces
Distribution Equipment above 175 Volts Issue	: 3; Mar 17 03/06/17	See below

Replaces: NR/GN/ELP/27318 Iss 1; Apr 07, NR/L2/SIGELP/50000 Iss 2; Dec 16

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).

Price: D Standard only; Complete, E See below for details of modules and individual pricing

NR/L2/SIGELP/50000	Title	Issue	Issue Date	Price
BRIEFING	Briefing	1	Dec 2016	D
MOD A	Inspection and Maintenance Periodicities (including risk based maintenance criteria) for Signalling Power Distribution Equipment above 175 Volts	1	Dec 2016	В

Leve	

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 lss 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

Price: B

NR/L3/SIG/10064	General Instructions to Staff Working on S & T Equipment	Compliance	Replaces
	Issue 7; Sep 18	01/12/18	NR/L2/SIG/10064 Iss 6; Mar 18

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.

Price: Phone

NR/L3/SIG/10120	Automated Route Setting Specification Issue 1; Jun 08	Compliance	Replaces
		01/09/08	New at Issue 68

The purpose of this product specification is to define the system requirements and operating rules for Automatic Route Setting in conjunction with VDU control systems

Price: D

NR/L3/SIG/10661	Signalling Maintenance Task Intervals Issue 17; Sep 18	Compliance	Replaces
		01/12/18	NR/L3/SIG/10661 Iss 16; Mar 18

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.

Price: D

NR/L3/SIG/10663	Signal Maintenance Specifications Issue 9; Sep 18	Compliance	Replaces
		01/12/18	NR/L3/SIG/10663 Iss 8: Mar 18

This L3 document contains the Network Rail Signal Maintenance Specifications (NR/SMS) that are the default maintenance regime for signalling assets on Network Rail Infrastructure.

Price: F Standard inc. ];

Complete, Phone See below for details of modules and individual pricing

Part	Title	Issue	Issue Date	Price
Α	General		TBC	
В	Tests		TBC	
С	Tasks		TBC	
D	Annual Level Crossing Tests		TBC	
E	Assets not Owned by signalling		TBC	
L	Local Instructions		TBC	
R	Maintenance Record Cards		TBC	
Т	Telecom Assets		TBC	
Z	Reference Values		TBC	
Appendix	Appendices		TBC	

This standard contains an additional PowerPoint Briefing

NR/L3/SIG/10665	Reliability Centred Maintenance of Signalling Equipment	Compliance	Replaces
	Issue 16: Sen 18	01/12/18	NR/L3/SIG/10665 lee 15: Mar 18

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 (NR/SMTH)	Compliance	Replaces
	Issue 12: Sep 18	01/12/18	NR/L3/SIG/11231 Iss 11: Mar 18

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

Price: F Standard inc. ];

Complete, Phone See below for details of modules and individual pricing

See below for details of modules and individual pricing

Section	Title	Issue	Date	Price
Part 01	Reference Documents & Definitions		TBC	
Part 02	SMT Process		TBC	
Part 03	Defined Checks & Tests		TBC	
Part 04	Test Plans		TBC	
Part M04	Missing Test Plans		TBC	
Part 05	Failure Investigation		TBC	
Part 06	Telecom Test Plans		TBC	
Part 07	Pre Planned Testing		TBC	



This standard contains an additional PowerPoint Briefing

NR/L3/SIG/11303	Signalling Installation Issue 7; Dec 16	Compliance	Replaces
		04/03/17	NR/L3/SIG/11303 lss 6; Mar 12

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.

Price: E Standard only; Complete, Phone See below for details of modules and individual pricing

Reference	Title	Issue	Issue Date	Price
1B05	Safety: Introduction	2	Sep 2010	С
1D05	Electrical Wiring: Installation Diagrams and Symbols	2	Sep 2010	D
1D10	Electrical Wiring: Wires and Cables	2	Sep 2010	В
1D15	Electrical Wiring: Wiring Up and Termination	2	Sep 2010	С
1D20	Electrical Wiring: Alterations to an existing installation	2	Sep 2010	С
1D25	Electrical Wiring: Stagework Techniques	2	Sep 2010	В
1H05	Tools and Techniques: Wire Connections and Crimping	2	Sep 2010	D
1H10	Tools and Techniques: Stripping Wires and Cables	2	Sep 2010	В
1H15	Tools and Techniques: Soldering	2	Sep 2010	В
1H20	Tools and Techniques: Wire Wrapping	2	Sep 2010	А
1H25	Tools and Techniques: Torque Wrenches	2	Sep 2010	Α
1M01	Labelling: Safety Signs	2	Sep 2010	В
1M05	Labelling: Wires and Cables	2	Sep 2010	С
1M10	Labelling: Internal Equipment	2	Sep 2010	А
1M20	Labelling Balises for TASS	2	Sep 2010	В
1Q05	Fixings: Nuts, Bolts, Screws, Washers, etc.	2	Sep 2010	С
1U10	Pre-commissioning Work: Setting up and Quality Checks	2	Sep 2010	В
1X05	General Advice: Good Housekeeping Practice	2	Sep 2010	В
1X10	General Advice: Common Pitfalls	2	Sep 2010	Α
2A10	Cabling: Jointing and Termination	2	Sep 2010	С
2C05	Relays: Basic Principles	3	Mar 2011	В
2C10	Relays: Plugboard Configuration	2	Sep 2010	Α
2E05	Equipment Rooms: Equipment and Wiring Practice	2	Sep 2010	С
2F05	Signal Boxes and Ground Frames: Electrical Equipment	2	Sep 2010	С
2F10	Signal Boxes: Lever Locks and Contacts	2	Sep 2010	С
2G05	Locations: Construction	5	Dec 2016	С
2G10	Locations: Fitting Out	2	Sep 2010	С
2J01	Power and Earthing: Electrical Safety	2	Sep 2010	С
2J05	Power and Earthing: Power Supplies	2	Sep 2010	А
2K05	Batteries: Primary Cells	2	Sep 2010	В
2K10	Batteries: Secondary Cells	2	Sep 2010	В
2M05	Signals: General	2	Sep 2010	С

Reference	Title	Issue	Issue Date	Price
2M10	Signals: Signals Not in Use	3	Dec 2016	В
2M15	Signals: Signs and Boards	2	Sep 2010	С
2P01	Track Circuits: Definitions	2	Sep 2010	В
2P05	Track Circuits: General	2	Sep 2010	С
2P10	Track Circuits: Rail Terminations	2	Sep 2010	В
2P15	Track Circuits: Bonding	2	Sep 2010	С
2P20	Track Circuits: DC	2	Sep 2010	В
2P25	Track Circuits: DC High Sensitivity	2	Sep 2010	В
2P30	Track Circuits: Jointless Track Circuits	2	Sep 2010	А
2P35	Track Circuits: Aster 'U' and SF15 Types	2	Sep 2010	В
2P40	Track Circuits: EBI Track 200 TI21 Types	2	Sep 2010	В
2P45	Track Circuits: Reed (Jointed) Type	2	Sep 2010	В
2P60	Track Circuits: Westinghouse Quick Release Type	2	Sep 2010	В
2Q05	Train Detection: Treadles: Silec Type	2	Sep 2010	С
2S05	Points: General	2	Sep 2010	С
2S10	Points: Electric Point Machines	2	Sep 2010	С
2S20	Points: Detection	2	Sep 2010	С
2S25	Points: Train Operated Point Systems	1	Mar 2011	В
2U05	Train Warning and Protection Systems: Automatic Warning System (AWS)	3	Dec 2010	С
2U15	Train Warning and Protection Systems: Train Stops	2	Sep 2010	А
2W05	Electronic Equipment: General	2	Sep 2010	В
2W10	Electronic Equipment: SSI and IECC Systems	3	Sep 2010	В
2X05	Level Crossings: Road Traffic Signals	2	Sep 2010	В
2X10	Level Crossings: Lifting Barrier Machines (BR 843 Mks 1 & 2)	2	Sep 2010	В
2X15	Level Crossings: CCTV	2	Sep 2010	В
2Y05	Balises: TASS Balise	2	Sep 2010	С

NR/L3/SIG/11761	Handbook for EBI Track 200 Audio Frequency Track Circuit	Compliance	Replaces
	Issue 5; Dec 17	03/03/18	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.

Price: C Standard only; Complete, Phone See below for details of modules and individual pricing

Module	Title	Issue.	Issue Date	Price
L0_A010	Network Rail EBI Track 200 Application Manual	3	Dec 17	F
L1_B010	EBI Track 200 Tl21 Audio Frequency Track Circuit - Technical Manual	5	Jan 15	Phone
L1_B020	EBI Track 200 Tl21 Audio Frequency Track Circuit - Single Rail Application	4	Mar 14	E
L2_C010	EBI Track 200/300/400 Application Note : Points and Crossings	8	Dec 14	D
L2_C020	EBI Track 200/300/400 Track Circuits Guidance Notes for Traction Bonding	4	Jun 15	D
L3-D010	EBI Track 200, 300 & 400 Track Circuits - Operation with Concrete Slab Track with Steel reinforcing or Iron Lined Tunnels	1	Sep 08	В
L3-D020	Summary of Fusing and Surge Arrestor Arrangements	5	Aug 12	В
L3-D040	ETX00 Check Rail Design Note with Application Rules for Tuned Zone Lengths	2	21-Sep-15*	С
L3-D060	ET200 Traction Bonding Impact on Parallel TC's Hazard Review and Rules	2	21-Sep-15*	С
Tools				
L3-D110	TI21 Test Meter (TTM) Operating Instructions	4	Oct 03	Α
L3-D140	ET200 / Tl21 Audio Frequency Track Circuit - Tuning Unit, End Termination Unit and Surge Protected End Termination Unit Test Rig	2	Sep 13	D
L3-D150	TI21 Sleeper Insulation Tester (SIT) Operating Instructions	2	Oct 02	А
Condition Mor	nitoring			
L3_D210	EBI Track 200 - Track Circuit Condition Monitoring (Guide to using the CM interface)	1	Mar 10	С
L3_D220	PC Application User's Manual : Customer Version	2	Nov 11	С
Reliability				
L3_D310	EBI Track 200 TI21 Use of Compensating Capacitors	1	Oct 12	С
L3_D320	Modifications to EBI Track 200 TI21 Tuning Unit and ETU T1/T2 Connections and Trackside Wiring Recommendations	3	Jan 12	В
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 Tl21 Track Circuit Cases	1	Oct 09	

## 4.20 SIGNAL ENGINEERING

Module	Title	Issue.	Issue Date	Price
G030	Application of "Gain of 9 restriction" to TI21 track circuits on LT&S Resignalling Project containing not	1	Dec 11	
	more than one impedance bond where a buried earth wire is provided for earth bonding.			

<sup>\*</sup> Published in standards and controls framework 2-Dec-17

NR/L3/SIG/11767	Handbook for EBI Track 400 Audio Frequency Track Circuit	Compliance	Replaces
	Issue 1; Mar 18	02/06/18	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.

Price: C Standard only; Complete, Phone See below for details of modules and individual pricing

NR/L3/SIG/11767/	Title	Issue.	Issue Date	Price
A010	Network Rail EBI Track 400 Application Manual	Issue 1	Mar 2018	Phone
B010	EBI Track 400 Coded Track Circuit - Technical Manual for Open Line Applications	Issue 1	Oct 2014	Phone
B020	EBI Track 400 Coded Track Circuit - Technical Manual Supplement for Station Areas	Issue 1	Oct 2014	Phone
B030	EBI Track 400 Audio Frequency Track Circuit - Addendum to the Open Line Manual - Single Rail Application	Issue 1	Nov 2014	D
C010	EBI Track 400/300/400 Application Note : Points and Crossings	Issue 1	Dec 2014	D
C020	EBI Track 400/300/400 Track Circuits Guidance Notes for Traction Bonding	Issue 1	Jun 2015	D
C030	EBI Track 400 Infrastructure Compatibility - Review of the Compatibility of EBI Track 400 with Network Rail Infrastructure	Issue 1	Feb 14	D
D010	EBI Track 200, 300 & 400 Track Circuits - Operation with Concrete Slab Track with Steel reinforcing or Iron Lined Tunnels	Issue 1	Aug 2008	В
D020	EBI Track200 - Summary of Fusing and Surge Arrestor Arrangements	Issue 1	Aug 2012	В
D030	EBI Track 400 - Earth Leakage Testing of 48VDC Supplies	Issue 1	Oct 2014	Α
D040	ETX00 Check Rail Design Note with Application Rules for Tuned Zone lengths	Issue 1	Sep 2015	С
D060	ET200 Traction Bonding Impact on Parallel TC's Hazard Review and Rules	Issue 1	Feb 2017	С
D110	TI21 Test Meter (TTM) Operating Instructions	Issue 1	Oct 2003	Α
D120	TI21 Test Meter (MTM) Operating Instructions	Issue 1	Oct 2003	Α
D130	Bombardier MTM & TTM Additional Operating Instructions	Issue 1	Mar 2018	Α
D140	ET200 / Tl21 Audio Frequency Track Circuit - Tuning Unit, End Termination Unit and Surge Protected End Termination Unit Test Rig	Issue 1	Sep 2013	D
D210	EBI Track 400 - Track Circuit Condition Monitoring (Guide to using the CM interface)	Issue 1	Mar 2010	С
D220	PC Application User's Manual : Customer Version	Issue 1	Nov 2011	С

NR/L3/SIG/19102	Advanced SSI Go/No-Go Tester Specification Issue 1; Aug 08	Compliance	Replaces
		01/12/08	New at Issue 69

This document is the Network Rail Specification for a second-generation SSI (Solid State Interlocking) Go/No-Go Tester.

Price: E

NR/L3/SIG/19272	Signalling Equipment Workshop Engineering Notice	Compliance	Replaces
	(SIGWEN021) Signalling Relays Issue 5; Jun 11	04/06/11	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.

Price: D

NR/L3/SIG/19808	Hy-Drive Supplementary Point Drive System Issue 3; Aug 14	Compliance	Replaces
		30/09/14	NR/GN/SIG/19808 lss 2; Sep 11

The contents of this standard provide information on how to install and set-up Hy-Drive Supplementary Point Drive System when used on Network Rail controlled Infrastructure.

This standard will produce the relevant guidance and mandatory information to supports the installation and maintenance of the Hy-Drive Supplementary Point Drive System. Information published within NR/SIN/118 to mitigate the risk of flange contact with the Break-Out Device is contained within this document.

The Hy-drive Supplementary Point Drive System now has two designs known as MkI and MkII. This Work Instruction explains the key changes that were introduced in 2014 as part of the MkII design.

NR/L3/SIG/19810	Signal Engineering Involvement in Civil Engineering Work	Compliance	Replaces
	Issue 2; Aug 08	26/08/08	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.

Price: D

NR/L3/SIG/20047	Management of Safety Related Reports for Signalling	Compliance	Replaces
	Failures Appendix Issue 2; Jun 17	02/09/17	NR/L3/SIG/20047 lss 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.

Price: E

NR/L3/SIG/30011	Signalling Equipment Support Specification Issue 1; Jun 08	Compliance	Replaces
		01/09/08	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.

Price: D

NR/L3/SIG/30051	Signalling Functional Power Loads Data Management	Compliance	Replaces
	Issue 1; Mar 10	05/06/10	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.

Price: C

NR/L3/SIG/30071	Specification For Point Interface Location Issue 1; Jun 09	Compliance	Replaces
		06/06/09	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.

Price: C

NR/L3/SIG/30075	Production of Non-Conceptual Signalling Design	Compliance	Replaces
	Issue 2; Mar 12	02/06/12	NR/L3/SIG/30075 Iss1; Mar 10

This standard defines an appropriate design production and management process for:-

- Campaign changes,
- Equipment upgrades,
- · Emergency works,
- Recovery of redundant trackside assets.

The design may be based on site records rather than source records where appropriate. This standard allows the design to be produced and checked by competent staff within a maintenance or minor projects organisation.

Price: D

NR/L3/SIG/30082	Axle Counter System Handbook Issue 2; Dec 10	Compliance	Replaces
		05/03/11	NR/L3/SIG/30082 lss 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.

Price: C Standard only; Complete, Phone See below for details of modules and individual pricing

NR/L3/SIG/30082/	Title	Issue	Issue Date	Price
002	Axle Counter Installation, Testing and Commissioning Requirements	1	Mar 2010	Е
003	Axle Counter Software / Data Rules	1	Dec 2010	С
004	Product Specification for Axle Counter Equipment	1	Mar 2010	D
010	Design and Application Rules - Thales Axle Counter Systems	1	Dec 2010	D

NR/L3/SIG/31655	Inspection of Cable & Wire Degradation Issue 1; Dec 11	Compliance	Replaces
		03/12/11	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

Price: C

NR/L3/SIG/MG0110	Imposition and Removal of Emergency and Temporary Speed Restrictions Issue 3; Jun 12	Compliance 01/09/12	Replaces NR/L3/SIG/MG0110 Iss 2; Aug 08
			=, =

This procedure details the process for the imposition and subsequent removal of emergency and temporary speed restrictions by maintenance staff on Network Rail infrastructure.

Price: C

NR/L3/SIG/SG0053	Preventative Maintenance of Signalling Assets	Compliance	Replaces
	Issue 3; Sep 11	03/09/11	NR/L3/SIG/SG0053 lss 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.

Price: C

NR/L3/SIG/SG0054	Corrective Maintenance of Signalling Assets Issue 3; Aug 08	Compliance 26/08/08	Replaces NR/PRC/MTC/SG0054
			lss 2; Apr 07

The purpose of this document is to define the process for corrective maintenance of Network Rail signalling assets.

Price: C

NR/L3/SIG/SG0057	Management of Signal Relay Reservicing Issue 2; Aug 08	Compliance	Replaces
		26/08/08	NR/PRC/MTC/SG0057
			lss 1; Jun 07

This procedure details the responsibilities for establishing and maintaining a signal relay reservicing database along with a relay reservicing programme.

Price: B

NR/L3/SIG/SG0058	Management of Defective Cables Issue 2; Sep 11	Compliance	Replaces
		03/09/11	NR/L3/SIG/SG0058 lss 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.

Price: B

NR/L3/SIG/SG0065	Management of Disconnections that Affect Signalling	Compliance	Replaces
	Equipment Issue 2; Aug 08	26/08/08	NR/PRC/MTC/SG0065
			Iss 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.

Price: C

NR/L3/SIG/SG0079	Signalling Responsibilities for S&C Maintenance	Compliance	Replaces
	Issue 3; Jun 10	04/09/10	NR/L3/SIG/SG0079 lss 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).

Price: C

NR/L3/SIG/SG0093	Signalling Equipment Affected by Emergency and Temporary Speed Restrictions Issue 2; Aug 08	Compliance 26/08/08	Replaces NR/PRC/MTC/SG009
			Iss 1; Jun 07

This procedure details the process for situations where the imposition of an emergency or temporary speed restriction will result in existing signalling warning equipment (e.g. automatic warning systems or automatic train protection) giving contrary or misleading indications to the driver of an approaching train to that of the warning system associated with the speed restriction.

Price: C

## 4.20 SIGNAL ENGINEERING

SIG Level 3

NR/L3/SIG/SG0108	Signalling Maintenance Vehicle Stock Check and Replenishment Issue 2; Aug 08	Compliance 26/08/08	Replaces NR/PRC/MTC/SG0108
			lss 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.

Price: C

NR/L3/SIG/SG0111	Design of Emergency and Temporary Speed Restrictions	Compliance	Replaces
	Issue 3; Sep 11	03/09/11	NR/L3/SIG/SG0111 Iss 2; Aug 08

This procedure identifies the process and allocates responsibilities for the design of both emergency and temporary speed restriction that are requested by maintenance.

Price: C

NR/L3/SIG/SG0138	Management of Signalling Wrong Side Failures	Compliance	Replaces
	Issue 2; Aug 08	26/08/08	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.

Price: C

NR/L3/SIG/SG0139	Management of Right On Arrival and Repeat Signal Failures	Compliance	Replaces
	Issue 2; Aug 08	26/08/08	NR/PRC/MTC/SG0139
: : Q			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.

Price: C

NR/L3/SIG/SG0154	Management of Signalling Defects Issue 2; Aug 08	Compliance	Replaces
		26/08/08	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.

Price: B

NR/L3/SIG/SG0155	Management of Isolation, Re-sets & Restoration On Axle	Compliance	Replaces
	Counter Equipment Issue 2; Aug 08	26/08/08	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.

Price: C

NR/L3/SIG/SG0162	Management of Signalling Maintenance Diagrams Issue 2; Aug 08	Compliance 26/08/08	Replaces NR/PRC/MTC/SG0162	
	, <b>,</b> , ,		lss 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.

Price: B

NR/L3/SIG/SG0163	Management of Data from Logging Systems & Event	Compliance	Replaces
	Recorders Issue 3; Sep 11	03/09/11	NR/L3/SIG/SG0163 lss 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.

Price: C

## 4.20 SIGNAL ENGINEERING

SIG Level 3

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.

Price: B

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.

Price: D

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.

Price: D

NR/L3/SIGELP/27427 Identification and Colours for Signalling Power Distribution Compliance Cables Issue 1; Sep 16 Compliance 09/01/17 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.

Price: C

NR/L3/SIGELP/50001 Signalling Power Distribution Equipment above 175 Volts
Issue 3; Mar 17

Compliance
07/12/18

NR/L3/SIGELP/50001
Iss 3; Mar 17

This manual contains the work instructions which are to used when maintaining, fault finding and repairing signalling power distribution equipment above 175 V.

Price: D Standard only; Complete, F See below for details of modules and individual pricing

NR/SPS/	Title	Issue	Issue Date	Price
A001	Maintenance Periodicities	1	Dec 2017	Α
A002	Use of Joints and Terminations for Aluminium Signalling Power Distribution Cables	1	Dec 2017	Α
G001	Guidance for the use of Editable PDF Forms	1	Dec 2017	В
M001	FSP and Cabling Maintenance (Signalling Power Distribution Equipment above 175 V AC)	3	Dec 2017	С
M002	Defect Management for Signalling Power Distribution Equipment above 175 V AC	4	Dec 2017	С
M003	Insulation Resistance Monitor Management and Maintenance	3	Dec 2017	В
M005	Interrupter Cables Management and Maintenance	2	Dec 2016	В
M006	Maintenance of Auto Reconfiguration Equipment	1	Dec 2016	Α
M007	Inspection of Temporary Protective Measures at Location Cases	1	Dec 2016	Α
M010	Distribution Interface Transformer Assembly (DITA) Maintenance	1	Dec 2017	Α
T001	Earth Electrode Testing	2	Dec 2016	В
T002	Cable Insulation Resistance Test	2	Dec 2016	А
T003	Conductor and CPC Continuity Tests	2	Dec 2016	А
T004	Insulation Resistance Monitor Equipment Test	2	Dec 2016	А
T006	Transformer Insulation Resistance Test	3	Dec 2017	А
T007	Earth Loop Impedance Test (TN & TT systems)	1	Dec 2016	А

SIG Work Inst / Guidance

NR/L3/SIGELP/50002 Safe Working Practices When Working on or Near Signalling Power Distribution Equipment Above 175 Volts

| Supermoderate | Supermoderate | Power Distribution Equipment Above 175 Volts | Supermoderate | Power Distribution Equipment Above 175 Volts | Supermoderate | Power Distribution Equipment Above 175 Volts | Supermoderate | Power Distribution Equipment Above 175 Volts | Power Di

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.

Price: D Additional Excel Content Available: Phone

### **Associated Document**

NR/L3/SIGELP/ 50002/	Title	Issue	Issue Date	Price
BRIEFING	Briefing	1	Dec 2016	Е

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.

Price: D

### **Work Instruction**

NR/WI/SIG/00111 Points General – Supplementary Drives – Mechanical Compliance Replaces Issue 2: Apr 06 31/07/07				
· · · · · · · · · · · · · · · · · · ·	NR/WI/SIG/00111	Points General – Supplementary Drives – Mechanical	Compliance	Replaces
		Issue 2; Apr 06	31/07/07	

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.

Price: D

### **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 lss 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".

Price: D

NR/GN/SIG/02025	Guidance for Consideration of TASS Balises During Railway Engineering	Replaces
	Activities Issue 2; Dec 05	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.

Price: B

NR/GN/SIG/10099 Risk Based Maintenance – Implementation Guidance Issue 2; Aug 08 Replaces
RT/E/C/10099 Iss 1; Dec 02

The purpose of this document is to provide guidance for the implementation of risk based maintenance regimes.

Price: B

NR/GN/SIG/10670 ROSE Project – Implementation Guide Issue 2; Mar 11 Replaces
NR/GN/SIG/10670 Iss 1; Sep 08

These guidance notes expand upon the implementation process defined in NR/SP/SIG/10662

Price: B

NR/GN/SIG/17901 SSI Configuration Guide Issue 4; Jun 12 Replaces
RT/E/C/17901 Iss 3; Oct 99

This document is a guide to the permitted configurations of SSI hardware, as in use by Network Rail.

Price: E

### **Associated Document**

NR/GN/SIG/17901/	Module	Issue	Issue Date	Price
Α	Appendix	1	Jun 12	D

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.

Price: E

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.

Price: F

NR/GN/SIG/19002 WRSL - Style 63 Point Machine (SIGTAN 002) Issue 3; Jun 07

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.

Price: C

NR/GN/SIG/19012 SIGTAN012 Cables and Wiring Used for Signalling Systems Issue 4; Aug 08

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.

Price: D

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.

Price: D

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

Price: D

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.

Price: Phone

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.

Price: B Standard only; Complete, Phone

See below for details of modules and individual pricing

NR/GN/SIG/19054/	Title	Issue	Issue Date	Price
1	Part 1 Introduction	2	Dec 2009	А
2	Part 2 System Description	2	Dec 2009	А
3	Part 3 General Information	2	Dec 2009	В
4	Part 4 Multi-Processor Module (MPM)	2	Dec 2009	E
5	Part 5 Panel Processor Module (PPM)	2	Dec 2009	С
6	Part 6 Signal Module (SM)	2	Dec 2009	D
7	Part 7 Points Module (PM)	2	Dec 2009	С
8	Part 8 Data Link Module (DLM)	2	Dec 2009	В

NR/GN/SIG/19054/	Title	Issue	Issue Date	Price
9	Part 9 Long Distance Terminal (LDT)	2	Dec 2009	С
10	Part 10 Technicians Terminal (TT)	2	Dec 2009	D
11	Part 11 SSI Data Link Testing	2	Dec 2009	Е
12	Part 12 Guide to SSI Earthing and Bonding	2	Dec 2009	С

NR/GN/SIG/19101	Good Practice Guide - Acic Track Circuit Leaf Fall Detection Unit	Replaces
	Issue 1; Aug 05	

A new standard: to provide guidance on the provision and use of the ACIC track circuit leaf fall detection unit.

Price: B

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).

Price: D

NR/GN/SIG/19801 Sittingbourne - Sheerness: Control and use of VHLC Local Control Panels Replaces Issue 1; Feb 06

This document describes the control and operating principles of the Vital Harmon Logic Controller (VHLC) Local Control Panels (LCPs).

Price: D

NR/GN/SIG/50014 Methodology for the Demonstration of Compatibility with Lineside Equipment RT/E/G/50014 Iss 1; Feb 03 Issue 2: Aug 08

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.

Price: D

RT/E/C/11724 Signalling Works Test Specifications and Historical Test Value Data Replaces Issue 1: Jun 02

This code of practice has been produced in support of GK/RT 0209 and company specification RT/E/S/11221. The contents are designed as examples of test specification content that might be employed to ensure that suitable and sufficient testing has been carried out to infrastructure products during the process of signalling works testing.

Price: E

#### 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.

Price: E

#### RT/E/C/11821 Siting Requirements for Lineside Apparatus Housings Issue 1; Aug 00

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.

Price: C

#### 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.

Price: C

RT/E/C/19008 SIGTAN008 Sangamo/Schlumberger Time Switches Used at Level Crossings Replaces Issue 2; Oct 00 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.

Price: B

RT/E/C/19010 SIGTAN010 Circuit Controllers Used with BR843 Level Crossing Lifting Replaces
Barriers Issue 1; Jun 96

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.

Price: B

## 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.

Price: F

### 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.

Price: B

## 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.

Price: B

### 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.

Price: B

## 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.

Price: B

## 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.

Price: B

## 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.

Price: C

## 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.

Price: B

## 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.

Price: B

#### 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.

Price: C

#### 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.

Price: B

#### 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.

Price: D

#### 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.

Price: D

#### 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

Price: C

#### 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

Price: E

#### 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

Price: B

#### 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

Price: B

#### 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

Price: D

#### RT/E/C/19050 SIGTAN050 Western Region Type Barrier Machine Hydraulic Ram - Ram Pin Replaces

Failure Issue 1; Dec 02

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.

Price: B

#### 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.

Page 161

Price: C

#### RT/E/C/19052 SIGTAN052 TPWS in Radio Electronic Token Block (RETB) - Faulting Guidance Replaces

Issue 1; Apr 04

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.

Price: D

#### RT/E/C/19254 SIGWEN003 GEC-GS HW Point Machine Issue 4; Dec 02

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.

Price: C

#### 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

Price: A

#### 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.

Price: A

#### 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

Price: R

#### 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.

Price: B

#### 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.

Price: B

#### 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.

Price: B

#### RT/E/C/50005 Methodology for the Demonstration of Compatibility with 50Hz Single Rail

Replaces

Track Circuits Issue 1; Feb 03

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.

Price: D

### RT/E/C/50007 Methodology for the Demonstration of Compatibility with HVI Track Circuits

Replaces

Issue 1: Feb 03

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 Replaces TI 21 Track Circuits Issue 1; Feb 03

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.

Price: D

RT/E/C/50009 Methodology for the Demonstration of Compatibility with FA2600 Track Replaces Circuits on the DC Railway Issue 1; Feb 03

The purpose of this document is to provide a methodology to demonstrate compatibility with FS2600 track circuits on Network Rail 750Vdc electrified railway.

Price: D

RT/E/C/50013 Methodology for the Demonstration of Compatibility with Interlockings Replaces Issue 1; Feb 03

The purpose of this document is to provide a methodology to demonstrate compatibility with interlocking systems installed on the a.c. and d.c. electrified railway on Railtrack controlled infrastructure. This is achieved by specifying criteria/standards against which test results from new rolling stock should be compared to enable a safety case to be made.

Price: C

RT/E/C/50018 Methodology for the Determination of Interaction with Neighbouring Railways Replaces Issue 1; Feb 03

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.

Price: D

RT/E/G/00013 **Guidance For Consideration of TPWS During Railway Engineering Activities** Replaces Issue 1: Jun 02

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

Price: B

RT/E/G/00028 General Guidelines on Train Protection and the Provision of Signalling 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.

Price: F

### **Special Inspection Notices**

NR/SIN/126 Risk Based Campaign for the Installation of Tubular Compliance Replaces Stretcher Bars Issue 4; Sep 17 30/04/18 NR/SIN/126 Iss 3; Jul 17

This SIN covers the installation of the new tubular stretcher bar in existing switches as part of a programme to reduce risk.

Price: D

NR/SIN/155 Warning Signs for A.C. & D.C. Switching Stations Compliance Replaces 07/10/18 Issue 1: Oct 16 New at Issue 102

This Special Inspection Notice (SIN) has been issued in response to incidents that occurred on 11kV switchgear at Kenton substation on 16 July 2009 and Milton 25kVac Feeder station on 23/08/2013.

It is also in response to an incident at Oatlands substation on 21st September 2014 where a technician received an electric shock due to not removing fuses to isolate equipment before starting work on it.

Price: C

**NR/SIN/161 Permanent Speed Restrictions Fitted with TPWS** Compliance Replaces Issue 1; Feb 17 20/02/18 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.

Additional Excel Content Available: Phone Price: B

## 4.20 SIGNAL ENGINEERING

**SIG** SINs

NR/SIN/162	Inspection of Dorman Classic and CLS LITE LED Signals	Compliance	Replaces
	Issue 1; Jul 17	31/10/18	New at Issue 105

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.

Additional Excel Content Available: Phone

NR/SIN/169	VT1 Type Relays Inspection Issue 1; Jan 18	Compliance	Replaces
		31/01/19	New at Issue 107

The purpose of this Special Inspection Notice (SIN) is to:

- inspect the vane front-stop assemblies of all VT1 style relays;
- inspect the varie from step assembles of all VYY style leady inspect all the slipper stop and vane stop-plates; locate all the Westalite stabiliser unit manufactured by NRS;
- replace any relays deemed to be defective.

Price: C

NR/SIN/181	Signal Overrun Risk Assessment - Gap Analysis	Compliance	Replaces
	Issue 1; July 18	25/09/19	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.

Price: C

## 4.21.1 Engineering Programme Management

AMG/EBM Level 1 / Level 2

### 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 Compliance Issue 1; Dec 08 01/03/09 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.

Price: B

Level 2

NR/L2/AMG/1020 Buried Services Data Provision Issue 1: Dec 08 Compliance Replaces NR/L2/AMG/028 Iss 4; Jun 08 01/03/09 NR/L3/AMG/00114

This standard defines a consistent method for obtaining buried services search information before work is started on site.

Price: D

NR/L2/AMG/1030 Working Safely in the Vicinity of Buried Services Compliance Replaces Issue 1: Dec 08 01/03/09 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

Price: E

NR/L2/AMG/1040 Buried Services Data Feedback Issue 1; Dec 08 Compliance Replaces 01/03/09 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

Price: C

NR/L2/AMG/02106 The Provision of Track Category and Traffic Data - Procedure Compliance Replaces (Formerly - Management of the Effects of Changing Traffic Flows 26/08/08 NR/L2/BUS/02106 on Maintenance) Issue 4; Jun 08 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.

Price: D (Contains NR/BS/LI/305)

NR/L2/EBM/088 Arrangements for Maintenance of New and Changed Assets Compliance Replaces NR/L2/MTC/088 Iss 3; Aug 08 Issue 4; Jun 09 05/09/09

This standard sets out the requirements for introducing new assets or affecting existing assets on Network Rail infrastructure; it is supported by NR/L3/MTC/089 Asset Management Plan.

Price: B

NR/L2/HAM/02201 Management of Risk Arising from Deferred Renewals Compliance Replaces 03/09/16 NR/L2/HAM/02201 Iss 4; Mar 12 Issue 5: Jun 16

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

Price: B

## **4.21 SYSTEM ENGINEERING**

4.21.1 Engineering Programme Management

**AMG/EBM** Level 3

NR/L3/AMG/02107 **Provision of Track Category and Traffic Data - Work** Compliance Replaces Instruction Issue 3; Jun 08 01/12/07 NR/L3/BUS/02107 Iss 2: Dec 07

This standard 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.

Price: D

NR/L3/EBM/089 Asset Management Plan Issue 1; Jun 09 Compliance Replaces 05/09/09 (NR/L3/MTC/089) NR/L3/EBM/089 - Renumbered

This document specifies the process to be followed and the forms to be used to produce an Asset Management Plan (AMP) that meets the requirements of NR/L2/EBM/088 Arrangements for maintenance of new and changed assets.

Additional Excel Content Available: Phone

## 4.21.3 Railway System Engineering

NR/L2/RSE/0005	Product Design for Reliability Issue 2; Dec 17	Compliance	Replaces
		03/03/18	NR/L2/RSE/0005 Iss 1: Jun 16

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.

Price: E

NR	L2/RSE/070	Engineering Verification Issue 2; Dec 11	Compliance	Replaces
			03/03/12	NR/L3/EBM/070 Iss 1
				NR/L3/EBM/071 Iss 1

Engineering Verification is a part of Network Rail's assurance process for confirming that infrastructure assets are fit for purpose.

Price: D

NR/L2/RSE/100	Network Rail Assurance Panel Processes Issue 4; Dec 17	Compliance	Replaces
		03/03/18	NR/L2/RSE/100 Iss 3; Dec 15

Network Rail Assurance Panel (NRAP) governs a number of Network Rail processes on behalf of Network Rail's Executive through the STE Business Performance Management Group (STE BPMG).

These processes help Network Rail comply with its statutory responsibilities and Health and Safety Management System when a change is introduced that could change the risk profile of Network Rail Infrastructure.

This module sets out how NRAP carries out these responsibilities and delegates authority to bodies and individuals within Network Rail.

Price: E Standard only: Complete, Phone See below for details of modules and individual pricing

NR/L2/RSE/100/	Module	Issue	Issue Date	Price
01	Network Rail Assurance Panel	2	Dec 2015	С
02	Application of the Common Safety Method for Risk Evaluation and Assessment	3	Dec 2015	D
03	The Application of the Interoperability Regulations for Insfrastructure Projects	2	Dec 2015	D
04	Introduction of New or Modified Vehicles	2	Dec 2015	В
05	Product Acceptance and Change to Network Rail Operational Infrastructure	3	Dec 2017	D
07	System Review Panels	2	Dec 2015	С

NR/L2/RSE/30041	Electromagnetic Compatibility (EMC) Assurance Process	Compliance	Replaces
	Issue 2; Jun 12	01/09/12	NR/L2/RSE/30041 lss 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).

TEL

Co. Stds / Specs

## 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.

Price: C

**Specifications** 

NR/SP/TEL/30002 Signal Post Telephone Concentrator Systems Issue 4: Apr 06

Replaces

RT/E/S/30002 Iss 3; Dec 01

This document defines the requirements to be met by a signal box telephone concentrator system.

Telecommunications Services Issue 4; Dec 06

Price: D

NR/SP/TEL/30024 Fault Priority and Response Times for Operational

Requirements Issue 2; Apr 06

Compliance Replaces

03/03/07

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.

Price: B

NR/SP/TEL/30031 Signal Box Telephone Concentrator System Design and Application

Replaces

RT/E/S/30031 Iss 1; Dec 00

This document defines the minimum requirements to be applied in the design of a signal box concentrator system and in the application of requirements to meet railway operating rules.

Price: B

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

Price: C

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.

Price: D

NR/SP/TEL/50016

Methodology for the Demonstration of Compatibility with Telecoms Systems

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.

Price: D

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.

Price: C

**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.

## 4.22 TELECOMS ENGINEERING

TEL Prod Specs

NR/PS/TEL/00015 Unit Twin Copper Telecommunications Cable Issue 3; Apr 06

RT/E/PS/00015 lss 2; Jun 03

This document is for use in procurement contracts for polyethylene sheathed and ZHLS sheathed external copper telecommunications cables.

Price: D

NR/PS/TEL/00025 Synchronous Digital Hierarchy Multiplexing Equipment Issue 2; Apr 06 Re

Replaces

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.

Price: C

NR/PS/TEL/00026 Primary PCM Multiplex Equipment Issue 2; Apr 06

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.

Price: C

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.

Price: C

NR/PS/TEL/00028 Controlled Climate Trackside Housing for Telecommunications Equipment

Replaces

RT/E/PS/00028 lss 1; Feb 02

This Product Specification states the minimum requirements for Controlled Climate Trackside Housings for Telecommunications Equipment supporting operational railway and business services.

Price: C

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.

Price: D

NR/PS/TEL/31102

Screening Conductor for the Immunisation of Telecommunications Cables

Replaces

Issue 1; Dec 06

A product specification which shall be used when procuring a screening conductor for the immunisation of telecommunications cables on Network Rail infrastructure.

NR/L1/TEL/30029 Telecoms Installation Issue 4; Mar 10 Compliance Replaces 06/03/10 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.

Price: B

NR/L1/TEL/30092 **Telecoms Testing and Commissioning Procedure** Compliance Replaces NR/L1/TEL/30092 Iss 3; Mar 10 Issue 4; Dec 16 04/03/17

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 Replaces 06/03/10 NR/L1/TEL/30099 Iss 3; Aug 08

This standard sets out the process which Network Rail shall use to manage its telecoms assets.

Price: C

NR/L1/TEL/30100 Telecoms Design Issue 3; Mar 10 Compliance Replaces 06/03/10 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.

Price: D

NR/L1/TEL/30102 Network Rail Asset Management Policy - Telecommunications Compliance Replaces Engineering Issue 1; Sep 09 05/09/09 New at Issue 73

The purpose of this document is to set the principles of how Telecommunications Assets are to be managed through their life-cycle to meet the defined output requirements of each Route.

Price: C

NR/L2/TEL/00013 Specification for Cable Troughing Issue 4; Mar 16 Compliance Replaces 04/06/16 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.

Price: D

NR/L2/TEL/30003 **Immunity Test Requirements for Lineside Communications** Compliance Replaces NR/L2/TEL/30003 Iss 3; Jun 09 Systems Issue 4; Dec 16 04/03/17

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.

Price: D

NR/L2/TEL/30022 **Engineering Assurance Arrangements for Communications** Compliance Replaces Engineering Schemes and Services Issue 7; Jun 11 03/09/11 NR/L2/TEL/30022 Iss 6; Mar 10

To define procedures for the technical acceptance requirements for changes to the infrastructure to telecommunications schemes and services.

Price: C

NR/L2/TEL/30025 **Standby Power Supply Requirements for Telecommunications** Compliance Replaces 03/03/18 NR/L2/TEL/30025 Iss 4; Sep 09 Equipment Issue 5; Dec 17

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.

Price: C

## 4.22 TELECOMS ENGINEERING

TEL Level 2

NR/L2/TEL/30026	Operation and Management of the National Radio Network	Compliance	Replaces
	Issue 5: Mar 10	06/03/10	NR/L2/TFL/30026 Iss 4: Aug 08

The purpose of this document is to describe the Network Rail company policy to support the operation and management of the national radio network

Price: D

NR/L2/TEL/30027 **Technical Requirements for Legacy Train Radio** Compliance Replaces 06/03/10 NR/L2/TEL/30027 Iss 4; Aug 08 Communication Issue 5; Mar 10

This document identifies the technical requirements for legacy analogue radio systems providing two-way speech communication to trains to ensure their compliance with Railway Group standard GE/RT8080. It does not apply to GSM-R, GSM-P, IVRS or Shunting radio systems. It shall cease to apply after 1st January 2011 unless the specific restriction in GE/RT8080 section 2.3.3 is amended or removed.

Price: C

NR/L2/TEL/30028 **Installation of Operational Telecommunications Equipment** Compliance Replaces Issue 3; Mar 10 06/03/10 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.

Price: C

NR/L2/TEL/30033 Inspection and Surveillance of Telecommunications Compliance Replaces Engineering Activities Issue 7; Mar 10 06/03/10 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

Price: B

NR/L2/TEL/30034 **Radio Mast Lightning Protection and Earthing Systems** Compliance Replaces Issue 4; Mar 10 06/03/10 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** Compliance Replaces for Telecommunication Systems Issue 4; Aug 08 26/08/08 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.

Price: C

NR/L2/TEL/30066 Signalling and Telecommunications Telecoms Clearance for Compliance Fixed Transmitters Issue 7; Mar 10 06/03/10 NR/L2/TEL/30066 Iss 6; Aug 08

The purpose of this procedure is to detail the telecoms clearance process to reduce the risk of interference from fixed transmitters to as low as reasonably practicable (ALARP).

Price: D

NR/L2/TEL/30067 The Transmission of Safety Related Information Issue 2; Dec 11 Compliance Replaces 03/03/12 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).

Price: B

NR/L2/TEL/30069 Specification for the Inspection and Minor Maintenance of Compliance Lineside S&T Cable Routes Issue 2; Mar 09 05/09/09 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.

Price: C

Licensee=Network Rail/1121233006, User=Whitaker, Neil

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NR/L2/TEL/30070	Specification for the Maintenance of Telecoms Copper Cables	Compliance	Replaces
	Issue 2: Mar 09	05/09/09	NR/WI/TFL/30070 lss 1: Jun 06

This telecoms maintenance instruction defines the maintenance requirements for copper cables in use on Network Rail infrastructure.

Price: C

NR/L2/TEL/30072	Specification for the Maintenance of DOO(P) CCTV, Guard-	Compliance	Replaces
	Assisted CCTV and DOO Mirror Systems Issue 3; Dec 12	02/03/13	NR/L2/TEL/30072 lss 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.

Price: C

NR/L2/TEL/30073	Specification for the Maintenance of Driver-to-Signalbox	Compliance	Replaces
	Radio Systems (CSR and SMA) Issue 2; Mar 09	05/09/09	NR/WI/TEL/30073 lss 1; Jun 06

This instruction defines the maintenance requirements for Cab Secure Radio systems in use on Network Rail infrastructure.

Price: C

NR/L2/TEL/30075	Specification for the Maintenance of Electro-mechanical	Compliance	Replaces
	Concentrators Issue 2; Mar 09	05/09/09	NR/WI/TEL/30075 lss 1; Jun 06

This instruction defines the maintenance requirements for electro-mechanical concentrators used by Network Rail.

Price: D

NR/L2/TEL/30078	Specification for the Maintenance of Network Control	Compliance	Replaces
	Processor Systems Issue 2; Mar 09	05/09/09	NR/WI/TEL/30078 lss 1; Jun 06

This instruction defines the maintenance requirements for Network control processor systems in use on Network Rail infrastructure.

Price: B

NR/L2/TEL/30079	Specification for the Maintenance of National Radio Network	Compliance	Replaces
	(NRN) and Overlay Radio Network (ORN) Issue 2; Mar 09	05/09/09	NR/WI/TEL/30079 lss 1; Jun 06

This instruction defines the maintenance requirements for the National Radio Network and Overlay Radio Network systems in use on Network Rail infrastructure.

Price: C

NR/L2/TEL/30080	Specification for the Maintenance of Whiteley PETS	Compliance	Replaces
	Issue 3; Jun 14	06/09/14	NR/L2/TEL/30080 Iss 2; Mar 09

The purpose of maintaining and testing Whiteley public emergency telephone system (PETS) is to decrease the incidence of failures through deterioration and to identify potential failures before they become service affecting...

Price: B

NR/L2/TEL/30083	Specification for the Maintenance of Telephone Instruments in	Compliance	Replaces
	Operational Buildings Issue 2; Mar 09	05/09/09	NR/WI/TEL/30083 lss 1; Jun 06

This telecoms maintenance instruction defines the maintenance and functional testing that Network Rail require for their telephones used in operational buildings.

Price: C

NR/L2/TEL/30084	Specification for the Maintenance of Lineside Telephones and	Compliance	Replaces
	Tail Cables Issue 3; Jun 14	06/09/14	NR/WI/TEL/30084 Iss 2; Mar 09

The purpose of maintaining and testing lineside telecom services is to decrease the incidence of failures through deterioration and to identify potential failures before they become service affecting.

Price: D

NR/L2/TEL/30085	Specification for the Maintenance of Electronic PABX	Compliance	Replaces
	Concentrators Issue 2; Mar 09	05/09/09	NR/WI/TEL/30085 lss 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	Compliance	Replaces
	Transmission Systems Issue 3: Dec 12	02/03/13	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.

Price: C

NR/L2/TEL/30087	Specification for the Maintenance of UHF Spot Scheme and	Compliance	Replaces
	Marine Radio Systems Issue 2; Mar 09	05/09/09	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.

Price: C

NR/L2/TEL/30094	Installation of Telecommunications Equipment and Systems	Compliance	Replaces
	Issue 2; Mar 10	06/03/10	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.

Price: B

NR/L2/TEL/30095	Specification for the Maintenance of Radio Electronic Token	Compliance	Replaces
	Block Telecoms Equipment Issue 2; Mar 09	05/09/09	NR/WI/TEL/30095 lss 1; Jun 06

This instruction defines the telecoms maintenance requirements for Radio Electronic Token Block in use on Network Rail infrastructure.

Price: C

NR/L2/TEL/30097	Specification for the Maintenance of Lineside Plug Points	Compliance	Replaces
	and Tunnel Emergency Communication Systems (Pinch	05/09/09	NR/WI/TEL/30097 lss 1; Jun 06
	Wires) Issue 2; Mar 09		

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).

Price: C

NR/L2/TEL/30098	Testing and Commissioning of Telecommunications	Compliance	Replaces
	Equipment and Systems Issue 2; Aug 08	26/08/08	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.

Price: D

NR/L2/TEL/30105	Compliance with Fixed Telecoms Network Design Criteria	Compliance	Replaces
	Issue 2; Dec 10	04/12/10	NR/SP/TEL/30105 lss 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

Price: B

NR/L2/TEL/30109	Maintenance of Plasma Displays (SISS)	Compliance	Replaces
	Issue 2; Jun 10	05/06/10	NR/WI/TEL/30109 lss 1; Aug 06

This instruction defines the requirements for an inspection regime by the telecoms maintainers of Plasma screen displays used by Network Rail and/or the SFO. The purpose of undertaking maintenance is to ensure that plasma screen displays where used as part of a passenger information display is functional and to identify defects before they become service effecting.

Price: B

NR/L2/TEL/30110	Specification for the Maintenance of CCTV Cameras	Compliance	Replaces
	Issue 2; Mar 09	05/09/09	NR/WI/TEL/30110 Iss 1; Aug 06

This instruction defines the requirements for an inspection regime by the telecoms maintainers of CCTV cameras used by Network Rail and/or the SFO.

Price: B

NR/L2/TEL/30111	Specification for the Maintenance of CCTV Monitoring	Compliance	Replaces
	Equipment Issue 2: Mar 09	05/09/09	NR/WI/TFI /30111 Iss 1: Aug 06

This instruction defines the requirements for an inspection regime by the telecoms maintainers of CCTV monitoring equipment used by Network Rail and/or the SFO.

Price: B

NR/L2/TEL/30112 Specification for the Maintenance of Customer Information Compliance Replaces System Monitors Issue 2; Mar 09 05/09/09 NR/WI/TEL/30112 Iss 1; Aug 06

This instruction defines the requirements for an inspection regime by the telecoms maintainers of customer information system monitors used by Network Rail and/or the SFO.

Price: B

NR/L2/TEL/30113 Specification for the Maintenance of Clocks Issue 2; Mar 09 Compliance Replaces 05/09/09 NR/WI/TEL/30113 Iss 1; Aug 06

This instruction defines the requirements for an inspection regime by the telecoms maintainers of clocks used by Network Rail and/or the SFO.

Price: B

NR/L2/TEL/30114 Specification for the Maintenance of CIS Computers Compliance Replaces Issue 2; Mar 09 05/09/09 NR/WI/TEL/30114 Iss 1; Aug 06

This instruction defines the requirements for an inspection regime by the telecoms maintainers of customer information system computers used by Network Rail and/or the SFO.

Price: B

NR/L2/TEL/30115 Specification for the Maintenance of CCTV Video Recorders Compliance Replaces Issue 2; Mar 09 05/09/09 NR/WI/TEL/30115 Iss 1; Aug 06

This instruction defines the requirements for an inspection regime by the telecoms maintainers of CCTV video recorders used by Network Rail and/or the SFO.

Price: B

NR/L2/TEL/30117 **Specification for the Maintenance of Help Points** Compliance Replaces NR/WI/TEL/30117 Iss 1; Aug 06 Issue 2; Mar 09 05/09/09

This instruction defines the requirements for an inspection regime by the telecoms maintainers of help points used by Network Rail and/or the SFO.

Price: B

NR/L2/TEL/30118 Specification for the Maintenance of LCD/LED Displays Compliance Replaces NR/WI/TEL/30118 Iss 1; Aug 06 Issue 2: Mar 09 05/09/09

This instruction defines the requirements for an inspection regime by the telecoms maintainers of LCD/LED displays used by Network Rail and/or the SFO

Price: B

NR/L2/TEL/30119 Specification for the Maintenance of Public Address PCs Compliance Replaces 05/09/09 NR/WI/TEL/30119 Iss 1; Aug 06 Issue 2: Mar 09

This instruction defines the requirements for an inspection regime by the telecoms maintainers of public address PC's used by Network Rail and/or the SFO

Price: B

NR/L2/TEL/30120 Specification for the Maintenance of Public Address Compliance Replaces NR/WI/TEL/30120 Iss 1; Aug 06 Systems Issue 2; Mar 09 05/09/09

This instruction defines the requirements for an inspection regime by the telecoms maintainers of public address systems used by Network Rail and/or the SFO.

Price: B

NR/L2/TEL/30121 Specification for the Maintenance of Recorded Compliance Replaces NR/WI/TEL/30121 Iss 1; Aug 06 Announcement Equipment Issue 2; Mar 09 05/09/09

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.

Price: B

NR/L2/TEL/30122	Specification for the Maintenance of Electronic PABX	Compliance	Replaces
	Switches Issue 2; Mar 09	05/09/09	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

Price: B

NR/L2/TEL/30124	Specification for the Maintenance of GSM-R Radio BTS, BSC,	Compliance	Replaces
	TCU, Repeater & IVRS Equipment Issue 2; Dec 12	02/03/13	NR/L2/TEL/30124 lss 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

Price: C (Contains NR/BS/LI/314 (Expired))

NR/L2/TEL/30125	Communications with Electrical Control Rooms - ETD	Compliance	Replaces
	Network Testing Specification Issue 1; Mar 09	05/09/09	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.

Price: B

NR/L2/TEL/30126	Specification for the Maintenance of Analogue Transmission	Compliance	Replaces
	Systems Issue 1; Mar 10	06/03/10	New at Issue 75

This telecoms maintenance instruction defines the maintenance requirements for Telecoms Analogue Transmission systems in use on Network Rail infrastructure.

Price: B

NR/L2/TEL/30127	GSM-R Air Interface Functionality, Availability Management	Compliance	Replaces
	and Compliance Validation Issue 4; Jun 18	02/09/18	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.

Price: C

NR/L2/TEL/30130	Electronic Visual Customer Information Systems	Compliance	Replaces
	Issue 3: Sep 09	02/11/09	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.

Price: D

NR/L2/TEL/30132	Asset Management of Station Information and Surveillance	Compliance	Replaces
	Systems (SISS) Issue 1; Jun 11	03/09/11	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.

Price: C

NR/L2/TEL/30134	Design and Installation Requirements for Public	Compliance	Replaces
	Announcement, Voice Alarm and Long Line Public	05/12/09	NR/L2/TEL/30134 lss 1; Dec 07
	Announcement Systems Issue 2; Sep 09		

This standard details the requirements for public announcement, voice alarm and long line public announcement systems on Network Rail infrastructure.

Price: D

NR/L2/TEL/30135	Technical Requirements for Security CCTV Systems on	Compliance	Replaces
	Network Rail Infrastructure Issue 3; Mar 10	06/03/10	NR/L2/TEL/30135 Iss 2; Aug 08

This specification details Network Rail's requirement to provide high quality CCTV systems in order to improve passenger safety and to combat crime, terrorism and disorder.

NR/L2/TEL/30136	Testing Requirements - Security CCTV Issue 1; Jun 09	Compliance	Replaces
		05/09/09	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.

Price: C

NR/L2/TEL/30141	Tunnel Emergency Communication Wire Product	Compliance	Replaces
	Specification Issue 1; Jun 10	04/09/10	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.

Price: B

NR/L2/TEL/30143	Line Side Telephones Product Specification Issue 1; Jun 10	Compliance	Replaces
		04/09/10	New at Issue 76

Provides a reference for line side telephone product specification proposed for operational communications.

Price: C

NR/L2/TEL/30146	Product Specification for UMTS, GSM and GSM-R Modems	Compliance	Replaces
	Issue 2; Dec 10	04/12/10	NR/L2/TEL/30146 lss 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.

Price: B

NR/L2/TEL/30147	Product Specification for Wireless Connectivity Solutions	Compliance	Replaces
	Issue 1; Sep 10	04/09/10	New at Issue 77

Provides requirements and guidance for the selection of wireless devices exempt of product acceptance requirements.

Price: B

NR/L2/TEL/30151	Design and Installation of Station Cabling Issue 1; Dec 10	Compliance	Replaces
		05/03/11	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.

Price: C

NR/L2/TEL/30156	Functional Requirements for Safety Related Communications	Compliance	Replaces
	Equipment for On Track Plant Working Issue 1: Dec 11	03/03/12	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.

Price: B

NR/L2/TEL/30160	Specification for Optical Fibre Network Design	Compliance	Replaces
	Issue 2; Mar 17	03/09/11	NR/L2/TEL/30160 lss 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.

Price: D

NR/L2/TEL/30161	Supply of Optical Fibre Patchcord and Pigtail Assemblies	Compliance	Replaces
	Issue 1; Jun 11	03/09/11	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.

## 4.22 TELECOMS ENGINEERING

TEL Level 2

NR/L2/TEL/30182	Specification for Secure Configuration and Management of Network Rail Telecom Internet Protocol (IP) Networks.	Compliance 03/06/17	Replaces New at Issue 103
	Systems and Devices Issue 1; Mar 17	00/00/17	140W at 15540 100

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.

Price: C

NR/L2/TEL/30184	Specification for Network Rail Telecoms Systems	Compliance	Replaces
	Architecture, Technical Design and Test Assurance	02/09/17	New at Issue 104
	Issue 1; Jun 17		

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.

Price: D

NR/L2/TEL/31001	Telecom Maintenance Testing & Fault Investigation Process	Compliance	Replaces
	Issue 4; Mar 18	02/06/18	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

Price: Phone

NR/L2/TEL/31002	Maintenance of Telecommunications Equipment	Compliance	Replaces
	Issue 5; Jun 18	01/09/18	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.

Price: C

NR/L2/TEL/31107	Limits and Test Method of Induced Voltages on	Compliance	Replaces
ĺ	Telecommunications Cables due to Electrification Systems	06/03/10	NR/L2/TEL/31107 lss 1; Jun 09
	Issue 2; Mar 10		

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.

Additional Excel Content Available: Phone

NR/L2/TEL/31108	Specification for B.T. Circuits – Procurement Requirements	Compliance	Replaces
	Issue 3; Mar 10	06/03/10	NR/L2/TEL/31108 lss 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.

Price: D

NR/L2/TEL/31111	Design and Installation Requirements for Driver Only	Compliance	Replaces
	Operation (Passenger) Systems Issue 3; Jun 11	02/07/11	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.

Price: D

NR/L2/TEL/31114	Product Specification For Telecoms Jumper Wire	Compliance	Replaces
	Issue 1; Dec 08	01/03/09	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

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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.

Price: C

NR/L3/TEL/0023	Management of SINCS Records for Telecoms Assets	Compliance	Replaces
	Issue 3; Mar 10	26/08/08	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.

Price: C

NR/L3/TEL/0092	Process for the Disconnection and at Risk Process for	Compliance	Replaces
	Telecom Bearer Circuits and Systems	02/09/17	NR/L3/TEL/0092 lss 4; Jun 11
	Issue 5; Jun 17		

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.

Price: C

NR/L3/TEL/30071	Specification for the Maintenance of Telecoms Optical Fibre	Compliance	Replaces
	Cables Issue 3; Sep 11	03/09/11	NR/L2/TEL/30071 Iss 2; Mar 09

This instruction defines the maintenance requirements for optical fibre cables and fibre terminations in use on Network Rail telecoms infrastructure.

Price: B

NR/L3/TEL/30074	Specification for the Maintenance of Telecommunication	Compliance	Replaces
	Earths and Screening Systems Issue 3; Sep 11	03/09/11	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.

Price: B

NR/L3/TEL/30076	The Maintenance of Processor Controlled Concentrators	Compliance	Replaces
	Issue 3; Mar 18	02/06/18	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.

Price: C

NR/L3/TEL/30077	Specification for the Maintenance of Cable Distribution	Compliance	Replaces
	Frames and Location Cases Issue 3: Sep 11	03/09/11	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.

Price: C

NR/L3/TEL/30081	Work Instruction for the Maintenance of Telecommunication	Compliance	Replaces
	Power Plant, Batteries, Inverters and Uninterruptible Power	03/03/18	NR/L2/TEL/30081 Iss 3; Jun 14
	Supplies Issue 4; Dec 17		

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.

Price: C

NR/L3/TEL/30082	Work Instruction for the Maintenance of Voice Recorders	Compliance	Replaces
	Issue 4; Jun 17	02/09/17	NR/L2/TEL/30082 Iss 3; Jun 11

The purpose of this standard is to mandate the maintenancerequirements for voice recorders in use on Network Rail telecoms infrastructure.

Price: C

# 4.22 TELECOMS ENGINEERING

TEL Level 3

NR/L3/TEL/30088 Planned Preventative Maintenance of Radio Structures,
Antennas and Feeders Issue 4: Dec 16 O4/03/17 NR/L2/TEL/30088 Iss 3: Jun 11

This document defines the maintenance requirements for Telecoms antennas, feeder systems, radio structures, monopoles, poles, rapid deployment system frames, fall arrest systems and ancillary equipment in use on Network Rail infrastructure. This contributes to reducing the risk of equipment failure.

Price: D

NR/L3/TEL/30090 Inspection of Telecoms Equipment Rooms Issue 4; Jun 18 Compliance Replaces
01/09/18 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.

Price: C

NR/L3/TEL/30105 Installation of Operational Voice Recorders Issue 3; Mar 10 Compliance Replaces 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.

Price: C

NR/L3/TEL/30106 Installation of Lineside Telephones Issue 2; Aug 08 Compliance 26/08/08 Replaces

26/08/08 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.

Price: C

NR/L3/TEL/30108 Work Instruction for the Manual Installation of Telecommunications Cables Issue 1; Aug 07 Compliance Replaces 01/10/07

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.

Price: C

NR/L3/TEL/30133 Asset Condition Assessments for Telecoms Renewals & Compliance Enhancement Planning Issue 2; Jun 18 O1/09/18 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.

Price: C

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.

Price: D Additional Excel Content Available: Phone

NR/L3/TEL/30170 Work Instruction for the Maintenance of Public Address Compliance Replaces
Voice Alarm (PAVA) Equipment Issue 1; Dec 16 04/03/17 New at Issue 102

The purpose of this document is to manage the risk arising from the failure of Public Address Voice Alarm (PAVA) equipment. i.e. "Loss of SISS when connected to a fire alarm system."

Price: B

NR/L3/TEL/30181 Telecoms Maintenance Work Instructions Handbook Issue 2; Jun 18 Compliance 01/12/18 Replaces NR/L3/TEL/30181 Iss 1; Mar 16

This document specifies work instructions for maintenance activities on Network Rail telecoms equipment. This contributes to reducing the risk of equipment failure.

Price: C Standard only; Complete, D See below for details of modules and individual pricing

NR/L3/TEL/30181/	Title	Issue	Issue Date	Price
001	Netrix Switch	1	Mar 2016	В
002	Thameslink Cisco Layer 2/3 Switches	1	Mar 2016	В
004	FTNx Infinera Maintenance	1	Mar 2016	В

## 4.22 TELECOMS ENGINEERING

TEL **Work Inst** 

NR/L3/TEL	/30181/	Title	Issue	Issue Date	Price
005		Northgate Call Touch	1	Mar 2016	Α
006		GSM-R/GSM Lineside Telephones	1	Jun 2018	В

NR/L3/TEL/31103	Energisation of Commercial and Operational Radio Antenna	Compliance	Replaces
	Systems Issue 3; Mar 10	06/03/10	NR/L3/TEL/31103 lss 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.

Price: C

NR/L3/TEL/31104	<b>Process for Managing Telecoms Software/Hardware Changes</b>	Compliance	Replaces
	Issue 3; Mar 10	06/03/10	NR/L3/TEL/31104 lss 2; Aug 08

This work instruction addresses the requirements of product acceptance when changing hardware or software on systems that have previously gained acceptance.

Price: C

NR/L3/TEL/33000 Document Index for In-sourcing of Thales Issue 3; Jun 10 Compliance Replaces 05/06/10 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.

Price: C

NR/L3/TEL/33001 **Document Index for Transfer of Stoke Telecoms Engineering** Compliance Replaces Centre Staff from the FTN/GSM-R Project Issue 1; Mar 10 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.

Price: B

NR/L3/TEL/40047 Management of Safety Related Reports for Telecoms Failures Compliance Replaces Appendix Issue 2: Jun 17 03/06/17 NR/L3/TEL/40047 Iss 1: Jun 12

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.

Price: D

## **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".

Price: C

#### 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".

Price: B

#### 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.

Price: C

NR/WI/TEL/30123	Communications with Emergency Services - ETD Network	Compliance	Replaces
	Testing Procedures Issue 1; Dec 06	03/03/07	

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.

Price: B

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.

Price: C

#### **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.

Price: F

NR/GN/TEL/30065 Guidance Note for the Management of Safety Related Reports for Telecoms 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.

Price: C

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.

Price: C

NR/GN/TFI /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.

Price: D

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.

Price: D

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.

Price: F

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.

Price: D

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## **4.22 TELECOMS ENGINEERING**

TEL **SINs** 

NR/GN/TEL/50017 **CCTV** for Stations – Functional, Technical and Operational Requirements Replaces Issue 1; Aug 06

The purpose of this document is to provide guidance regarding the functional, technical and operational requirements of CCTV systems at stations. Note that the document is not a prescriptive standard and what is provided at any given location must be determined on the basis of risk assessment at that location.

Price: C

#### **Special Inspection Notices**

NR/SIN/092 STS Concentrator Auto Line Card Issue 2; Aug 08 Compliance Replaces 26/08/08 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.

Price: B

#### 4.23 TRACK ENGINEERING

#### **Specifications (including Procedures)**

NR/SP/TRK/0133 Control of Wheel Impact Forces Issue 3; Jun 06 Compliance

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.

Price: C

NR/SP/TRK/1110 **Qualification and Certification of NDT Personnel Written** Compliance Replaces Practice - Ultrasonic Testing Issue 1; Feb 06 01/06/07

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).

Price: D

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.

Price: C (Contains NR/BS/LI/145 (Expired))

NR/SP/TRK/9003 **Installation and Maintenance of Longitudinal Timbers** Compliance Replaces Issue 1: Dec 05

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

Price: F

RT/CE/P/018 Requirements for the Operation of the Dynamic Track Stabiliser on or Adjacent Replaces to Structures Issue 1; Aug 97

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

Price: B

RT/CE/P/027 Use of Ballast Gluing to Increase the Lateral Resistance of Track Replaces Issue 1; Jan 96

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

Price: A

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

Price: C

RT/CE/S/008 Saw and Disc Cutting and Drilling of Rail Issue 2; Feb 98 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

Price: B

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

Price: A

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**TRK** Specs

#### 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

Price: B

RT/CE/S/034 Requirements for Processes for Cold-expanding Fishbolt Holes by the Split Replaces Sleeve Method Issue 1; Aug 97

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

Price: A

RT/CE/S/037 Requirements for Maintenance of Trackwork in Depots by Depot Facility 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.

Price: B

#### RT/CE/S/042 Track Geometry Recording Issue 1; Apr 95

Operators Issue 3: Dec 00

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.

Price: C

#### 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

Price: C

#### RT/CE/S/051

Process for Cold-expanding Existing Fishbolt Holes by the Split Sleeve Method Replaces Using FTI Tooling and Consumables Issue 1; Jan 96

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

Price: C

## 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

Price: C

#### 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

Price: Phone (Contains NR/BS/LI/083)

#### RT/CE/S/063

#### Serviceable Switches and Crossings Issue 1: Oct 96

Replaces

This specification sets out the minimum standards to be observed for serviceable switches and crossings being considered for reinstallation in Network Rail infrastructure.

Responds to GC/RT5011

4.23 TRACK ENGINEERING **TRK Prod Specs** 

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.

Price: C

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.

Price: D (Contains NR/BS/LI/101) Colour pages available separately

#### **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.

Price: F

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

Price: B

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

Price: B

RT/CE/S/012 Cast Austenitic Manganese Steel Crossings Issue 2; Feb 02 Replaces

RT/CE/S/012 Iss 1: Dec 97

This specification defines Network Rail's criteria for the approval of designs of cast austenitic manganese steel crossings and for control of the manufacturing process. It also specifies the documentation that the supplier shall provide describing the recommended handling and maintenance of the product.

Responds to GC/RT5011.

Price: D

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

Price: D

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

Price: B

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

Price: B

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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

Price: C

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

Price: C

RT/CE/S/024 Component Kits for BR MkIII 4- and 6-Hole Glued Insulated Joints

Replaces

Issue 1; Mar 96

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

Price: A

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

Price: A

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

Price: A

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

Price: B

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

Price: B

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

Price: B

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.

Price: B

RT/CE/S/052 Rail and Baseplate Pads Issue 3; Oct 02

Replaces

RT/CE/S/052 Iss 2; Oct 00

This specification gives the requirements for the resilient rail pads for use between either flat bottom rails and concrete sleepers, flat bottom rails and cast iron baseplates; or flat bottom rails and steel sleepers.

Responds to GC/RT5013

responds to Go/rere

4.23 TRACK ENGINEERING

TRK

Level 1 / 2

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.

Price: D (Contains NR/BS/LI/163, NR/BS/LI/380)

RT/CE/S/131 Flash-welded Rails: Crossings, Switch Rails and Transition Rails

Replaces

This specification is to ensure the serviceability of flash welded joints incorporated in cast austenitic manganese steel crossings, switch rails and transition rails.

Price: D

l evel 1

NR/L1/TRK/002 Categorisation of Track Issue 1; Mar 11

Issue 1; Aug 03

Compliance 05/03/11

Replaces
New at Issue 79

This standard specifies the process for categorising track in running lines by usage and speed

Price: C

evel 2

NR/L2/OTK/5100	Boundary Management Manual Issue 1; Mar 18	Compliance	Replaces
		01/04/19	NR/L2/TRK/5100 Iss 2; Aug 08

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.

Price: C Standard only; Complete, D See below for details of modules and individual pricing

NR/L2/OTK/5100/	Title	Issue	Issue Date	Price
01	Boundary Measure Inspection and Risk Assessment Requirements	1	Mar 2018	С
02	Boundary Measure Repair by Maintenance or Renewal	1	Mar 2018	С

NR/L2/OTK/5201	Lineside Vegetation Management Manual Issue 1; Mar 18	Compliance	Replaces
		01/04/19	NR/CS/TRK/05200 lss 1; Dec 06
ĺ			NR/L2/TRK/5201 Iss 4; Jun 12

Lineside vegetation management is a process that uses risk assessment to contribute to the safe running of the railway infrastructure.

Price: C Standard only; Complete, D See below for details of modules and individual pricing

NR/L2/OTK/5201/	Title	Issue	Issue Date	Price
01	Lineside Vegetation Inspection and Risk Assessment	1	Mar 2018	С
02	Lineside Vegetation Management Requirements	1	Mar 2018	С

NR/L2/TRK/001	Inspection and Maintenance of Permanent Way	Compliance	Replaces
	Issue 12; Sep 18	02/12/17	NR/L2/TRK/001 Iss 11; Jun 17

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.

Price: C Standard only; Complete, Phone See below for details of modules and individual pricing

NR/L2/TRK/001/	Title (and any applicable Letters of Instruction)	Issue	Issue Date	Price
mod01	Glossary	6	Dec 2012	С
mod02	Track Inspection (Contains NR/BS/LI/263 (Expired))	7	Sep 2015	E
mod03	Plain Line Track	8	Sep 2016	С
mod04	Rail Joints	6	Dec 2012	С
mod05	Switches and Crossings (S&C)	7	Jun 2017	D
mod06	Visual Inspection and Ultrasonic and Eddy Current Testing of Rails	8	Sep 2018	D
mod07	Management of Rail Defects	8	Sep 2018	E
mod08	Broken or Damaged Rails	6	Dec 2012	С
mod09	Loss of Rail Section	6	Dec 2012	С
mod10	Rail Profile Management	6	Dec 2012	А
mod11	Track Geometry – Inspections and Minimum Actions	8	Sep 2015	D
mod12	Track Geometry – Maintenance Design Requirements	7	Sep 2015	С
mod13	Confirming Track is Safe for Selected Linespeed After Work	7	Sep 2015	В
mod14	Managing Track in Hot Weather	6	Dec 2012	D
mod15	Managing Track in Cold Weather	6	Dec 2012	А

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NR/L2/TRK/001/	Title (and any applicable Letters of Instruction)	Issue	Issue Date	Price
mod16	Adjustment Switches	7	Sep 2014	В
mod17	Sidings	6	Dec 2012	Α
mod18	Buffer Stops	6	Dec 2012	Α
mod19	Track Inspection Handbook	6	Dec 2012	D

#### **Associated Document**

#### NR/L2/TRK/001/BRIEFING Technical Briefing Document Issue 2; Sep 18

This document is aimed to assist with the briefing of the two modules (6 and 7) with the changed sections highlighted along with explanations and further guidance as appropriate.

Price: E

NR/L2/TRK/029	Wood Sleepers, Bearers and Longitudinal Timbers	Compliance	Replaces
	Issue 5; Sep 15	05/12/15	NR/PS/TRK/029 Iss 4; Dec 05

The purpose of this product specification is to define Network Rail's requirements for the supply of wood sleepers, wood bearers and longitudinal timbers

Price: D

NR/L2/TRK/030	Specification: Concrete Sleepers and Bearers Issue 4; Mar 16	Compliance	Replaces
		05/03/16	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.

Price: D

NR/L2/TRK/0032	Joining of Rails by Aluminothermic Welding Issue 7; Mar 18	Compliance	Replaces
		02/06/18	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.

Price: D

NR/L2/TRK/036	Gauge Capability Certification (formerly RT/CE/S/036)	Compliance	Replaces
	Issue 1; Dec 17	03/03/18	RT/CE/S/036 Iss E1; Apr 00

This standard specifies the process to be used to authorise the operation, with respect to gauge clearance of specific rail vehicles over specific routes. This process is required to prevent rail vehicles striking the structures, lineside furniture or other vehicles.

Price: C

NR/L2/TRK/038	Track Geometry: Management of Recording and of	Compliance	Replaces
	Intervention and Immediate Actions Limits Issue 6; Jun 18	01/09/2018	NR/L2/TRK/038 Iss 5; Aug 08,
			RT/D/P/085 Iss 4; Apr 04

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.

Price: C Standard only; Complete, D See below for details of modules and individual pricing

NR/L2/TRK/038/	Module	Issue	Issue Date	Price
01	Train Borne Recording	1	Jun 2018	В
02	Manual Track Geometry Recording	1	Jun 2018	В

NR/L2/TRK/053	Inspection and Repair to Control the Risk of Derailment at	Compliance	Replaces
	Switches Issue 7; Jun 17	02/09/17	NR/L2/TRK/053 Iss 6; Dec 16

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.

Price: D Standard only (Contains NR/BS/LI/404);

Complete, E . Additional Video Content Available: Phone See below for details of modules and individual pricing

NR/L2/TRK/053/	Module	Issue	Issue Date	Price
Mod01	Glossary and Tooling	1	Dec 2016	С
Mod02	Technical Information and Inspection Requirements	2	Jun 2017	С
Mod03	Detailed Inspection of Switches	2	Jun 2017	D
Mod04	Repair of Switches	2	Jun 2017	С

4.23 TRACK ENGINEERING TRK Level 2

NR/L2/TRK/061	Pearlitic Rails Issue 3; Sep 15	Compliance	Replaces
		05/09/15	PT/CE/S/061 lee 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

Price: D

NR/L2/TRK/070 S&C System Specification for the Design of Switches and Compliance Replaces Crossings Issue 1; Aug 07 31/08/07

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.

Price: D

NR/L2/TRK/0132 Compliance Maintenance Arc Welding of Rails, Switches and Crossings Replaces Issue 6; Dec 10 04/06/10 NR/L2/TRK/0132 Iss 5; Aug 08

This specification defines the methods to be used when weld repairs to plain rail and switch and crossing components are carried out. The document has been amended to reflect the previous Engineering re-organisation and has had the requirements for Training and Competence removed. The Standard specifies the addition of hardened rails, changes to proximities to rail features and requirements for weld repair to rail features previously not permitted. The Standard also specifies the restriction on weld repairs when carried out in Red Zones

Price: E (Contains NR/BS/LI/305)

NR/L2/TRK/1019	Lighting Requirements for Visual Track Inspection	Compliance	Replaces
	Issue 1; Mar 18	01/09/18	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.

Price: D

NR/L2/TRK/1054	Inspection, Maintenance and Repair Procedures for Cast,	Compliance	Replaces
	Welded and Fabricated Crossings in the Track Issue 5; Oct 14	31/10/14	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.

Price: D

NR/L2/TRK/1120	Management of Rail Testing using Train Based Sperry-	Compliance	Replaces
	Equipped Ultrasonic Test Unit (Sperry UTU) Issue 2; Aug 08	26/08/08	NR/L2/TRK/1120 lss 1; Jun 06

This procedure defines the process for replacing compliant pedestrian ultrasonic testing with Sperry Equipped Ultrasonic Test Unit (Sperry UTU), covering the use of UTU2, UTU3 and UTU4.

Price: D

NR/L2/TRK/2102	Design and Construction of Track Issue 8; Sep 16	Compliance	Replaces
		01/03/17	NR/L2/TRK/2102 Iss 7; Dec 15

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.

Price: F

#### **Associated Document**

#### NR/L2/TRK/2102/BRIEFING Briefing Materials for NR/L2/TRK/2102 Issue 8: Design and Construction of Track - Summary and Details of Changes and Further Explanation Behind Changes Issue 1; Sep 16

This document explains the principal changes made to NR/L2/TRK/2102 issue 6 in the drafting of issue 8 and where possible, provision of additional information as to why the changes have been made. The document explains the changes between issue 6 and issue 8 as issue 7 was not thoroughly briefed or varied into contracts with many users still working to issue 6.

Price: E

#### 4.23 TRACK ENGINEERING

NR/L2/TRK/2500 Engineering Assurance Arrangements for Track Engineering
Projects Issue 3; Jun 11

Compliance
03/09/11

RT/L2/TRK/02500 Iss 2; Aug 08

This document describes the engineering assurance processes for changes to Track Infrastructure.

Price: C

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.

Price: E (Contains NR/BS/LI/154)

NR/L2/TRK/3038	Longitudinal timbers – Design, Installation and Maintenance	Compliance	Replaces
	(formerly RT/CE/S/038) Issue 6; Sep 14	05/12/14	RT/CE/S/038 Iss 5; Mar 11

The use of this standard sets out the requirements for achieving compliance with the requirements of Railway Group Standard GC/RT5021, Track System Requirements in respect of longitudinal timbers.

Price: D

NR/L2/TRK/3100	Topographic, Engineering, Land and Measured Building	Compliance	Replaces
	Surveying – Strategy and General Issue 4; Dec 17	02/12/17	NR/L2/TRK/3100 Iss 3; Sep 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.

Price: E Standard only; Complete, Phone See below for details of modules and individual pricing

NR/L2/TRK/3100/	Title	Issue	Issue Date	Price
Mod 01	Topographic, Engineering, Land and Measured Building Surveying – Track	2	Sep 2017	F
Mod 03	Topographic, Engineering, Land and Measured Building Surveying – Survey and Mapping Techniques	2	Sep 2017	Е
Mod 04	Asset Data Extraction and Topographic Surveying – Signalling (formerly NR/L3/TRK/3104)	3	Dec 2017	С

NR/L2/TRK/3201	Management of Tight Clearances and Track Position	Compliance	Replaces
	Issue 3; Dec 10	04/12/10	NR/L2/TRK/3201 lss 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.

Price: D

NR/L2/TRK/3203	Structure Gauge Recording Issue 1; Sep 11	Compliance	Replaces
		03/12/11	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.

Price: D

NR/L2/TRK/4040	Level Crossing Surface Systems Issue 2; Dec 10	Compliance	Replaces
		04/06/11	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.

Price: C

NR/L2/TRK/4100	Serviceable Concrete Sleepers for use in Running Lines and	Compliance	Replaces
	Sidings Issue 4; Sep 11	03/09/11	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.

Price: C

NR/L2/TRK/4239	Track Bed Investigation, Design and Installation	Compliance	Replaces
	Issue 1; Dec 15	05/03/16	NR/SP/TRK/9039 Iss 1; Dec 05

The document sets out a consistent technical approach to track bed diagnosis, investigation and design. This is to reduce the risk of premature track bed failures and high frequency of maintenance interventions following track renewals work.

#### 4.23 TRACK ENGINEERING

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.

Price: D

This standard provides one reference document for stretcher bars. It details the limits and actions required to prevent derailments associated with stretcher bar components.

Price: B Standard only; Complete, Phone See below for details of modules and individual pricing

NR/L2/TRK/6100/	Title	Issue	Issue Date	Price
mod01	Glossary of Stretcher Bar Terminology	1	Mar 2015	С
mod02	Roles and Responsibilities for Installation, Inspection and Maintenance of Stretcher Bars	1	Mar 2015	В
mod03	Installing Stretcher Bars and Setting Them to the Correct Length	3	Jun 2017	D
mod04	Tubular Stretcher Bars	3	Jun 2017	E
mod05	Fixed Stretcher Bars	1	Mar 2015	D
mod06	35mm Adjustable Stretcher Bars	1	Mar 2015	D
mod07	Lock Stretcher Bars	1	Mar 2015	В
mod08	Action Tables	2	Jun 2017	D
mod09	Stretcher Bar Equipment Catalogue	2	Jun 2016	D

NR/L2/TRK/8100	Railway Ballast and Stoneblower Aggregate Issue 4; Jun 09	Compliance	Replaces
		06/06/09	RT/CE/S/006 lss 3; Aug 00

This product specification gives the requirements for Railway Ballast and Stoneblower Aggregate.

Price: C

NR/L2/TRK/9016	Assessment of Strength of Rails with Localised Head Loss	Compliance	Replaces
	Issue 2; Dec 09	05/12/09	NR/SP/TRK/9016 lss 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.

Price: C

#### 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

Price: C Standard only; Complete, Phone See below for details of modules and individual pricing

Ref	Title	Issue	Issue Date	Price
Inspection				
NR/L3/TRK/002/A01	Track Patrol (Foot & Mechanised)	5.0	Sep 2010	Α
NR/L3/TRK/002/A02	Track Inspection – Supervisor	4.0	Sep 2010	Α
NR/L3/TRK/002/A03	Track Inspection – Engineer	2.0	Aug 2007	Α
NR/L3/TRK/002/A04	Cab Riding	2.0	Aug 2007	Α
NR/L3/TRK/002/A05	S&C – Crossing – Inspect	2.0	Aug 2007	Α
NR/L3/TRK/002/A06	S&C – Detailed Inspection of Switches	3.0	Mar 2008	В
NR/L3/TRK/002/A07	Longitudinal Timber Detailed Inspection	2.0	Aug 2007	Α
NR/L3/TRK/002/A08	Flood Warning Inspection	2.0	Aug 2007	Α
NR/L3/TRK/002/A09	Visual Inspection of Stretcher Bars and Lock Stretcher Bars	1.0	Jun 2011	С
Ballast				
NR/L3/TRK/002/B01	Ballast – Unload – Other	2.0	Aug 2007	Α
NR/L3/TRK/002/B02	Ballast – Unload by Train	2.0	Aug 2007	Α
NR/L3/TRK/002/B03	Ballast – Regulate – Manual	2.0	Aug 2007	Α
NR/L3/TRK/002/B04	Ballast – Regulate – Mechanical	2.0	Aug 2007	Α
NR/L3/TRK/002/B05	Ballast – Shoulder Clean – Manual	2.0	Aug 2007	Α
NR/L3/TRK/002/B06	Ballast – Shoulder Clean – Mechanical	2.0	Aug 2007	Α
NR/L3/TRK/002/B07	Ballast – Dig Out Contaminant	2.0	Aug 2007	Α

Ref	Title	Issue	Issue Date	Price
NR/L3/TRK/002/B08	Track – Dig Wet Bed – Manual	2.0	Aug 2007	Α
NR/L3/TRK/002/B09	Track – Dig Wet Bed – Mechanical	2.0	Aug 2007	Α
NR/L3/TRK/002/B10	Track – Glue Ballast	2.0	Aug 2007	Α
Maintenance				
NR/L3/TRK/002/C01	Fit & Remove Tie Bar	2.0	Aug 2007	Α
NR/L3/TRK/002/C02	Fit End Restraint Plate	2.0	Aug 2007	Α
NR/L3/TRK/002/C03	Drilling of Rail	2.0	Aug 2007	Α
NR/L3/TRK/002/C04	Saw and Disc Cutting	2.0	Aug 2007	A
NR/L3/TRK/002/C05	Track – Cold Bolt Hole Expansion	2.0	Aug 2007	Α
NR/L3/TRK/002/C06	Track – Grind Rails	2.0	Aug 2007	Α
NR/L3/TRK/002/C07 Off Track	Track – Fix Gauge Stops	2.0	Aug 2007	Α
NR/L3/TRK/002/D01	Lift/Replace Foot Crossing Wooden Unit	2.0	Aug 2007	А
NR/L3/TRK/002/D02	Lift/Replace Foot Crossing Sleeper Based	2.0	Aug 2007	Α
NR/L3/TRK/002/D07	Open Channels and Ditch Maintenance	1.0	Aug 2007	А
NR/L3/TRK/002/D08	Piped Drainage and Catchpit Maintenance	1.0	Aug 2007	A
NR/L3/TRK/002/D09	Pest And Vermin Control	1.0	Aug 2007	А
NR/L3/TRK/002/D10	Maintain Fencing And Boundary Measures	1.0	Aug 2007	Α
NR/L3/TRK/002/D11	Vegetation ~ Inspection	1.0	Aug 2007	А
NR/L3/TRK/002/D12	Vegetation Clearance ~ Manual	2.0	Aug 2008	А
NR/L3/TRK/002/D13	Vegetation Clearance ~ Mechanical	2.0	Aug 2008	А
NR/L3/TRK/002/D14	Off Track – Management of Invasive and Hazardous Weeds	1.0	Mar 2008	А
NR/L3/TRK/002/D15	Access Points – Inspect	1.0	Aug 2007	А
NR/L3/TRK/002/D16	Lineside Facilities – Maintain	1.0	Aug 2007	А
NR/L3/TRK/002/D17	Boundary – Inspection	1.0	Aug 2007	А
NR/L3/TRK/002/D18	Drainage Inspection	1.0	Aug 2007	Α
NR/L3/TRK/002/D20	Sign Maintenance And Renewal	1.0	Aug 2007	А
NR/L3/TRK/002/D21	Waste And Flytipping Clearance	1.0	Aug 2007	Α
On Track Machines				
NR/L3/TRK/002/E01	Plain Line Tamping	1.0	Mar 2008	А
NR/L3/TRK/002/E02	Dynamic Track Stabiliser	1.0	Mar 2008	А
NR/L3/TRK/002/E03	S&C Tamping	1.0	Mar 2008	Α
NR/L3/TRK/002/E04	TRAMM Works	1.0	Mar 2008	А
NR/L3/TRK/002/E06	Mechanical Stoneblower	1.0	Mar 2008	Α
Plain Line				
NR/L3/TRK/002/F01	Replace Jointed Rail	2.0	Aug 2007	Α
NR/L3/TRK/002/F02	Insulated Block Joint (Dry) Renew	2.0	Aug 2007	Α
NR/L3/TRK/002/F03	Track – Renew Fishplates	2.0	Aug 2007	Α
NR/L3/TRK/002/F04	Track – PI – Fit Fishplate Shims	2.0	Aug 2007	Α
NR/L3/TRK/002/F05	Track – Lubricate Fishplates	2.0	Aug 2007	Α
NR/L3/TRK/002/F06	Track – Adjust Rail Expansion Gaps	2.0	Aug 2007	Α
NR/L3/TRK/002/F07	Adjustment Switch – Reset Overlap	2.0	Aug 2007	Α
NR/L3/TRK/002/F08	Adjustment Switch – Maintain	2.0	Aug 2007	A
NR/L3/TRK/002/F09	Track – Stress Monitoring (NDT CWR)	2.0	Aug 2007	A
NR/L3/TRK/002/F10	Track – Preliminary Survey for CWR Stressing	2.0	Aug 2007	A
NR/L3/TRK/002/F11	Track – Stress Restoration	2.0	Aug 2007	A
NR/L3/TRK/002/F12	Track – PL – Tensor Stressing	2.0	Aug 2007	A
NR/L3/TRK/002/F13	Track - CWR - Natural Stressing	2.0	Aug 2007	A
NR/L3/TRK/002/F14	Track – CWR – Renew Due to Wear or Rail Defects	2.0	Aug 2007	A
NR/L3/TRK/002/F15	Track – PL – Renew Check Rail	2.0	Aug 2007	A
NR/L3/TRK/002/F16	Track – Pull Through/Turn & Plug Timber	2.0	Aug 2007	A
NR/L3/TRK/002/F17	Track – PL – Straighten Rail End	2.0	Aug 2007	A
NR/L3/TRK/002/F18	Track – PL – Manual Slueing	2.0	Aug 2007	1
NR/L3/TRK/002/F19	Track PL Lift and Pack Light	2.0	Aug 2007	A
NR/L3/TRK/002/F20	Track PL Stopphlowing Handhold	2.0	Aug 2007	A
NR/L3/TRK/002/F21	Track – PL – Stoneblowing – Handheld	2.0	Aug 2007	A
NR/L3/TRK/002/F22	Track - Rail Mounted Lubricators	2.0	Aug 2007	A
NR/L3/TRK/002/F23	Track Geometry Markings – Paint	2.0	Aug 2007	A
NR/L3/TRK/002/F24	Track – PL – Replace Sleeper	1.0	Aug 2007	A
NR/L3/TRK/002/F25	Guard Board Maintenance	1.0	Mar 2008	A
NR/L3/TRK/002/F26	Conductor Rail Maintenance	1.0	Mar 2008	A
NR/L3/TRK/002/F27	Turning Rails Within Jointed Track	1.0	Mar 2008	A

Ref	Title	Issue	Issue Date	Price
NR/L3/TRK/002/F28	Inspection of Buffer Stops	1.0	Mar 2008	Α
Switch and Crossings				
NR/L3/TRK/002/G01	S&C – Cast Crossing – Crack Monitoring	2.0	Aug 2007	Α
NR/L3/TRK/002/G02	S&C – Renew Half Set of Switches	2.0	Aug 2007	А
NR/L3/TRK/002/G03	S&C – Renew Crossing	2.0	Aug 2007	Α
NR/L3/TRK/002/G04	S&C – Renew Check Rail	2.0	Aug 2007	Α
NR/L3/TRK/002/G05	Track – CWR – S&C Tensor Stressing	2.0	Aug 2007	Α
NR/L3/TRK/002/G06	S&C – Change Timber Bearer	2.0	Aug 2007	Α
NR/L3/TRK/002/G07	S&C – Pack Timber / Bearer	2.0	Aug 2007	А
NR/L3/TRK/002/G08	S&C – Change Concrete Bearer	2.0	Aug 2007	А
NR/L3/TRK/002/G09	S&C - Stoneblowing - Handheld	2.0	Aug 2007	Α
NR/L3/TRK/002/G10	S&C – Manual Alignment	2.0	Aug 2007	Α
NR/L3/TRK/002/G11	S&C – RCF Prevention – Hand Grind	2.0	Aug 2007	Α
NR/L3/TRK/002/G12	S&C – Switch Diamond – White Paint	2.0	Aug 2007	Α
NR/L3/TRK/002/G13	Renew Heater Pads	1.0	Mar 2008	Α
NR/L3/TRK/002/G14	Switch Slide Plate Lubrication	1.0	Mar 2008	Α
NR/L3/TRK/002/G15	Switch Roller Installation Set Up and Maintenance	1.0	Mar 2008	Α
NR/L3/TRK/002/G16	Replace Slide Chair Bolts	1.0	Mar 2008	Α
NR/L3/TRK/002/G17	Hand Levers	1.0	Mar 2008	Α
Welding				
NR/L3/TRK/002/H01	Track – AL Thermic Weld	2.0	Aug 2007	Α
NR/L3/TRK/002/H02	Track – Arc Weld Repair	2.0	Aug 2007	Α
Non Destructive Testi	ng			
NR/L3/TRK/002/J01	Track – Ultrasonic Testing	2.0	Aug 2007	Α
NR/L3/TRK/002/J02	Track – Magnetic Particle Testing (MPT)	2.0	Aug 2007	Α
NR/L3/TRK/002/J03	Track – Liquid Penetrant Testing (LPT)	2.0	Aug 2007	Α

NR/L3/TRK/003	Index of Track Engineering Forms Issue 27; Sep 18	Compliance	Replaces
		01/12/18	NR/L3/TRK/003 Iss 26; Mar 18

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

Price: D Standard only; Complete, Phone See below for details of modules and individual pricing

Number	Title	Issue	Issue Date	Price
TEF3001	Plain Line Wheelburns And Squats Assessment Form	4	Dec 2008	Α
TEF3002	Wheelburn Removal Assessment Form	4	Dec 2008	Α
TEF3003	Wheelburn And Squat Removal Assessment Form	4	Dec 2008	Α
TEF3004	Welders Work Return - Plain Line Repairs	3	Jun 2008	Α
TEF3005	Aluminothermic Welding Worksite Planning Form	6	Jun 2010	Α
TEF3006	Aluminothermic Welding Installation Form	3	Jun 2008	Α
TEF3007	Aluminothermic Welding Non- Conformance Form	3	Jun 2008	Α
TEF3008	Welders Work Return - Switch Repairs	4	Dec 2016	Α
TEF3009	Welders Work Return - Crossing Repairs	3	Jun 2008	Α
TEF3010	Record of Stressing - Restressing	4	Jun 2008	Α
TEF3011	Record of Stress Restoration	2	Jun 2008	Α
TEF3012	Notification of CWR Stress Disturbance	3	Jun 2008	Α
TEF3013	Record of Verse Testing and Certificate	2	Jun 2008	Α
TEF3014	Detailed Inspection of Longitudinal Timber System Report	5	Dec 2010	Α
TEF3015	Basic Visual Inspection Report	3	Sep 2010	Α
TEF3016	New Very Poor Eighth Inspection Report	4	Sep 2013	Α
TEF3017	Engineer Visual Track Inspection Report	2	Jun 2008	Α
TEF3018	New Super-Red Eighths Inspection Report	4	Sep 2013	Α
TEF3019	Inspection of Switches Secured Out of Use	2	Jun 2008	Α
TEF3020	Sidewear Inspection Record (Forms A and B)	4	Mar 2017	Α
TEF3021	Supervisor's Visual Inspection of Longitudinal Timbers	6	Sep 2013	Α
TEF3022	Supervisor's Visual Inspection Report	3	Sep 2010	Α
TEF3023	Engineer Cab Ride Report	2	Jun 2008	Α
TEF3024	Supervisor Cab Ride Report	2	Jun 2008	Α
TEF3025	UTU compliant track segment RAM[T] authorisation	4	Jul 2016	Α
TEF3027	Cast Crossing Repair Report	2	Jun 2008	Α
TEF3028	Inspection of Buffer Stops	3	Jun 2008	Α
TEF3029	Switch Inspection Form	11	Mar 2018	В

## **4.23 TRACK ENGINEERING**

Number	Title	Issue	Issue Date	Price
TEF3030	Tie Bar Record	3	Jun 2008	Α
TEF3031	Crossing Inspection Report	6	Mar 2013	Α
TEF3032	Track Buckle Report	3	Sep 2015	В
TEF3033	Hot Weather Preparation Report Consolidation	1	Aug 2008	В
TEF3034	Platforms And Clearances	3	Jun 2008	В
TEF3035	Rail Head Weld Repair Installation Form	1	Dec 2008	Α
TEF3037	Report of A Rail Defect Found / Repaired / Removed	5	Mar 2010	Α
TEF3038	Daily Report of Ultrasonic Testing Of Rails	6	Sep 2010	Α
TEF3039	Broken Rail Incident Report	5	Jun 2009	В
TEF3040	Rail Lubricator / Friction Modifier / TGA Inspection, Filling And Maintenance Record	4	Sep 2011	Α
TEF3041	Manual Measurement of Track Geometry Recording Sheet	4	Jun 2017	Α
TEF3042	Hand Grinding Record Form (Hg1)	5	Dec 2016	Α
TEF3043	Level Crossing Rail Corrosion Inspection	3	Sep 2013	Α
TEF3044	Record of Ultrasonic Experience (Level 1)	2	Jun 2008	Α
TEF3045	Record of Ultrasonic Experience (Level 2 Supervisor)	2	Jun 2008	Α
TEF3046	Record of Continuous Employment	2	Jun 2008	Α
TEF3047	Assessment of Service Stress of Rail	4	Sep 2013	Α
TEF3048	Management of Gauge: Periodic Hand Operated Points Inspection Inspection	5	Dec 2013	A
TEF3049	Upper Sector Survey	2	Jun 2008	A
TEF3050	Datum Monitoring Sheet	3	Dec 2015	Α
TEF3051	Dip Angle Site Inspection	3	Sep 2013	A
TEF3052	Check List for Dip Angle Outputs From Track Geometry Recording	2	Jun 2008	A
TEF3053	Risk Assessment for Visual Inspection of Track In Darkness	4	Sep 2013	A
TEF3054	Switches and Crossings Weld Repair/Replacement Form	8	Mar 2017	A
TEF3055	Access Point Inspection Report	2	Jun 2008	A
TEF3056	Hot Weather Site Monitoring Record	4	Dec 2015	A
TEF3057	Report of Utrasonic Testing of UTU Suspect	3	Sep 2009	A
TEF3058	GEOGIS Update Form (Plain Line)	3.1	Nov 2010	A
TEF3058	GEOGIS Update Form (S&C)	3.1	Nov 2010	A
		4		+
TEF3060	Management of Gauge: Periodic Inside Slip Inspection	_	Dec 2013	A
TEF3061	Management of Gauge: Periodic Switch Diamond Inspection	4	Dec 2013	A
TEF3062	Management of Gauge: Periodic Outside Slip Inspection	4	Dec 2013	A
TEF3063 TEF3064	Management of Gauge: Periodic Fixed Diamond Inspection	7	Dec 2013	A C
	Hazard Report for Track Assets			_
TEF3067	Site Verification Proposal Form	1	Jun 2008	A
TEF3068	Management of Gauge: Periodic Switches & Crossings Inspection	6	Mar 2016	A
TEF3069	Pesticide Application Record Form	1	Jun 2008	A
TEF3070	Crossing Monitoring Report	1	Jun 2008	A
TEF3071	OTM Site Check and Handback	2	Dec 2013	A
TEF3072	Report of Inspection / Test of New RCF Site: Site Summary	3	Feb 2011	A
TEF3073	RCF Walkout Inspection and Test Form	4	Nov 2010	A
TEF3074	SM[T] Points Gauge FWC and RSO Measurements	5	Dec 2014	A
TEF3075	Proposal to Reduce Basic Visual Inspection Frequency – Record of Decisions Taken	1	Sep 2008	A
TEF3076	Leaf fall risk assessment	1 -	Sep 2009	A
TEF3077	Tree Hazard: Risk Evaluation and Treatment System (THREATS and THREATS NR)	2	Dec 2010	В
TEF3078	Record of Decision to Alter Vegetation Inspection Method	1 -	Sep 2009	A
TEF3079	Lineside Vegetation Inspection	2	Jun 2013	A
TEF3080	Aluminothermic Weld Inspection Report	1	Jun 2017	Α
TEF3084	Immediate Action Limit Geometry Faults Block the Line and Repeat Report Form	3	Mar 2016	Α
TEF3086	Boundary Measure Inspection Form (TRK/5100 App A)	1	Mar 2011	Α
TEF3087	Record of Decrease in Frequency of Boundary Inspection	1	Mar 2011	А
TEF3088	Boundary Measure Renewal Proposal Form (TRK/5100 App D)	1	Mar 2011	А
TEF3090	Risk Assessment for Reduction in Basic Visual Track Inspection Frequencies for CWR Plain Line Only	1	Dec 2009	Α
TEF3091	Approval of Reduction in Visual Inspection Frequency Certificate	2	Sep 2013	Α
TEF3092	Use of Vehicles for Basic Visual Track Inspection	2	Jun 2012	А
TEF3096	Mobile Flashbutt Weld Inspection Report	3	Dec 2010	Α
TEF3097	Record of Stressing / Restressing Using Mobile Flash Butt Welding	1	Jun 2011	Α
TEF3098	Record of Stress Restoration Using Mobile Flash Butt Welding	1	Jun 2011	Α
TEF3099	Fixed Stretcher Bar Assembly Defect Form	3	Dec 2014	Α
TEF3105	Plain Line Trial Hole and Soils Data Logging Schedule	1	Feb 2007	С
TEF3121	S&C Track Renewals Particular Requirements Specification	2	Jun 2012	D
			+	+

## **4.23 TRACK ENGINEERING**

N	<b>T</b>		1 D.()	D.C.
Number	Title	Issue	Issue Date	Price
TEF3202	Level 1 Handback / Speed Raising Form	2	Sep 2013	A
TEF3203	Infrastructure Conformance Certificate	5	Jun 2015	С
TEF3204	Inspection of Adjustment Switches	2	Sep 2013	Α
TEF3205	Inspection of Insulated Rail Joints (Irjs) / Insulated Block Joints (Ibjs)	1	Sep 2010	Α
TEF3206	Jointed Track Rail Gap Survey Form	1	Dec 2010	Α
TEF3207	Record of Site Details For Critical Rail Temperature Calculation	3	Sep 2013	Α
TEF3208	Record of Critical Rail Temperature Calculation – Continuously Welded Track	4	Sep 2013	А
TEF3209	Record of Critical Rail Temperature Calculation – Jointed Track	2	Sep 2013	Α
TEF3210	Boundary Incursion Incident Form	1	Mar 2011	В
TEF3211	Fallen Tree Incident Form	1	Mar 2011	В
TEF3212	Record of Non-Tactile Boundary Inspection	1	Mar 2011	А
TEF3213	Ultrasonic Testing Request Form (for Rail Defects Found By Visual Inspection)	2	Sep 2013	Α
TEF3214	Level Crossing Renewal / Refurbishment Risk Priority Assessment	1	Mar 2011	Α
TEF3215	Level Crossing Renewal / Refurbishment Form	1	Mar 2011	Α
TEF3216	Layout Quality Assurance Inspection	2	Mar 2018	С
TEF3217	Authorisation to use Train Based Rail Wear Measurements	1	Mar 2011	A
TEF3218	Mobile Flashbutt Weld Production Report	2	Mar 2017	A
TEF3219		2		В
	Network Rail Application Form for Rail Friction Management Equipment Site Specific Assessment	_	Sep 2011	
TEF3220	Form A: Approval In Principle	1	Jun 2011	A
TEF3221	Form B: Approval of Detailed Design And Checking	1	Jun 2011	A
TEF3222	Form C: Approval of Manufacturing Drawings	1	Jun 2011	A
TEF3223	Ultrasonic Calibration Block Visual Check Result Sheet	1	Dec 2011	A
TEF3224	Sperry RTS-RSU Pump Gauge Calibration Result Sheet	1	Dec 2011	Α
TEF3225	Omnivision BVI Report	1	Apr 2015	Α
TEF3226	Omnivision Asset Management Report.	1	Apr 2015	Α
TEF3227	Omnivision Ballast Report	1	Apr 2015	Α
TEF3228	Introduction of PLPR inspection	7	Mar 2018	В
TEF3229	Contingency Measures Following Omnivision Recording Error - Record of Decisions Taken	6	Sep 2015	Α
TEF3230	Assessment of Stress Unknown Sites	1	Sep 2013	Α
TEF3231	No Fault Found Investigation Report	1	Sep 2013	Α
TEF3238	Notification of Proposed PLPR Inspection Sites	7	Mar 2018	Α
TEF3239A	Management of gauge: field face to field face dimensions of inclined curved chamfered switches B - E	1	Jun 2012	Α
TEF3239B	Management of Gauge: Field Face to Field Face Dimensions of Inclinded Straight Chamfered Switches B - E	1	Jun 2012	А
TEF3239C	Management of Gauge: Field Face to Field Face Dimensions of Vertical Shallow Depth Switches AVS - DVS	1	Jun 2012	А
TEF3239D	Management of gauge: field face to field face dimensions of vertical shallow depth switches EVS - GVS	2	Feb 2015	Α
TEF3239E	Management of Gauge: Field Face to Field Face Dimensions of Vertical Full Depth Switches AV - DV	2	Feb 2015	A
TEF3239F	Management of Gauge: Field Face to Field Face Dimensions of Vertical Full Depth Switches EV - GV	1	Jun 2012	A
		+	+	+
TEF3239G	Management of Gauge: Field Face to Field Face Dimensions of RT/NR60 switches C - E	1	Jun 2012	A
TEF3239H	Management of Gauge: Field Face to Field Face Dimensions of NR60 switches F - G	1	Jun 2012	A
TEF3240	Assessment of Minimum Permitted Rail Depth	1	Sep 2013	A
TEF3242	Level Crossing Vertical Profile Inspection Sheet (LXi29)	1	Jun 2012	Α
TEF3243	Level crossing Inspection Record Form	1	Jun 2012	А
TEF3244A	Third Party Tree Notification Letter (3PTL), including Risk from Trees Fact Sheet v1.1	2	Mar 2015	А
TEF3244B	Third Party Tree Notification Letter (3PTLii), Including Risk from Trees Fact Sheet v1.1	2	Mar 2015	Α
TEF3245	Tree Risk Evaluation and Control by Non-Arboriculturist Railway Personnel (THREATS-NRP)	2	Jun 2013	Α
TEF3246	Certificate of Competence – Authorised Persons Levels 2, 3 and 4	2	Dec 2015	A
TEF3247	Mobile Flashbutt Weld Worksite Planning Form	1	Dec 2012	A
TEF3248	Drainage inspection form	2	Feb 2015	A
TEF3249		1	Jun 2013	A
	Arc Welding Worksite Planning and Resource Request Form	_		+
TEF3250	Post U15 Course Mentorship Form	1	Aug 2013	A
TEF3251	Phoenix Probe Performance Checks	1	Jun 2015	A
TEF3253	Switch Inspection Interval Risk Assessment	1	Dec 2016	A
TEF3254	Proposal for Track Refurbishment/Reactive Renewal S&C	1	Sep 2015	Α
TEF3255	Specification for track refurbishment / reactive renewal S&C	1	Sep 2015	Α
TEF3256	Train borne inspection RAM(T) authorisation	2	Jun 17	А
TEF3258	Risk Assessment Following Loss of Planned UTU inspection - Record of Decisions Taken and Mitigation Implemented	1	Oct 2015	А
TEF3260	Periodic PLPR Review	1	Mar 2016	Α
TEF3261	PLPR Exclusion File Change Request	2	Sep 2018	A
TEF3262	S&C Design - Risk Categorisation Tool	1	Sep 2016	A
		_	<u> </u>	
TEF3263	Track Geometry Recording RAM[T] Authorisation	1	Jul 2016	Α

Number	Title	Issue	Issue Date	Price
TEF3264	Assessment of Fusion Face Defects In Aluminothermic Welds	1	Dec 16	Α
TEF3265	Certificate of Permanent Gauging Authority	1	Dec 17	Α
TEF3266	Certificate of Temporary Gauging Authority	1	Dec 17	Α
TEF3267	Manual Track Geometry Measurement – Method Selection Tool	2	Jun 2017	Α
TEF3268	Cyclic Top Faults:scope, Check, Prevent and Signoff Form	1	Jun 2017	Α
TEF3269	Supervisory Inspection of Lineside Vegetation Report	1	Mar 2018	Α
TEF3270	Cab Ride of Lineside Vegetation Report	1	Mar 2018	Α
TEF3271	Supervisory Inspection of Boundary Measures Report	1	Mar 2018	А

NR/L3/TRK/0030	Reinstatement of Absolute Track Geometry (ATG) West	Compliance	Replaces
	Coast Main Line (WCML) Routes Issue 2; Jun 17	02/09/17	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

Price: D

NR/L3/TRK/055	Work Instructions for Ultrasonic Rail Testing Issue 2; Sep 16	Compliance	Replaces
		03/12/16	NR/SP/TRK/055
			(RT/CE/S/055) Iss 1A; Feb 98

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

Price: B Standard only; Complete, Phone See below for details of modules and individual pricing

NR/L3/TRK/055/	Title	Issue	Issue Date	Price
U1	Ultrasonic Inspection of Fishplated Joints and Holes in Plane Line Using Hand Held Transducers.	1	Sep 2016	D
U5	Ultrasonic Assessment of Rail Head Defects to Determine Horizontal Length and Vertical Depth of Reported Discontinuity.	1	Sep 2016	D
U6	Ultrasonic Inspection for Lack of Fusion of Aluminothermic Welds.	1	Sep 2016	С
U7	Rail Measurement	1	Sep 2016	С
U8	Conformation and Examination of Vertical Longitudinal Defects.	1	Sep 2016	С
U10	Ultrasonic Inspection of Adjustment Switches	1	Sep 2016	В
U15	Ultrasonic Inspection of Rail Using the Sperry Roller Search Unit Rail Testing System Including Identification & Sizing of 37° Suspects Reported by UTU	1	Sep 2016	D
U16	Ultrasonic inspection of Fishplated Rail Joints and Bolt Holes Using the Sperry Roller Search Unit Rail Testing System.	1	Sep 2016	D
U17	Ultrasonic Inspection of Rail Foot for Transverse Cracks Using Sperry Roller Search Unit Rail Testing System.	1	Sep 2016	С
U19	Ultrasonic Inspection of Switches and Crossings Including Bolt Holes Not at the Rail End.	1	Sep 2016	С
U20	Ultrasonic Testing Procedure for Bolted IsolierstoB IVB 30° Scarf Joints	1	Sep 2016	С

Management of Responses to Extreme Weather Conditions	Compliance	Replaces
it Structures, Earthworks and Other Key Locations ssue 2; Aug 08	26/08/08	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.

Price: D (Contains NR/BS/LI/292)

NR/L3/TRK/1011	Management of Permanent Way Inspections Issue 3; Aug 08	Compliance	Replaces
		26/08/08	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.

Price: D

NR/L3/TRK/1012	Management of Manual Ultrasonic Weld Testing	Compliance	Replaces
	Issue 2; Aug 08	26/08/08	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.

Price: C

NR/L3/TRK/1013	Maintenance of Track Assets Issue 2; Aug 08	Compliance	Replaces
		26/08/08	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.

Price: C

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.

Price: B

NR/L3/TRK/1015	Management of Basic Visual Inspection Issue 4; Mar 17	Compliance	Replaces
<del>-</del>		05/12/15	NR/L3/TRK/1015 Iss 3; Sep 15

This modularised standard describes the management of Basic Visual Inspection by patrolling or other recognised alternative methods of providing tier 1 Safety Inspections

Price: B Standard only; Complete, D See below for details of modules and individual pricing

NR/L3/TRK/1015/	Description	Issue	Issue Date	Price
01	Track Patrolling	1	Sep 2015	С
02	Track Inspection by PLPR System	2	Mar 2017	С

NR/L3/TRK/1016	Managing the Raising / Removing of Track Speed	Compliance	Replaces
	Restrictions and Inspecting the Line After Track Engineering	05/03/11	New at Issue 78
	Work Issue 1: Dec 10		

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.

Price: C

NR/L3/TRK/1017	Inspection for Raising/removing Speed Restrictions and	Compliance	Replaces
	Inspecting the Line After Track Renewal Work Issue 1; Dec 10	05/03/11	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.

Price: C

NR/L3/TRK/1018	Inspection for Raising / Removing Speed Restrictions And Inspecting the Line After Track Maintenance and	Compliance 05/03/11	Replaces New at Issue 78
	Refurbishment Work Issue 1; Dec 10		

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.

Price: C

NR/L3/TRK/1101	The Management of Rail Defect Removal Timescales	Compliance	Replaces
	Issue 3; Sep 10	04/09/10	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.

Additional Excel Content Available: Phone Price: C

4.23 TRACK ENGINEERING **TRK** Level 3

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.

Price: C

NR/L3/TRK/2049	Track Design Handbook Issue 14; Jun 17	Compliance	Replaces
		02/09/17	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.

Price: C Standard only; Complete, Phone See below for details of modules and individual pricing

NR/L3/TRK/2049/	Title	Issue	Issue Date	Price
mod01	Guidance and Principles	1	Mar 2016	D
mod02	Mathematics	1	Mar 2016	D
mod03	Assembly	1	Mar 2016	Е
mod04	Components	1	Mar 2016	D
mod05	System Interfaces	2	Jun 2017	С
mod06	Miscellaneous	1	Mar 2016	С
mod07	Gauging	2	Jun 2017	В

NR/L3/TRK/2070	Design Specification S&C System:- NR60/HPSS and NR60/	Compliance	Replaces
	Hydrive Configurations Issue 1; Aug 07	31/08/07	

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)	Compliance	Replaces
	Issue 1; Mar 17	03/06/17	New at Issue 103

This standard sets out how to manage the deferred renewal process and the actions required during each stage

Price: C

NR/L3/TRK/3001	Standard Maintenance Procedure: Ordering of Switch and	Compliance	Replaces
	Crossing Components Issue 3; Aug 08	26/08/08	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.

Price: C

NR/L3/TRK/3011	Management of Rail Stress and Critical Rail Temperatures	Compliance	Replaces
	Issue 3; Aug 08	26/08/08	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.

Price: C

NR/L3/TRK/3012	Management of Hot Weather Precautions (Track)	Compliance	Replaces
	Issue 2; Aug 08	26/08/08	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.

Price: C

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.

4.23 TRACK ENGINEERING
TRK
Level 3

NR/L3/TRK/3105	Topographic, Engineering, Land and Measured building	Compliance	Replaces	
	surveying - Overhead Line Electrification Issue 1; Mar 12	02/06/12	New at Issue 83	

This standard facilitates the creation of a specification for Topographic survey works for overhead line equipment (OLE). It provides guidance to Project managers and Designated project engineers on specifying and commissioning Topographic surveys.

Price: E

NR/L3/TRK/3122	Management of Coal Mining Subsidence Affecting Track	Compliance	Replaces
	Infrastructure Issue 1; Dec 09	06/03/10	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).

Price: D

NR/L3/TRK/3201	Management of Tight Clearances and Track Position	Compliance	Replaces
	Issue 2; Aug 08	26/08/08	NR/L3/MTC/TK0071
			lss 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

Price: B

NR/L3/TRK/3202	Management of Track Geometry Recording and Remedial	Compliance	Replaces
	Actions Issue 3; Aug 08	26/08/08	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.

Price: C

NR/L3/TRK/3220	Planning of On-track Machines Issue 3; Aug 08	Compliance	Replaces
l de la lace		26/08/08	NR/PRC/MTC/TK0002
			lss 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.

Price: C

NR/L3/TRK/3230	Control of On-track Machines Issue 2; Aug 08	Compliance 26/08/08	Replaces NR/PRC/MTC/TK0003
			lss 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.

Price: E (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
			lss 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 1; Dec 11	Compliance	Replaces
		01/04/12	New at Issue 82

This standard is part of a pair of related standards, the other being NR/L3/TRK/3242, Marking of track for stoneblowing 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 and 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) allows for tamping closer to obstructions where previously whole sleepers may have been avoided. This can lead to better and more accurate quality track;

d) 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.

Price: D

NR/L3/TRK/3242	Marking of Track for Stoneblowing Machines Issue 1; Dec 11	Compliance	Replaces
		01/04/12	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.

Price: D

NR/L3/TRK/3250	Post-work Activities Following Works Using On-track	Compliance	Replaces
	Maintenance Machines Issue 2; Aug 08	26/08/08	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.

Price: C

NR/L3/TRK/3260	Maintenance of an EPS (Enhanced Permissible Speed)	Compliance	Replaces
	Railway Issue 1; Mar 09	07/03/09	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.

Price: C

NR/L3/TRK/3261	ATG (Absolute Track Geometry) Maintenance Process Using	Compliance	Replaces
	'ATG Geometry Methods' Issue 1; Mar 09	07/03/09	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.

Price: C

NR/L3/TRK/3262	ATG (Absolute Track Geometry) Maintenance Process Using	Compliance	Replaces
	'ATG Lite Method' Issue 1; Mar 09	07/03/09	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'.

Price: C

NR/L3/TRK/3310	Re-gauging of Switch Units – Field Face to Field Face	Compliance	Replaces
	Method Issue 1; Jun 12	31/06/12	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'.

Price: D

NR/L3/TRK/3402	Welding Process - Repair of Wheelburns and Squats	Compliance	Replaces
	Issue 3; Dec 08	01/03/09	NR/WI/TRK/03402 lss 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.

Price: B

NR/L3/TRK/3405	Recording on Site Derailment Information Issue 2; Aug 08	Compliance	Replaces
		26/08/08	NR/L3/TRK/3405 lss 1: Feb 07

The purpose of this standard is to confirm the standardised track information requirements to be collected after a derailment occurs.

Price: D

NR/L3/TRK/3406 Design, Installation and Maintenance of Modular Bearer Joints Issue 3; Sep 18 Compliance 01/12/18 Replaces NR/L3/TRK/3406 Iss 2; Mar 18

This standard gives requirements for the design, installation and maintenance of modular Switch and Crossings bearer joints. The standard is split into modules for each aspect.

The standard is intended to control the following failure modes and promote enhanced service life:

- Wide gauge
- · Damaged and ineffective thread on dowels
- Bearer cracking
- Screws breaking
- Loose screws
- Twist faults due to joints

Price: C Standard only; Complete Phone Modules Marked 💻 have Additional Video Content Available: Phone See below for details of modules and individual pricing

NR/L3/TRK/3406/	Title (and any applicable Letters of Instruction)	Issue	Issue Date	Price
01	Design and Positioning of Bearer Joints in Modular Switch and Crossing Layouts		TBC	
02	Installation of Modular S&C	1 💻 🕻	Sep 2018	С
03	Inspection and Maintenance of Modular Switch and Crossing Bearer Joints	1	Sep 2018	

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.

Price: C

NR/L3/TRK/3510	Rail Friction Management Issue 2; Sep 11	Compliance	Replaces
		03/09/11	NR/L3/TRK/3510 Iss 1; Mar 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.

Price: B Standard only; Complete, E See below for details of modules and individual pricing

NR/L3/TRK/3510/	Title (and any applicable Letters of Instruction)	Issue	Issue Date	Price
A01	Lubrication of Plain Line Running Rails, S&C and Check Rails (Contains NR/BS/LI/305)	1	Mar 2011	D
B01	Use of Top of Rail Friction Modifiers (Contains NR/BS/LI/305)	1	Mar 2011	D
C01	Use of Traction Gel Applicators	1	Sep 2011	С

NR/L3/TRK/3530	Track Lubricants Issue 1: Jun 12	Compliance	Replaces
	,	01/09/12	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.

Price: B Standard only; Complete D See below for details of modules and individual pricing

NR/L3/TRK/3530/	Title	Issue	Issue Date	Price
A01	Curve Lubricants	1	Jun 2012	С
B01	S&C Slidechair Lubricants	1	Jun 2012	С
C01	Fishplated Joint Lubricants	1	Jun 2012	В

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

To provide a site specific method statement to complement national delivery service's generic method statements for the delivery of rail to maintenance worksites.

Price: D

NR/L3/TRK/4004 Switch & Crossing Assemblies Issue 2; Mar 11 Compliance Replaces 04/06/11 See below

Replaces: NR/SP/TRK/004 (RT/CE/S/004) Iss 1; Sep 96, RT/CE/S/073 Iss 1; Dec 03, NR/L2/TRK/9017 Iss 2; Aug 08

This standard specifies requirements for the manufacture and assembly of switch and crossings (S&C).

Price: E (Contains NR/BS/LI/283, NR/BS/LI/340, NR/BS/LI/365)

NR/L3/TRK/4041 Maintaining Track Assets at Level Crossings Issue 1; Jun 12 Compliance Replaces 01/09/12 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.

Price: F

NR/L3/TRK/4900 Track Gauge Specification Issue 1; Mar 11 Compliance Replaces 03/03/12 New at Issue 79

This standard is required so that manufacturers supply Network Rail with gauges that we have control over and that meet our track standard requirements

Price: D (Contains NR/BS/LI/336 (Expired))

NR/L3/TRK/6001 Management of a Problem Statement Issue 2; Aug 08 Compliance Replaces NR/SP/TRK/6001 26/08/08 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.

Price: C

NR/L3/TRK/6002 The Specification and Design of Plain Line Track Renewals Compliance Issue 2: Aug 08 26/08/08 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.

Price: D

NR/L3/TRK/7002 Reporting of Permanent Way Failures and Incidents Compliance Replaces Issue 2; Aug 08 26/08/08 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.

Price: B

NR/L3/TRK/7004 Track Standard Drawings (RE/PW Series) Issue 3; Mar 11 Compliance Replaces 04/06/11 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.

Price: D

NR/L3/TRK/7005 Track Quality Requirements at Wheel Impact Load Detection Compliance System Locations Issue 1; Dec 17 02/06/18 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

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.

Price: C

## **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 Compliance Replaces
Clamp Issue 1; Feb 07

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.

Price: C

#### **Guidance Notes**

NR/GN/TRK/058 S&C Track Design Good Practice Guide Issue 1; Dec 16 Compliance N/A Replaces
N/A 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

- Drive safety by design across the National S&C Programme
- Lead the optimal specification for S&C renewals and refurbishment
- · Evolve design philosophy nationwide and
- · Drive S&C system reliability.

Price: F

NR/GN/TRK/059	Delivering High Quality S&C Renewals Issue 1; Jun 17	Compliance	Replaces
		N/A	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.

Price: E

NR/GN/TRK/060	A Guide to Track Geometry Trend Analysis as a Precursor to	Compliance	Replaces
	Speed Restrictions Issue 1; Jun 17	N/A	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.

Price: B

## **Associated Document**

NR/GN/TRK/060/PG	A Guide to Track Geometry Trend Analysis as a Precursor to	Compliance	Replaces
	Speed Restrictions Issue 1; Jun 17	N/A	New at Issue 104

Best practice guide to track geometry trend analysis

Price: E

NR/GN/TRK/065	NR 60 Mark 2 Standardised S&C – Assembly and	Compliance	Replaces
	Maintenance Issue 1; Sep 18	N/A	New at Issue 109

The purpose of this document is to provide guidance on the NR60 Mark 2 Standardised S&C System to:

- · improve confidence in the system;
- increase reliability and productivity; and
- mitigate risks caused by installation errors introduced during assembly.

Price: D

NR/GN/TRK/7001	Index of Track Work Information Sheets	Compliance	Replaces
	Issue 15; Sep 18	N/A	NR/GN/TRK/7001 Iss 14; Dec 17

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.

Price: D Standard only; Complete Phone Modules Marked 💻 have Additional Video Content Available: Phone See below for details of modules and individual pricing

NR/GN/TRK/7001	Title	Issue	Issue Date	Price
TWI 2B001	How to Open out and Box in	1	Mar 2005	Α
TWI 2B002	How to Recognise Wet Bed Formation	1	Mar 2005	Α
TWI 2B003	How to Prepare Trial Holes	1	Mar 2005	Α
TWI 2B004	How to Regulate Ballast by Hand	2 ■4	Feb 2013	Α
TWI 2B005	How to Prevent Wet Bed Formation	1	Mar 2005	Α
TWI 2B006	How to Treat Wet Beds Manually	3 ■4	Jul 2013	В
TWI 2B007	How to Dig Out Contaminated Ballast	1	Mar 2005	Α
TWI 2B008	How to Recognise Ballast Type	1	Mar 2005	А
TWI 2B009*	How to Maintain Catchpits	4	Mar 2005	A

NR/GN/TRK/7001	Title	Issue	Issue Date	Price
TWI 2B011*	How to Recognise a Drain Failure	4	Mar 2005	A
TWI 2B012*	How to Maintain Drains	4	Mar 2005	A
TWI 2B013*	How to Inspect Drainage	4	Mar 2005	A
TWI 2B014*	How to Carry out Flood Warning Inspections	4	Mar 2005	A
TWI 2B016	How to Maintain Ash Ballasted Track	1	Mar 2005	Α
TWI 2B017*	How to Maintain Open Drains, Watercourses and Ditches	4	Mar 2005	A
TWI 2C001	How to Change Fishplates	1	Mar 2005	Α
TWI 2C002	How to Replace a Baseplate Plain Line	1	Mar 2005	Α
TWI 2C003	How to Remove and Fit Screw Type Fastenings	1	Mar 2005	Α
TWI 2C004	How to Remove and Fit Spike Fastenings	1	Mar 2005	A
TWI 2C007	How to Remove Seized Fastenings	1	Mar 2005	A
TWI 2C008	How to Install Maintenance Fastenings	1	Mar 2005	Α
TWI 2C009	How to Fit an Insulator	1	Mar 2005	A
TWI 2C009		1		A
	How to Install and Maintain Bullhead Keys	1	Mar 2005	1
TWI 20012	How to Replace Pads	1	Mar 2005	A
TWI 2C013	How to Install a Standard AS Chairscrew	1	Mar 2005	A
TWI 2C014	How to Referrule	1	Mar 2005	A
TWI 2C015	How to Install Long Chairscrews	1	Mar 2005	Α
TWI 2C016	How to Install a Maintenance Screw	1	Mar 2005	A
TWI 2C018	How to Recognise Inclined and Vertical Rail	1	Mar 2005	Α
TWI 2C020	How to Replace a Fishbolt	1	Mar 2005	Α
TWI 2C021	How to Recognise Fishbolt Types	1	Mar 2005	Α
TWI 2C023	How to Recognise Fishplate Types	1	Mar 2005	Α
TWI 2C024	How to Recognise Joint Types	1	Mar 2005	Α
TWI 2C025	How to Change a Check Block Bolt	1	Mar 2005	Α
TWI 2C027-2G032	How to Maintain Insulated Block Joints	2 ■◀	Jun 2013	D
TWI 2C030	How to Fit a Multi-Groove Locking (MGL) Pin	1	Mar 2005	Α
TWI 2C031	How to Recognise a Broken Chair or Baseplate	1	Mar 2005	Α
TWI 2C032	How to Maintain Direct Fastenings	1	Mar 2005	Α
TWI 2C033	How to Install Maintenance Coils or Inserts	1	Mar 2005	Α
TWI 2C036	How to Prevent Rail Creep	1	Mar 2005	Α
	·			
TWI 2C037	How to Carry out a Gap Survey and Rail Adjusting on Jointed Track	5 ■ 4	Apr 2015	С
TWI 2C038	How to Recognise Pad Failure	1	Mar 2005	A
TWI 2C040	How to Fit and Remove Rail Anchors	2	Mar 2012	Α
TWI 2C043	How to Recognise Fastenings	1	Mar 2005	B .
TWI 2C044	How to Carry out Basic Maintenance of Track Fastenings	1	Mar 2005	A
TWI 2C045	How to Maintain Tight Joints	1	Mar 2005	Α
TWI 2C046	How to Recognise, Specify and Order Rail Pads	1	Mar 2005	Α
TWI 2G001	How to Use a Track Jack	1	Mar 2005	Α
TWI 2G002	How to Understand Critical Rail Temperature (CRT)	1	Mar 2005	Α
TWI 2G003	How to Recognise and Use Insulated Tools	1	Mar 2005	Α
TWI 2G004	How to Measure Voids	1	Mar 2005	Α
TWI 2G005	How to Use an Ironman	1	Mar 2005	Α
TWI 2G006	How to Use a Trolley	1	Mar 2005	Α
TWI 2G007	How to Detect and Avoid Cables	1	Mar 2005	Α
TWI 2G008	How to Recognise and Avoid Traction Return Bonds	1	Mar 2005	Α
TWI 2G009	How to Identify Types of Welds	1	Mar 2005	Α
TWI 2G010	How to Use a Rail Saw	1	Mar 2005	Α
TWI 2G011	How to Use a Rail Drill	1	Mar 2005	Α
TWI 2G012	How to Replace a Pot	1	Mar 2005	Α
TWI 2G013	How to Avoid Detection Failure	1	Mar 2005	Α
TWI 2G014	How To Use a Cross Level Transfer Gauge	1	Mar 2005	Α
TWI 2G015	How to Use a Sighting Board	1	Mar 2005	Α
TWI 2G016	How to Install Emergency Bridging Pieces	1	Mar 2005	Α
TWI 2G017	How to Recognise a Potential Buckle Site	1	Mar 2005	Α
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TWI 2G018	How to Install an Emergency Indicator	3 💶 🕯	Apr 2015	В
	How to Apply a Speed Restriction in an Emergency	1	Mar 2005	Α
TWI 2G019	How to Install and Remove a Temporary AWS Magnet	3 💻 €	Apr 2015	С
TWI 2G019 TWI 2G020	The state of the s			1
TWI 2G020		2 ■4	Nov 2013	С
TWI 2G020 TWI 2G022	How to Erect Speed Restriction Boards	2 💶 🕯	Nov 2013 Mar 2005	C
TWI 2G020			Nov 2013 Mar 2005 Aug 2017	C A C

TWI 26033         How to Install or Replace an end Post in Jointed Track         1         In May 16035         How to Recognise Types of Insulated Joints         1         In May 1704         <	Mar 2005	A A A A A A A A A A A A A A A A A A A
TWI 2G035         How to Recognise Types of Insulated Joints         1         <	Mar 2005 Sep 2014 Mar 2005 Mar 2005 Mar 2005 Mar 2005 Mar 2005 May 2007 Mar 2005	A C A A A A A A A A A
TWI 26036         How to Lift and Pack a Rail Joint         3 ■ ■         1         N           TWI 26037         How to Install Emergency Clamped Fishplates         1         N           TWI 26040         How to Repair Lipping at an IBJ         1         N           TWI 26041         How to Install a Temporary Joint         1         N           TWI 26042         How to Carry out Piace Cutting (Burning)         1         N           TWI 26043         How to Carry out Disc Cutting Rail         2         N           TWI 26044         How to Carry out Disc Cutting Rail         2         N           TWI 26045         How to Recognise Rolling Contact Fatigue (RCF)         1         N           TWI 26046         How to Massure All Depth         1         N           TWI 26047         How to Recognise Rolling Contact Fatigue (RCF)         1         N           TWI 26048         How to Recognise Rail Wear         1         N           TWI 26049         How to Recognise Rail Wear         1         N           TWI 26050         How to Recognise Wheel Burns         1         N           TWI 26061         How to Recognise a Twist Rail         1         N           TWI 26065         How to Recognise a Trench         1         N	Sep 2014 Mar 2005 Mar 2005 Mar 2005 Mar 2005 Mar 2005 May 2007 Mar 2005	C A A A A A A A A A
TWI 26037         How to Install Emergency Clamped Fishplates         1         A         N           TWI 26040         How to Repair Lipping at an IBJ         1         N           TWI 26041         How to Install a Temporary Joint         1         N           TWI 26042         How to Carry out Flame Cutting (Burning)         1         N           TWI 26043         How to Carry out Flame Cutting (Burning)         1         N           TWI 26044         How to Deal with a Defective Rall         2         N           TWI 26045         How to Recognise Rolling Contact Fatigue (RCF)         1         N           TWI 26046         How to Move Rall Manually         1         N           TWI 26047         How to Measure Rail Depth         1         N           TWI 26048         How to Recognise Rall Wear         1         N           TWI 26049         How to Carry out Rail End Preparation         1         N           TWI 26050         How to Recognise Wheel Burs         1         N           TWI 26052         How to Recognise A Twist Rail         1         N           TWI 26056         How to Dig a Cutter Bar Trench         1         N           TWI 26057         How to Secongise Gauge Spread         1         N	Mar 2005 Mar 2005 Mar 2005 Mar 2005 Mar 2005 Mar 2007 Mar 2005	A A A A A A A A
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TWI 2G043         How to Carry out Disc Cutting Rail         1         N           TWI 2G044         How to Deal with a Defective Rail         2         N           TWI 2G045         How to No Load with a Defective Rail         2         N           TWI 2G046         How to Move Rail Manually         1         N           TWI 2G047         How to Measure Rail Depth         1         N           TWI 2G048         How to Recognise Rail Wear         1         N           TWI 2G049         How to Carry out Rail End Preparation         1         N           TWI 2G059         How to Measure and Define Rail Temperature         1         N           TWI 2G050         How to Recognise a Twist Rail         1         N           TWI 2G055         How to Recognise a Twist Rail         1         N           TWI 2G056         How to Recognise a Trench         1         N           TWI 2G057         How to Use Track Circuit Operating Clips         1         N           TWI 2G061         How to Recognise Gauge Spread         1         N           TWI 2G063         How to Recognise Gauge Spread         1         N           TWI 2G064         How to Recognise Gauge Spread         1         N           TWI 2G065 <t< td=""><td>Mar 2005 May 2007 Mar 2005 Mar 2005 Mar 2005 Mar 2005 Mar 2005 Mar 2005</td><td>A A A A A</td></t<>	Mar 2005 May 2007 Mar 2005 Mar 2005 Mar 2005 Mar 2005 Mar 2005 Mar 2005	A A A A A
TWI 2G044         How to Deal with a Defective Rail         2         M           TWI 2G045         How to Recognise Rolling Contact Fatigue (RCF)         1         M           TWI 2G046         How to Move Rail Manually         1         M           TWI 2G047         How to Measure Rail Depth         1         M           TWI 2G048         How to Recognise Rail Wear         1         M           TWI 2G049         How to Carry out Rail End Preparation         1         M           TWI 2G050         How to Measure and Define Rail Temperature         1         M           TWI 2G055         How to Recognise Wheel Burns         1         M           TWI 2G055         How to Recognise a Twist Rail         1         M           TWI 2G056         How to Dig a Cuter Bar Trench         1         M           TWI 2G057         How to Use Track Circuit Operating Clips         1         M           TWI 2G061         How to Recognise Gauge Stop         1         M           TWI 2G063         How to Install a Gauge Stop         1         M           TWI 2G064         How to Recognise a Twist Rail         1         M           TWI 2G065         How to Recognise All Clication and	May 2007 Mar 2005 Mar 2005 Mar 2005 Mar 2005 Mar 2005 Mar 2005	A A A A
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TWI 2G046         How to Move Rail Manually         1         N           TWI 2G047         How to Measure Rail Depth         1         N           TWI 2G048         How to Recognise Rail Wear         1         N           TWI 2G049         How to Carry out Rail End Preparation         1         N           TWI 2G050         How to Measure and Define Rail Temperature         1         N           TWI 2G052         How to Recognise Wheel Burns         1         N           TWI 2G055         How to Recognise a Twist Rail         1         N           TWI 2G056         How to Recognise a Twist Rail         1         N           TWI 2G056         How to Use Track Circuit Operating Clips         1         N           TWI 2G056         How to Recognise Gauge Spread         1         N           TWI 2G061         How to Install a Gauge Stop         1         N           TWI 2G063         How to Install and Maintain a Tie Bar         1         N           TWI 2G064         How to Regauge Plain Line         1         N           TWI 2G065         How to Install and Maintain a Tie Bar         1         N           TWI 2G066         How to Nemove and Dispose of Storage and Line         1         N           TWI 2G070 <td>Mar 2005 Mar 2005 Mar 2005 Mar 2005 Mar 2005</td> <td>A A A</td>	Mar 2005 Mar 2005 Mar 2005 Mar 2005 Mar 2005	A A A
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TWI 2G048         How to Recognise Rail Wear         1         N           TWI 2G049         How to Carry out Rail End Preparation         1         N           TWI 2G050         How to Measure and Define Rail Temperature         1         N           TWI 2G052         How to Recognise Wheel Burns         1         N           TWI 2G055         How to Recognise a Twist Rail         1         N           TWI 2G056         How to Dig a Cutter Bar Trench         1         N           TWI 2G057         How to Use Track Circuit Operating Clips         1         N           TWI 2G061         How to Recognise Gauge Stopad         1         N           TWI 2G063         How to Install a Gauge Stop         1         N           TWI 2G064         How to Regauge Plain Line         1         N           TWI 2G065         How to Remove an AD or BJB Sleeper         1         N           TWI 2G066         How to Secure Sleepers at the Lineside         1         N           TWI 2G070         How to Determine and Carry out Torque Settings         1         N           TWI 2G071         How to Maintain Buffer Stops         1         N           TWI 2G072         How to Remove and Dispose of Scrap and Debris         1         N	Mar 2005 Mar 2005 Mar 2005	Α
TWI 2G049         How to Carry out Rail End Preparation         1         N           TWI 2G050         How to Measure and Define Rail Temperature         1         N           TWI 2G052         How to Recognise Wheel Burns         1         N           TWI 2G055         How to Recognise a Twist Rail         1         N           TWI 2G056         How to Dig a Cutter Bar Trench         1         N           TWI 2G057         How to Use Track Circuit Operating Clips         1         N           TWI 2G061         How to Recognise Gauge Spread         1         N           TWI 2G063         How to Install a Gauge Stop         1         N           TWI 2G064         How to Regauge Plain Line         1         N           TWI 2G065         How to Remove an AD or BJB Sleeper         1         N           TWI 2G066         How to Remove an AD or BJB Sleeper         1         N           TWI 2G066         How to Secure Sleepers at the Lineside         1         N           TWI 2G070         How to Determine and Carry out Torque Settings         1         N           TWI 2G071         How to Maintain Buffer Stops         1         N           TWI 2G072         How to Mameye and Dispose of Scrap and Debris         1         N	Mar 2005 Mar 2005	
TWI 2G050         How to Measure and Define Rail Temperature         1         M           TWI 2G052         How to Recognise Wheel Burns         1         M           TWI 2G055         How to Recognise a Twist Rail         1         M           TWI 2G056         How to Dig a Cutter Bar Trench         1         M           TWI 2G057         How to Use Track Circuit Operating Clips         1         M           TWI 2G057         How to Recognise Gauge Spread         1         M           TWI 2G063         How to Install a Gauge Stop         1         M           TWI 2G064         How to Regauge Plain Line         1         M           TWI 2G065         How to Install and Maintain a Tie Bar         1         M           TWI 2G066         How to Remove an AD or BJB Sleeper         1         M           TWI 2G066         How to Secure Sleepers at the Lineside         1         M           TWI 2G070         How to Determine and Carry out Torque Settings         1         M           TWI 2G071         How to Maintain Buffer Stops         1         M           TWI 2G072         How to Remove and Dispose of Scrap and Debris         1         M           TWI 2G073         How to Maintain Slab Track         1         M	Mar 2005	
TWI 2G052         How to Recognise Wheel Burns         1         M           TWI 2G055         How to Recognise a Twist Rail         1         M           TWI 2G056         How to Dig a Cutter Bar Trench         1         M           TWI 2G057         How to Use Track Circuit Operating Clips         1         M           TWI 2G061         How to Recognise Gauge Spread         1         M           TWI 2G063         How to Install a Gauge Stop         1         M           TWI 2G064         How to Regauge Plain Line         1         M           TWI 2G065         How to Install and Maintain a Tie Bar         1         M           TWI 2G066         How to Remove an AD or BJB Sleeper         1         M           TWI 2G068         How to Secure Sleepers at the Lineside         1         M           TWI 2G070         How to Determine and Carry out Torque Settings         1         M           TWI 2G070         How to Maintain Buffer Stops         1         M           TWI 2G071         How to Remove and Dispose of Scrap and Debris         1         M           TWI 2G072         How to Maintain Slab Track         1         M           TWI 2G073         How to Maintain Slab Track         1         M           TWI 2		Α
TWI 26055         How to Recognise a Twist Rail         1         N           TWI 26056         How to Dig a Cutter Bar Trench         1         N           TWI 26057         How to Use Track Circuit Operating Clips         1         N           TWI 26061         How to Recognise Gauge Spread         1         N           TWI 26063         How to Install a Gauge Stop         1         N           TWI 26064         How to Regauge Plain Line         1         N           TWI 26065         How to Install and Maintain a Tie Bar         1         N           TWI 26066         How to Remove an AD or BJB Sleeper         1         N           TWI 26070         How to Secure Sleepers at the Lineside         1         N           TWI 26070         How to Determine and Carry out Torque Settings         1         N           TWI 26071         How to Maintain Buffer Stops         1         N           TWI 26072         How to Remove and Dispose of Scrap and Debris         1         N           TWI 26073         How to Maintain Slab Track         1         N           TWI 26074         How to Maintain a Sand Drag         1         N           TWI 26075         How to Maintain a Sand Drag         1         N           TWI 2		Α
TWI 2G056         How to Dig a Cutter Bar Trench         1         N           TWI 2G057         How to Use Track Circuit Operating Clips         1         N           TWI 2G061         How to Recognise Gauge Spread         1         N           TWI 2G063         How to Install a Gauge Stop         1         N           TWI 2G064         How to Regauge Plain Line         1         N           TWI 2G065         How to Install and Maintain a Tie Bar         1         N           TWI 2G066         How to Remove an AD or BJB Sleeper         1         N           TWI 2G068         How to Secure Sleepers at the Lineside         1         N           TWI 2G070         How to Determine and Carry out Torque Settings         1         N           TWI 2G071         How to Maintain Buffer Stops         1         N           TWI 2G072         How to Remove and Dispose of Scrap and Debris         1         N           TWI 2G073         How to Inspect a Conductor Rail         1         N           TWI 2G074         How to Maintain Slab Track         1         N           TWI 2G075         How to Maintain a Sand Drag         1         N           TWI 2G076         How to Maintain a Sand Drag         1         N           TWI	Mar 2005	Α
TWI 2G056         How to Dig a Cutter Bar Trench         1         N           TWI 2G057         How to Use Track Circuit Operating Clips         1         N           TWI 2G061         How to Recognise Gauge Spread         1         N           TWI 2G063         How to Install a Gauge Stop         1         N           TWI 2G064         How to Regauge Plain Line         1         N           TWI 2G065         How to Install and Maintain a Tie Bar         1         N           TWI 2G066         How to Remove an AD or BJB Sleeper         1         N           TWI 2G068         How to Secure Sleepers at the Lineside         1         N           TWI 2G070         How to Determine and Carry out Torque Settings         1         N           TWI 2G071         How to Maintain Buffer Stops         1         N           TWI 2G072         How to Remove and Dispose of Scrap and Debris         1         N           TWI 2G073         How to Inspect a Conductor Rail         1         N           TWI 2G074         How to Maintain Slab Track         1         N           TWI 2G075         How to Maintain a Sand Drag         1         N           TWI 2G076         How to Manage Sidewear         1         N           TWI 2G07	Mar 2005	Α
TWI 2G057         How to Use Track Circuit Operating Clips         1         M           TWI 2G061         How to Recognise Gauge Spread         1         M           TWI 2G063         How to Install a Gauge Stop         1         M           TWI 2G064         How to Regauge Plain Line         1         M           TWI 2G065         How to Install and Maintain a Tie Bar         1         M           TWI 2G066         How to Remove an AD or BJB Sleeper         1         M           TWI 2G068         How to Secure Sleepers at the Lineside         1         M           TWI 2G070         How to Determine and Carry out Torque Settings         1         M           TWI 2G071         How to Maintain Buffer Stops         1         M           TWI 2G072         How to Remove and Dispose of Scrap and Debris         1         M           TWI 2G073         How to Maintain Slab Track         1         M           TWI 2G074         How to Maintain a Sand Drag         1         M           TWI 2G075         How to Maintain a Sand Drag         1         M           TWI 2G076         How to Manage Sidewear         1         M           TWI 2G077         How to User Rail Skates         1         M           TWI 2G082	Mar 2005	Α
TWI 26061         How to Recognise Gauge Spread         1         N           TWI 26063         How to Install a Gauge Stop         1         N           TWI 26064         How to Regauge Plain Line         1         N           TWI 26065         How to Install and Maintain a Tie Bar         1         N           TWI 26066         How to Remove an AD or BJB Sleeper         1         N           TWI 26068         How to Secure Sleepers at the Lineside         1         N           TWI 26070         How to Determine and Carry out Torque Settings         1         N           TWI 26071         How to Maintain Buffer Stops         1         N           TWI 26072         How to Remove and Dispose of Scrap and Debris         1         N           TWI 26073         How to Maintain Slab Track         1         N           TWI 26074         How to Maintain Slab Track         1         N           TWI 26075         How to Maintain a Sand Drag         1         N           TWI 26076         How to Manage Sidewear         1         N           TWI 26077         How to Lubricate a Continuous Check Rail         1         N           TWI 26078         How to Work with AC Electrification         1         N           TWI 2608	Mar 2005	Α
TWI 26063         How to Install a Gauge Stop         1         M           TWI 26064         How to Regauge Plain Line         1         M           TWI 26065         How to Install and Maintain a Tie Bar         1         M           TWI 26066         How to Remove an AD or BJB Sleeper         1         M           TWI 26068         How to Secure Sleepers at the Lineside         1         M           TWI 26070         How to Determine and Carry out Torque Settings         1         M           TWI 26071         How to Maintain Buffer Stops         1         M           TWI 26072         How to Remove and Dispose of Scrap and Debris         1         M           TWI 26073         How to Inspect a Conductor Rail         1         M           TWI 26074         How to Maintain Slab Track         1         M           TWI 26075         How to Maintain a Sand Drag         1         M           TWI 26076         How to Manage Sidewear         1         M           TWI 26077         How to Lubricate a Continuous Check Rail         1         M           TWI 26078         How to Work with DC Electrification         1         M           TWI 26082         How to Use Rail Skates         1         M           TWI 26084<	Mar 2005	A
TWI 2G064         How to Regauge Plain Line         1         M           TWI 2G065         How to Install and Maintain a Tie Bar         1         M           TWI 2G066         How to Remove an AD or BJB Sleeper         1         M           TWI 2G068         How to Secure Sleepers at the Lineside         1         M           TWI 2G070         How to Determine and Carry out Torque Settings         1         M           TWI 2G071         How to Maintain Buffer Stops         1         M           TWI 2G072         How to Remove and Dispose of Scrap and Debris         1         M           TWI 2G073         How to Inspect a Conductor Rail         1         M           TWI 2G074         How to Maintain Slab Track         1         M           TWI 2G075         How to Maintain a Sand Drag         1         M           TWI 2G076         How to Manage Sidewear         1         M           TWI 2G077         How to Lubricate a Continuous Check Rail         1         M           TWI 2G078         How to Work with DC Electrification         1         M           TWI 2G082         How to Use Rail Skates         1         M           TWI 2G084         How to Use Rail Scooters         1         M           TWI 2G085 <td>Mar 2005</td> <td>A</td>	Mar 2005	A
TWI 2G065         How to Install and Maintain a Tie Bar         1         M           TWI 2G066         How to Remove an AD or BJB Sleeper         1         M           TWI 2G068         How to Secure Sleepers at the Lineside         1         M           TWI 2G070         How to Determine and Carry out Torque Settings         1         M           TWI 2G071         How to Maintain Buffer Stops         1         M           TWI 2G072         How to Remove and Dispose of Scrap and Debris         1         M           TWI 2G073         How to Inspect a Conductor Rail         1         M           TWI 2G074         How to Maintain Slab Track         1         M           TWI 2G075         How to Maintain a Sand Drag         1         M           TWI 2G076         How to Manage Sidewear         1         M           TWI 2G077         How to Lubricate a Continuous Check Rail         1         M           TWI 2G078         How to Work with DC Electrification         1         M           TWI 2G082         How to Use Rail Skates         1         M           TWI 2G084         How to Use Rail Scooters         1         M           TWI 2G085         How to Record Track Defects and Other Problems         1         M	Mar 2005	В
TWI 2G066         How to Remove an AD or BJB Sleeper         1         M           TWI 2G068         How to Secure Sleepers at the Lineside         1         M           TWI 2G070         How to Determine and Carry out Torque Settings         1         M           TWI 2G071         How to Maintain Buffer Stops         1         M           TWI 2G072         How to Remove and Dispose of Scrap and Debris         1         M           TWI 2G073         How to Inspect a Conductor Rail         1         M           TWI 2G074         How to Maintain Slab Track         1         M           TWI 2G075         How to Maintain a Sand Drag         1         M           TWI 2G076         How to Manage Sidewear         1         M           TWI 2G077         How to Lubricate a Continuous Check Rail         1         M           TWI 2G078         How to Work with DC Electrification         1         M           TWI 2G079         How to Work with AC Electrification         1         M           TWI 2G082         How to Use Rail Skates         1         M           TWI 2G084         How to Record Track Defects and Other Problems         1         M	Mar 2005	A
TWI 2G068         How to Secure Sleepers at the Lineside         1         M           TWI 2G070         How to Determine and Carry out Torque Settings         1         M           TWI 2G071         How to Maintain Buffer Stops         1         M           TWI 2G072         How to Remove and Dispose of Scrap and Debris         1         M           TWI 2G073         How to Inspect a Conductor Rail         1         M           TWI 2G074         How to Maintain Slab Track         1         M           TWI 2G075         How to Maintain a Sand Drag         1         M           TWI 2G076         How to Manage Sidewear         1         M           TWI 2G077         How to Lubricate a Continuous Check Rail         1         M           TWI 2G078         How to Work with DC Electrification         1         M           TWI 2G082         How to Use Rail Skates         1         M           TWI 2G084         How to Use Rail Scooters         1         M           TWI 2G085         How to Record Track Defects and Other Problems         1         M	Mar 2005	A
TWI 2G070         How to Determine and Carry out Torque Settings         1         M           TWI 2G071         How to Maintain Buffer Stops         1         M           TWI 2G072         How to Remove and Dispose of Scrap and Debris         1         M           TWI 2G073         How to Inspect a Conductor Rail         1         M           TWI 2G074         How to Maintain Slab Track         1         M           TWI 2G075         How to Maintain a Sand Drag         1         M           TWI 2G076         How to Manage Sidewear         1         M           TWI 2G077         How to Lubricate a Continuous Check Rail         1         M           TWI 2G078         How to Work with DC Electrification         1         M           TWI 2G082         How to Use Rail Skates         1         M           TWI 2G084         How to Use Rail Scooters         1         M           TWI 2G085         How to Record Track Defects and Other Problems         1         M	Mar 2005	Α
TWI 2G071         How to Maintain Buffer Stops         1         M           TWI 2G072         How to Remove and Dispose of Scrap and Debris         1         M           TWI 2G073         How to Inspect a Conductor Rail         1         M           TWI 2G074         How to Maintain Slab Track         1         M           TWI 2G075         How to Maintain a Sand Drag         1         M           TWI 2G076         How to Manage Sidewear         1         M           TWI 2G077         How to Lubricate a Continuous Check Rail         1         M           TWI 2G078         How to Work with DC Electrification         1         M           TWI 2G079         How to Work with AC Electrification         1         M           TWI 2G082         How to Use Rail Skates         1         M           TWI 2G084         How to Use Rail Scooters         1         M           TWI 2G085         How to Record Track Defects and Other Problems         1         M	Mar 2005	Α
TWI 2G072         How to Remove and Dispose of Scrap and Debris         1         M           TWI 2G073         How to Inspect a Conductor Rail         1         M           TWI 2G074         How to Maintain Slab Track         1         M           TWI 2G075         How to Maintain a Sand Drag         1         M           TWI 2G076         How to Manage Sidewear         1         M           TWI 2G077         How to Lubricate a Continuous Check Rail         1         M           TWI 2G078         How to Work with DC Electrification         1         M           TWI 2G079         How to Work with AC Electrification         1         M           TWI 2G082         How to Use Rail Skates         1         M           TWI 2G084         How to Record Track Defects and Other Problems         1         M	Mar 2005	A
TWI 2G073         How to Inspect a Conductor Rail         1         M           TWI 2G074         How to Maintain Slab Track         1         M           TWI 2G075         How to Maintain a Sand Drag         1         M           TWI 2G076         How to Manage Sidewear         1         M           TWI 2G077         How to Lubricate a Continuous Check Rail         1         M           TWI 2G078         How to Work with DC Electrification         1         M           TWI 2G079         How to Work with AC Electrification         1         M           TWI 2G082         How to Use Rail Skates         1         M           TWI 2G084         How to Use Rail Scooters         1         M           TWI 2G085         How to Record Track Defects and Other Problems         1         M	Mar 2005	A
TWI 2G074         How to Maintain Slab Track         1         M           TWI 2G075         How to Maintain a Sand Drag         1         M           TWI 2G076         How to Manage Sidewear         1         M           TWI 2G077         How to Lubricate a Continuous Check Rail         1         M           TWI 2G078         How to Work with DC Electrification         1         M           TWI 2G079         How to Work with AC Electrification         1         M           TWI 2G082         How to Use Rail Skates         1         M           TWI 2G084         How to Use Rail Scooters         1         M           TWI 2G085         How to Record Track Defects and Other Problems         1         M		A
TWI 2G075         How to Maintain a Sand Drag         1         M           TWI 2G076         How to Manage Sidewear         1         M           TWI 2G077         How to Lubricate a Continuous Check Rail         1         M           TWI 2G078         How to Work with DC Electrification         1         M           TWI 2G079         How to Work with AC Electrification         1         M           TWI 2G082         How to Use Rail Skates         1         M           TWI 2G084         How to Use Rail Scooters         1         M           TWI 2G085         How to Record Track Defects and Other Problems         1         M	Mar 2005 Mar 2005	A
TWI 2G076         How to Manage Sidewear         1         M           TWI 2G077         How to Lubricate a Continuous Check Rail         1         M           TWI 2G078         How to Work with DC Electrification         1         M           TWI 2G079         How to Work with AC Electrification         1         M           TWI 2G082         How to Use Rail Skates         1         M           TWI 2G084         How to Use Rail Scooters         1         M           TWI 2G085         How to Record Track Defects and Other Problems         1         M		
TWI 2G077         How to Lubricate a Continuous Check Rail         1         N           TWI 2G078         How to Work with DC Electrification         1         N           TWI 2G079         How to Work with AC Electrification         1         N           TWI 2G082         How to Use Rail Skates         1         N           TWI 2G084         How to Use Rail Scooters         1         N           TWI 2G085         How to Record Track Defects and Other Problems         1         N	Mar 2005	Α
TWI 2G078         How to Work with DC Electrification         1         M           TWI 2G079         How to Work with AC Electrification         1         M           TWI 2G082         How to Use Rail Skates         1         M           TWI 2G084         How to Use Rail Scooters         1         M           TWI 2G085         How to Record Track Defects and Other Problems         1         M	Mar 2005	Α
TWI 2G079         How to Work with AC Electrification         1         M           TWI 2G082         How to Use Rail Skates         1         M           TWI 2G084         How to Use Rail Scooters         1         M           TWI 2G085         How to Record Track Defects and Other Problems         1         M	Mar 2005	Α
TWI 2G082         How to Use Rail Skates         1         N           TWI 2G084         How to Use Rail Scooters         1         N           TWI 2G085         How to Record Track Defects and Other Problems         1         N	Mar 2005	A
TWI 2G084 How to Use Rail Scooters 1 TWI 2G085 How to Record Track Defects and Other Problems 1	Mar 2005	A
TWI 2G085 How to Record Track Defects and Other Problems 1	Mar 2005	A
	Mar 2005	A
TWI 2G086 Competency Requirements 1 N	Mar 2005	Α
	Mar 2005	Α
	Mar 2005	Α
	Dec 2006	Α
	Dec 2006	Α
TWI 2G095 Erection / Dismantling of Welding Umbrella and Support 2	Dec 2006	Α
	Mar 2005	Α
	Mar 2005	Α
	Nov 2014	В
TWI 2L004 How to Maintain a Fence 2	Dec 2014	В
TWI 2L005 How to Carry out Weedkilling 1	Mar 2005	Α
TWI 2L007 How to Maintain Signs 1	Mar 2005	А
TWI 2L008 How to Inspect Class III Boundary Measures 1	Mar 2017	С
TWI 2P002 How to Drill Other Than Normal Grade Rail 1 N	Mar 2005	А
TWI 2P003 How to Lubricate Fishplates 5 🗖 0	Oct 2015	С
	Mar 2005	A
	Mar 2005	A
	Mar 2005	В
	Mar 2005	A
	Mar 2005	В
	Mar 2005	A
	Mar 2005	Α
TWI 2P011 How to Install Rail (in CWR) 1 N	Mar 2005	Α
TWI 2P012 How to Inspect, Adjust and Maintain Adjustment Switches 3	Feb 2014	С
TWI 2P013 How to Understand Stressing 1 1	Mar 2005	В
TWI 2P014 How to Use Sidearms And Rollers 1 N		Α

ND/CN/TDI//Zood	Title	locus	Innua Patr	Dele
NR/GN/TRK/7001	Title	Issue	Issue Date	Price
TWI 2P015	How to Carry out Stressing Plain Line	1	Mar 2005	A
TWI 2P016	How to Use a Rail Tensor	1	Mar 2005	A
TWI 2P017	How to Carry out Unclipping and Clipping up of Flat Bottom Rail	1	Mar 2005	A
TWI 2P018	How to Recognise Track Type	1	Mar 2005	Α ,
TWI 2P020	How to Measure the Switch Toe Opening	1	Mar 2005	Α /:
TWI 2P021	How to Recognise Longitudinal Timber Deterioration	1	Mar 2005	A
TWI 2P023	How to Recognise Seized Joints	1	Mar 2005	Α ?
TWI 2P024	How to Repair Seized (Frozen) Joints	1	Mar 2005	Α :
TWI 2P025	How to Recognise Plain Line Joint Defects	1	Mar 2005	Α /
TWI 2P026	How to Carry out Joint Straightening	2 ■ 4	Jun 2017	В
TWI 2P027	How to Maintain Joints	1	Mar 2005	A
TWI 2P029	How to Change a Rail in Jointed Plain Line Track	1	Mar 2005	В
TWI 2P030	How to Carry out Resleepering	1	Mar 2005	Α
TWI 2P031	How to Recognise Centre Bound Sleepers	1	Mar 2005	Α
TWI 2P032	How to Recognise the Types of Concrete Sleeper	1	Mar 2005	Α
TWI 2P033	How to Square Sleepers	1	Mar 2005	Α
TWI 2P035	How to Maintain Steel Sleepered Track	1	Mar 2005	Α
	·	2		
TWI 2P036	How to Change a Plain Wooden Sleeper by Hand	2 ••	Mar 2012	C
TWI 2P037	How to Pull Through a Timber Sleeper	1	Mar 2005	A
TWI 2P038	How to Turn a Timber Sleeper	1	Mar 2005	Α
TWI 2P040	How to Shim a Joint	2 ■ 4	Sep 2014	В
TWI 2P041	How to Adjust Sleeper Spacing	1	Mar 2005	Α
TWI 2P042	How to Renew Adjustment Switch	1	Mar 2005	В
TWI 2P043a	How to Change a Concrete Sleeper by Hand	2 ■4	Mar 2012	В
TWI 2P043b	How to Change a Concrete Sleeper Using an RRV	4 🗖 (	Apr 2015	В
TWI 2P044	How to Maintain Guard Rail	1	Mar 2005	A
TWI 2P044		1	Mar 2005	A
-	How to Move Short Rail Lengths	1		
TWI 2P047	How to Recognise End Bound Sleepers	I	Mar 2005	Α
TWI 2P048	How to Change a Plain Line Baseplate or Chair	3 ■ 4	Feb 2013	В
TWI 2S002	How to Recognise and Describe S&C Bearers	1	Mar 2005	Α
TWI 2S003	How to Recognise Switch Types	1	Mar 2005	В
TWI 2S004	How to Lubricate Switches	1	Mar 2005	Α
TWI 2S005	How to Change Blocks in S&C	1	Mar 2005	Α
TWI 2S006	How to Tighten S&C Fastenings	1	Mar 2005	Α
TWI 2S007	How to Recognise Strengthened S&C	1	Mar 2005	Α
TWI 2S008	How to Use De-Icer	1	Mar 2005	А
TWI 2S009	How to Replace Baseplates in S&C	1	Mar 2005	А
TWI 2S010	How to Replace Slide Baseplates or Chairs in S&C	1	Mar 2005	В
TWI 2S013	How to Change a Crossing Timber	1	Mar 2005	А
TWI 2S014	How to Pull through S&C Timbers	1	Mar 2005	Α
TWI 2S015	How to Recognise Bolt Failure	1	Mar 2005	Α
TWI 2S016	How to Replace a Single Stud Bolt	1	Mar 2005	А
TWI 2S018	How to Replace a Fishplated Common Crossing	1	Mar 2005	В
TWI 2S019	How to Maintain Built up Crossings	1	Mar 2005	Α
TWI 2S021	How to Recognise Types of Crossing	1	Mar 2005	Α
TWI 2S026	How to Maintain Catchpoints and Spring Points	1	Mar 2005	Α
TWI 2S031	How to Replace a Check Rail in S&C	1	Mar 2005	Α
TWI 2S032	How to Change a Rail in CWR	1	Mar 2005	Α
		4 -		D
TWI 28033	How to Carry out a Complete Treatment of Switches on Timber Bearers	4 💻 🕯	Jun 2014	
TWI 28037	How to Maintain Dry Slide Inserts	1	Apr 2005	A
TWI 28038	How to Install End Plates	1	Apr 2005	Α
TWI 2S040	How to Maintain Hand Points		Mar 2005	A
TWI 28044	How to Treat a Hogged Switch Rail	1	Mar 2005	A
TWI 2S048	How to Regauge a Turnout	1	Mar 2005	A
TWI 2S049	How to Assess Basic S&C Maintenance Needs	1	Mar 2005	A
TWI 2S052	How to Secure Points out of Use – Selecting and Fitting the Correct Clip and Scotch	2	Aug 2014	В
TWI 2S055	How to Fit the Balfour Beatty Scotch Assembly to Secure Switches out of Use	1	Mar 2005	A
TWI 2S056	How to Maintain Switch Diamonds	1	Mar 2005	Α
TWI 2S057	How to Replace a Switch Heater Pad or Cartridge	1	Mar 2005	Α
TWI 2S059	How to Inspect Switch Heaters	1	Mar 2005	Α
TWI 2S071	How to Maintain a Swing Nose Crossing	1	Mar 2005	Α
TWI 2S072	How to Handle S&C	1	Mar 2005	Α

NR/GN/TRK/7001	Title	Issue	Issue Date	Price
TWI 2S073	How to Maintain a Continuous Check Rail	1	Mar 2005	А
TWI 2S074	How to Replace an S&C Check Chair	1	Mar 2005	Α
TWI 2S075	How to Install a Rail Seating Pad in S&C	1	Mar 2005	А
TWI 2S077	How to Recognise Baseplates and Chairs in S&C	1	Mar 2005	Α
TWI 2S079	How to Provide Manual Assistance to S&C Tamping	1	Mar 2005	А
TWI 2S080	How to Stoneblow S&C Using Hand-Held Stoneblowers	1	Mar 2005	Α
TWI 2S081	How to Change a Half Set of Switches on Timber Bearers	2 ■4	Feb 2013	С
TWI 2S082	How to Repair a Common Crossing Nose and Wingrail Using BV1000	1 💻 🕻	Aug 2013	В
TWI 2S083	How to Repair a Switch Blade Using BV1000	2 ■ 4	Sep 2014	В
TWI 2T001	How to Permanently Mark out a Curve for Tamping	1	Mar 2005	А
TWI 2T003	How to Link Site Conditions to Alignment	1	Mar 2005	Α
TWI 2T007	How to Carry out Measured Shovel Packing (MSP)	5 ■4	Feb 2014	С
TWI 2T008	How to Prepare Track for Tamping	1	Mar 2005	A
TWI 2T009	How to Recognise Cyclic Top	1	Mar 2005	A
TWI 2T010	How to Carry out Kango Packing	2 💻	Mar 2012	В
TWI 2T010a	How to Carry out Orbital Tamper Packing	1 🖳 🕻	Jun 2013	В
TWI 2T012	How to Carry out Lift and Pack Plain Line	1 □	Dec 2011	В
TWI 2T013	How to Lift and Pack Plain Line	1	Mar 2005	Α
TWI 2T014	How to Lift and Pack S&C	1	Mar 2005	Α
TWI 2T018	How to Prepare Track for Stoneblowing	1	Mar 2005	Α
TWI 2T019	How to Lower Track Under Traffic	1	Mar 2005	А
TWI 2T020	How to Look After Track After Lifting and Packing or Tamping	1	Mar 2005	Α
TWI 2T023	How to Repair Misalignments by Hand	1	Mar 2005	Α
TWI 2T024	How to Measure and Define Twist	1	Mar 2005	Α
TWI 2T025	How to Carry out Hand-Held Stoneblowing on Plain Line	2	Jan 2016	Α
TWI 2T026	How to Repair a Level 2 Exceedence	1	Mar 2005	Α
TWI 3B002	How to Decide on Ballast Depth	1	Mar 2005	Α
TWI 3B003	How to Understand Blanket Design	1	Mar 2005	Α
TWI 3B004	How to Plan Ballast Regulation	1	Mar 2005	А
TWI 3B006	How to Manage Multiple Wet Bed Formation	1	Mar 2005	А
TWI 3B007	How to Carry out a Maintenance Ballast Drop	1	Mar 2005	А
TWI 3B008	How to Order Ballast	1	Mar 2005	А
TWI 3B009	How to Assess the Suitability of Stone	1	Mar 2005	Α
TWI 3B010	How to Assess the Condition of Ballast	1	Mar 2005	Α
TWI 3B011	How to Carry out Machine Reballasting	1	Mar 2005	Α
TWI 3B013	How to Manage Subsidence	1	Mar 2005	В
TWI 3B014	How to Prepare Track for the Ballast Regulator	1	Mar 2005	Α
TWI 3B015	How to Glue Ballast	1	Mar 2005	Α
TWI 3B016	How to Regulate Ballast by Machine	1	Mar 2005	Α
TWI 3B017	How to Assess the Quantity of Ballast Required for Maintenance	1	Mar 2005	Α
TWI 3B018	How (& when) to Use Geotextiles	1	Mar 2005	Α
TWI 3B019	How to Maintain a Syphon	1	Mar 2005	Α
TWI 3B020	How to Clear a Culvert	1	Mar 2005	Α
TWI 3B021	How to Manage Sub-Standard Ballast Depths	1	Mar 2005	Α
TWI 3B022	How to Carry out Mechanical Ballast Cleaning	1	Mar 2005	Α
TWI 3C003	How to Specify and Order Baseplates	1	Mar 2005	Α
TWI 3C008	How to Order Pandrol Clips	1	Mar 2005	Α
TWI 3C011	How to Specify the Correct Type of Insulator	1	Mar 2005	Α
TWI 3C015	How to Manage Rail Creep	1	Mar 2005	Α
TWI 3C025	How to Assess the Condition of Timber Sleepers and Bearers	1	Mar 2005	Α
TWI 3C026	How to Manage Dynamic Gauge Spread in Sleepered Track	1	Mar 2005	Α
TWI 3C029	How to Decide Whether To Use Serviceable Material	1	Mar 2005	Α
TWI 3C031	How to Assess and Manage the Life of Concrete Sleepers	1	Mar 2005	Α
TWI 3C032	How to Specify the Correct Type of Sleeper	1	Mar 2005	Α
TWI 3C034	How to Manage Concrete Sleepered Track	1	Mar 2005	Α
TWI 3C035	How to Repair a Concrete Sleeper or Slab Fastening	1	Mar 2005	Α
TWI 3C038	How to Order Large Track Components	1	Mar 2005	Α
TWI 3G002	How to Decide on an Appropriate "Condition of Track" Speed Restriction	1	Mar 2005	Α
TWI 3G003	How Line Speeds Are Determined	1	Mar 2005	Α

NR/GN/TRK/7001	Title	Issue	Issue Date	Price
TWI 3G006	How to Manage Permanent Increases in Line Speed	1	Mar 2005	Α
TWI 3G008	How to Manage a Change in Traffic	1	Mar 2005	Α
TWI 3G010	How to Decide on Whether to Use Steel Sleepers	1	Mar 2005	Α
TWI 3G012	How to Install Cross-Track Ducts	1	Mar 2005	Α
TWI 3G013	How to Manage Track with 3rd Rail Electrification	1	Mar 2005	А
TWI 3G014	How to Manage Track under OLE	1	Mar 2005	Α
TWI 3G015	How to Order Fastenings	1	Mar 2005	Α
TWI 3G016	How to Manage BR1 Track	1	Mar 2005	Α
TWI 3G017	How to Order and Plan a Materials Train	1	Mar 2005	Α
TWI 3G018	How to Maintain a Foot Crossing	2	Sep 2005	Α
TWI 3G019	How to Maintain Track Through Level Crossings	1	Mar 2005	Α
TWI 3G020	How to Manage Sidings and Depots	1	Mar 2005	Α
TWI 3G023	How to Manage Cold Weather	1	Mar 2005	Α
TWI 3G024	How to Manage Exceptionally Low Temperatures	1	Mar 2005	A
TWI 3G025	How to Manage Exceptionally Hot Weather	1	Mar 2005	A
TWI 3G026	How to Manage Hot Weather	1	Mar 2005	A
TWI 3G027	How to Manage Snow	1	Mar 2005	A
TWI 3G027	How to Manage Show  How to Manage Hot Weather Patrolling	1	Mar 2005	A
-		1		1
TWI 3G030 TWI 3G031	How to Manage a Reported Buckle  How to Prevent Track Buckles	1	Mar 2005 Mar 2005	A
TWI 3G031		1		
	How to Repair a Buckle	-	Mar 2005	A
TWI 3G033	How to Manage Alignment Faults	1	Mar 2005	A
TWI 3G034	How to Manage a Minor Derailment	1	Mar 2005	A
TWI 3G038	How to Manage a Blockade	1	Mar 2005	A
TWI 3G040	How to Plan a Blockade of the Line	1	Mar 2005	A
TWI 3G044	How to Manage a Watchman	1	Mar 2005	A
TWI 3G045	How to Manage a Bad Ride Report	1	Mar 2005	Α
TWI 3G046	How to Manage Cab Riding	1	Mar 2005	A
TWI 3G047	How to Inspect a Closed Railway Prior to Re-opening to Traffic	1	Mar 2005	Α
TWI 3G048	How to Inspect a Culvert	1	Mar 2005	Α
TWI 3G053	How to Manage Track Geometry	1	Mar 2005	Α
TWI 3G055	How to Carry out Reprofiling of the Railhead	1	Mar 2005	Α
TWI 3G059	How to Assess the Number of Wagons Needed to Contain Spent Ballast	1	Mar 2005	Α
TWI 3G060	How to Relay by Hand	1	Mar 2005	Α
TWI 3G063	How to Relay Between Platforms	1	Mar 2005	А
TWI 3G065	How to Design Temporary Track Alignment	1	Mar 2005	Α
TWI 3G066	How to Install a Built up S&C Layout	1	Mar 2005	А
TWI 3G070	How to Plan and Carry out Propelling	1	Mar 2005	Α
TWI 3G073	How to Decide on Whether to Use a Wide Gap Weld	1	Mar 2005	Α
TWI 3G077	How to Maintain Non-Ballasted Track	1	Mar 2005	Α
TWI 3G079	How to Manage Maintenance on a Single Line	1	Mar 2005	Α
TWI 3G082	How to Manage Rapid Response	1	Mar 2005	Α
TWI 3G083	How to Decide on Whether to use a Watchman	1	Mar 2005	Α
TWI 3G084	How to Plan the Use of Road/Rail Machinery	1	Mar 2005	Α
TWI 3G086	How to Carry out Loose Sleeper Relaying	1	Mar 2005	А
TWI 3G089	How to Relay on a Single Line	1	Mar 2005	Α
TWI 3G090	How to Use PUMs, PLUMS, PEMs and LEMs	1	Mar 2005	Α
TWI 3G091	How to Use Sandite	1	Mar 2005	А
TWI 3G093	How to Remove an Emergency TSR	1	Mar 2005	А
TWI 3G094	How to Recognise a Bank Fire	1	Mar 2005	Α
TWI 3G097	How to Manage the Operation of Manually Powered Points	1	Mar 2005	Α
TWI 3G099	How to Understand Rail Welding Techniques	1	Mar 2005	Α
TWI 3G101	How to Carry out a Cat Scan of a Site	1	Mar 2005	Α
TWI 3G109	How to Plan Mobile Flash Butt Welding	1	Mar 2005	Α
TWI 3G114	How to Determine the Minimum Permissible Rail Depth	1	Mar 2005	Α
TWI 3G115	How to Plan a Trackside Access	1	Mar 2005	Α
TWI 3G116	How to Use Powered Trolleys	1	Mar 2005	A
TWI 3G120	How to Maintain Gauge	1	Mar 2005	Α
TWI 3G122	How to Plan a Road Closure	1	Mar 2005	A
	How to Use and Maintain Small Plant	1	Mar 2005	A
TWI 3G123				

NR/GN/TRK/7001	Title	Issue	Issue Date	Price
TWI 3G127	How to Manage the Use of Detonators	1	Mar 2005	А
TWI 3G128	How to Produce a Local Maintenance Plan	1	Mar 2005	В
TWI 3G129	How to Scope and Install a Head Repair Weld (HRW)	1 💷 (	Aug 2013	С
TWI 3G130	How to Determine Higher or Unusual Risk of Derailment in Track Assets	1	Apr 2016	A
TWI 3G131	How to Manage Residual Risk when Specifying Work to the Asset	1	Dec 2016	В
TWI 3L002	How to Manage Developing Cutting Failure	1	Mar 2005	A
TWI 3L003	How to Manage a Developing Embankment Slip	1	Mar 2005	A
TWI 3L005	How to Manage a Developing Embankment only  How to Manage Fencing in a Rural Environment	1	Mar 2005	A
TWI 3L005	How to Manage Fencing in a rutal Environment	1	Mar 2005	A
TWI 3L007	How to Manage Risks Associated with Lineside Developments	1	Mar 2005	A
TWI 3L007	How to Manage Risks Associated with Lineside Developments  How to Manage Leaf-Fall	1	Mar 2005	A
TWI 3L009	How to Manage Learn all	1	Mar 2005	A
TWI 3L003	How to Maintain a Safe Walking Route	1	Mar 2005	A
TWI 3L012	How to Clear Fly Tipping	1	Mar 2005	A
TWI 3L016	How to Carry out Clearance of Burrowing Animals and Pests	1	Mar 2005	A
TWI 3L017	How to Use LiDAR Risk Models	1	Mar 2017	В
TWI 3P006	How to Decide on an Appropriate Rail Steel	1	Mar 2005	A
TWI 3P010	How to Handle Long Lengths of Rail	1	Mar 2005	A
TWI 3P011		1	Mar 2005	A
TWI 3P012	How to Lay out Long Lengths of Welded Rail Before Installation  How to Install Long Welded Rails	1	Mar 2005	A
TWI 3P012		1	Mar 2005	A
TWI 3P013	How to Calculate Critical Rail Temperature	1	Mar 2005	A
TWI 3P014	How to Manage CWR Track			+
	How to Order Sidearms and Rollers	2	Mar 2005 Dec 2016	A
TWI 3P017	How to Manage Stress Records			A
TWI 3P018	How to Manage Bullhead Track	1	Mar 2005	A
TWI 3P020	How to Manage Corrugations	1	Mar 2005	A
TWI 3P024	How to Order Fishplates and Fishbolts	1	Mar 2005	A
TWI 3P026	How to Order a Factory Made Insulated Joint	1	Mar 2005	A
TWI 3P028	How to Order Shims	1	Mar 2005	A
TWI 3P029	How to Avoid a Crippled Rail	1	Mar 2005	A
TWI 3P030	How to Manage Gall	1	Mar 2005	A
TWI 3P032	How to Monitor Rolling Contact Fatigue (RCF)	1	Mar 2005	A
TWI 3P033	How to Manage Sidewear	1	Mar 2005	A
TWI 3P034	How to Plan and Carry out Transposing	1	Mar 2005	A
TWI 3P036	How to Plan the Rerailing of Jointed Track	1	Mar 2005	A
TWI 3P038	How to Manage Rail Weight	1	Mar 2005	A
TWI 3P039	How to Manage Rails in Tunnels	1	Mar 2005	A
TWI 3P040	How to Decide on Rerailing	1	Mar 2005	A
TWI 3P044	How to Order Rail	1	Mar 2005	A
TWI 3P047	How to Order a Twist Rail	1	Mar 2005	A
TWI 3P048	How to Plan the Removal of Longitudinal Timbers	1	Mar 2005	A
TWI 3P049	How to Specify a Rail Flange Lubricator	1	Mar 2005	A
TWI 3P050	How to Decide on Whether to Use Strengthened Fishplates on Bullhead Track	1	Mar 2005	A
TWI 3P051	How to Refit a Continuous Check Rail	1	Mar 2005	A
TWI 3P052	How to Manage Intermittent Sidewear	1	Mar 2005	A
TWI 3P061	How to Measure and Define Lead and Lags	1	Mar 2005	A
TWI 3P066	How to Plan Rail Unclipping	1	Mar 2005	Α
TWI 3P067	How to Plan and Organise Rail Adjusting	1	Mar 2005	A
TWI 3P071	How to Change a Defective Rail on a Heavily Sideworn Curve	1	Mar 2005	A
TWI 3P073	How to Maintain Jointed Track	1	Mar 2005	A
TWI 3P074	How to Maintain Longitudinal Timbers	1	Mar 2005	A
TWI 3S011	How to Measure and Record the Critical Details of S&C for Replacement	1	Mar 2005	В
TWI 3S038	How to Define and Measure the knuckle stagger	1	Mar 2005	A
TWI 3S050	How to Prepare an Order for a Crossing Timber	1	Mar 2005	Α
TWI 3S060	How to Measure and Define a Check Rail Gap	1	Mar 2005	Α
TWI 3S062	How to Manage a Defective Switch / Stock Rail	1	Mar 2005	Α
TWI 3S073	How to Decide on Strategic Spares	1	Mar 2005	Α
TWI 3S079	How to Manage Switch Wear	1	Mar 2005	Α
TWI 3S082	How to Replace a Soleplate	1	Mar 2005	Α
TWI 3S084	How to Recognise Whether a Crossing Can Be Weld Repaired	1	Mar 2005	Α

NR/GN/TRK/7001	Title	Issue	Issue Date	Price
TWI 3S087	How to Repair a Run-Through	1	Mar 2005	Α
TWI 3S088	How to Recognise the Hand of a Crossing	1	Mar 2005	Α
TWI 3S093	How to Tamp Switches and Crossings	1	Mar 2005	Α
TWI 3S097	How to Re-Align S&C	1	Mar 2005	Α
TWI 3S098	How to Change a Concrete S&C Bearer	1	Mar 2005	Α
TWI 3S104	How to Unload Ballast through S & C	1	Mar 2005	Α
TWI 3S105	How to Plain-Line S&C in an Emergency	1	Mar 2005	Α
TWI 3S106	How To Install Gauge Management Shims for BPV Baseplates in S&C	1	Mar 2012	Α
TWI 3S107	How to Install a Roller Baseplate	1	Jun 2014	С
TWI 3S108	Use of HP Rail within S&C	1	Oct 2015	В
TWI 3S109	Use of TGP8 and Protractor Gauges	1	Oct 2015	В
TWI 3T005	How to Define Alignment Schemes	1	Mar 2005	Α
TWI 3T006	How to Use Cant and Cross Level Information	1	Mar 2005	Α
TWI 3T007	How to Survey a Curve	1	Mar 2005	Α
TWI 3T010	How to Set out a Curve	1	Mar 2005	Α
TWI 3T011	How to Plan and Carry out Track Surveying	1	Mar 2005	Α
TWI 3T012	How to Maintain Gauge	1	Mar 2005	Α
TWI 3T019	How to Use a Continuous Action Tamper	1	Mar 2005	Α
TWI 3T020	How to Plan a Dynamic Track Stabiliser (DTS)	1	Mar 2005	Α
TWI 3T021	How to Recant Plain Line	1	Mar 2005	Α
TWI 3T023	How to Maintain a Transition Curve	1	Mar 2005	Α
TWI 3T028	How to Manage Cyclic Top	2 💶 🕻	Dec 2015	В
TWI 3T030	How to Maintain a High Speed Curve	1	Mar 2005	Α
TWI 3T031	How to Maintain Lateral Resistance	1	Mar 2005	А
TWI 3T033	How to Formulate a Strategy for Stone Blowing	1	Mar 2005	Α
TWI 3T034	How to Formulate a Strategy to Stabilise and Improve Track Condition	1	Mar 2005	Α
TWI 3T040	How to Set out Track	1	Mar 2005	А
TWI 3T041	How to Manage Plain Line Tamping	1	Mar 2005	А
TWI 3T043	How to Slue Track by Machine	1	Mar 2005	А
TWI 3T045	How to Recognise and Manage Ballast Memory	1	Mar 2005	А
TWI 3T046	How to Understand Track Geometry Reports	1 □■◀	Dec 2013	D

<sup>\*</sup> Withdrawn on the publication of NR/L2/CIV/005 iss 1

NR/GN/TRK/8001	Index of Track Bowties Issue 1; Jun 18	Compliance	Replaces
		N/A	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.

Price: C Standard only; Complete phone

‡ Owing to their size, these modules are available as digital downloads only. See below for details of modules

NR/GN/TRK/8001/	Title	Issue	Issue Date	Price
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	‡

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.

Price: D

## **Special Inspection Notices**

NR/SIN/150 Inspection of Concrete Bearers in Balfour Beatty RT60 S&C Compliance Replaces Units Issue 1; Sep 16 New at Issue 102 23/03/17

The purpose of this SIN is to identify the number of cracked concrete bearers in Balfour Beatty design RT60 S&C layouts.

Additional Excel Content Available: Phone Price: C

NR/SIN/157 Inspection of Tubular Stretcher Bars on Shallow Depth Compliance Replaces Switches Fitted with an Adaptor Block Issue 1; Feb 17 04/08/17 New at Issue 103

The purpose of this SIN is to check for loose rail fastenings that may have occurred due to settlement on web mounted tubular stretcher bars on shallow depth switches fitted with an adaptor block.

Additional Excel Content Available: Phone

**NR/SIN/163** Identification and Inspection of Two-Levelled S&C Compliance Replaces 23/02/18 Issue 1: Jun 17 New at Issue 104

The purpose of this SIN is to identify all two levelled S&C layouts within the network and to check that all baseplates are installed in the correct locations throughout each layout. The SIN will also enhance the quality of data held on two levelled layouts in Ellipse, identify the limits of two levelling with bearer mounted labels and increase the awareness of two levelled layouts at a local level.

Price: D Additional Excel Content Available: Phone

**NR/SIN/167** Track Geometry and Rail Ultrasonic Testing Inspection Plans Compliance Replaces - Compliance Check Issue 1; Jul 17 31/03/18 New at Issue 104

The purpose of this Special Inspection Notice (SIN) is to identify any areas of track that do not have compliant inspection plans for the following types of inspection:

- track geometry inspection
- rail ultrasonic testing

and to require updates to track inspection plans to bring about compliance.

Additional Excel Content Available: Phone

**NR/SIN/183** Cast Crossing Inspection and Replacement - NR56 JEZ 1:13 Compliance Replaces Design Issue 1; Jul 18 26/07/19 New at Issue 109

The purpose of this Special Inspection Notice is to:

- Validate the list of assets within Appendix D.
- Undertake detailed crossing inspection at sites listed in Appendix D.
- Conduct a risk based review and asset replacement programme.

	Historic 06/17	
References	Title	Replaced by/Status
NR/BS/LI/269 Issue 2	Standard affected: NR/L1/ELP/27000 [Issue: 1] Asset Management Policy for Electrical Power Assets	NR/L1/ELP/2700 Issue 2
NR/BS/LI/045 Issue 3	Standard affected NR/CS/CIV/044- Monitoring Track Over or Adjacent to Civil Engineering Works: Procedure and Intervention Levels – Expires 02/09/2017	NR/L2/CIV/177 Issue 1
NR/BS/LI/193 Issue 2	Standards affected: NR/L3/CIV/006 Part 11A: Reporting and Recording Examinations of Structures in CARRS [Issue 2]	NR/L3/CIV/006 Issue 8
NR/BS/LI/308 Issue 2	Standard affected: NR/L2/SIG/11704 (Issue 3), Signalling Requirements for the Application Design and Management of Points – Expires 02/09/2017	N/A
NR/BS/LI/309 Issue 1	Standard affected: NR/PLANT/0200/module P501 (Issue 1), Systems of Work & NR/PLANT/0200/Module P509 (Issue 1), Trailers and Attachments	NR/L2/RMVP/0200 Issue 9
NR/BS/LI/359 Issue 1	Standard affected: NR/L1/INI/PM/GRIP/100 (Issue 3), Governance for Railway Investment Projects (GRIP) - Policy	NR/L1/INI/PM/GRIP/100 Issue 4
NR/BS/LI/377 Issue 1	Standard Affected: NR/L2/TEL/0092 Disconnection and At Risk Processes for Telecom Bearer Circuits and Systems Including GSM-R equipment – Expires 02/09/2017	NR/L3/TEL/0092 Issue 5
NR/BS/LI/392 Issue 1	Standard affected: NR/PLANT/0200/module P300 (issue 2), Plant approval and design – Expires 02/09/2017	NR/L2/RMVP/0200 Issue 9
NR/GN/TRK/3103 Issue 1	Topographic, Engineering, Land and Measured Building Surveying – Survey and Mapping Techniques	NR/L2/TRK/3100 Issue 2
NR/GN/TRK/7001 Issue 12	Index of Track Work Information Sheets (TWI)	NR/GN/TRK/7001 Issue 13
NR/L2/INI/CP0070 Issue 4	Principal Contractor Licensing Scheme	NR/L2/INI/CP0070 Issue 5
NR/L2/NDS/202 Issue 6	Principles, Timescales and Functional Responsibilities for Engineering Work, Access and Heavy Resource Planning (formerly NR/L2/NDS/202)	NR/L2/OPS/202 Issue 7
NR/L2/OCS/085 Issue 4	Permissive Platform Working	NR/L2/OPS/085 Issue 5
NR/L2/OPS/034 Issue 1	Management of Rule Book Change	NR/L2/OPS/034 Issue 2
NR/L2/RMVP/1332 Issue 3	Wheelset and Axle Bearings Manual	NR/L2/RMVP/1332 Issue 4
NR/L2/RVE/0001 Issue 2	Design, Acquisition and Engineering Change for Rail Vehicles and On-Track Plant (formerly known as NR/L2/RVE/0001)	NR/L2/RMVP/0001 Issue 3
NR/L2/RVE/0002 Issue 1	Maintenance, Operation & Use of Rail Vehicles & On-Track Plant	NR/L2/RMVP/0002 Issue 2
NR/L2/SIG/10047 Issue 15	Management of Safety Related Reports for Signalling and Telecoms Failures	NR/L2/SIG/10047 Issue 16
NR/L2/SIG/30009 Issue 12	Signalling Principles Handbook	NR/L2/SIG/30009 Issue 12
NR/L2/TEL/30082 Issue 3	Work Instruction for the Maintenance of Voice Recorders	NR/L3/TEL/30082 Issue 4
NR/L2/TRK/001 Issue 10	Inspection and Maintenance of Permanent Way	NR/L2/TRK/001 Issue 11
NR/L2/TRK/0032 Issue 5	Joining of Rails by Aluminothermic Welding	NR/L2/TRK/0032 Issue 6
NR/L2/TRK/053 Issue 6	Inspection and Repair to Control the Risk of Derailment at Switches	NR/L2/TRK/053 Issue 7
NR/L2/TRK/3100 Issue 1	Topographic, Engineering, Land & Measured Building Surveying: Strategy & General	NR/L2/TRK/3100 issue 2
NR/L2/TRK/6100 Issue 2	The Installation and Maintenance of Stretcher Bars	NR/L2/TRK/6100 Issue 3
NR/L3/CIV/006 Issue 7	Handbook for the Examination of Structures	NR/L3/CIV/006 Issue 8
NR/L3/ELP/27237 Issue 12	Overhead Line Work Instructions	NR/L3/ELP/27237 Issue 13
NR/L3/ELP/27240 Issue 6	Distribution Work Instructions	NR/L3/ELP/27240 Issue 7
NR/L3/INF/02226 Issue 2	Corporate Records Retention Schedules	NR/L3/INF/02226/Schedules Issue 3
NR/L3/INI/CP0064 Issue 4	Delivering Work Within Possessions	NR/L3/INI/CP0064 Issue 5
NR/L3/MTC/PL0175 Issue 4	Infrastructure Maintenance Planning Handbook	NR/L3/MTC/PL0175 Issue 5
NR/L3/MTC/RCS0216 Issue 8	Risk Control Manual	NR/L3/MTC/RCS0216 Issue 9
NR/L3/NDS/303 Issue 3	T3 Possession of the Line for Engineering Work Delivery Requirements	NR/L3/OPS/303 Issue 4
NR/L3/OPS/041 Issue 38	Operations Manual – Contents and Responsibilities Matrix	NR/L3/OPS/041 Issue 39
NR/L3/SIG/20047 Issue 1	Management of Safety Related Reports for Signalling Failures Appendix	NR/L3/SIG/20047 Issue 2
NR/L3/TEL/0092 Issue 4	Process for the Disconnection and at Risk Processes for Telecoms Bearer Circuits and Systems	NR/L3/TEL/0092 Issue 5
NR/L3/TRK/003 Issue 23	Index of Track Engineering Forms	NR/L3/TRK/003 Issue 24
NR/L3/TRK/0030 Issue 1	Reinstatement of Absolute Track Geometry (ATG)	NR/L3/TRK/0030 Issue 2
NR/L3/TRK/2049 issue 13	Track Design Handbook	NR/L3/TRK/2049 Issue 14
NR/L3/TRK/3101 Issue 1	Topographic, Engineering, Land and Measured Building Surveying – Track	NR/L2/TRK/3100 Issue 2
NR/PLANT 200 Issue 8	Infrastructure Plant Manual	NR/L2/RMVP/0200 Issue 9
NR/PS/ELP/00018 Issue 3	750V D.C. Switchgear for Traction Substations and Track Paralleling Huts (formerly RT/E/PS/00018)	NR/L2/ELP/27730 Issue 1
NR/PS/ELP/21023 Issue 2	Rectifier DC Disconnection Switch for DC Traction Substations (formerly RT/E/S/21023)	NR/L2/ELP/27730 Issue 1
NR/SP/ELP/21025 Issue 2	Controlled Track Devices for DC Electrified Lines (formerly RT/E/S/21025)	NR/L2/ELP/27730 Issue 1
NR/SP/OHS/00102 Issue 4	Work Activity Risk Assessments	NR/L2/OHS/00102 Issue 5
RT/CE/S/044 Issue 2	Design & Construction of Undertrack Crossings (aka NR/SP/CIV/044)	NR/L2/CIV/044 Issue 3

Historic 09/17			
References	Title	Replaced by/Status	
NR/L1/1NI/CP0095 Issue 1	Network Rail Requirements Policy	NR/L2/INI/P3M/104 Issue 2	
NR/L1/INI/PM/GRIP/100 Issue 4	Governance of Railway Investment Projects (GRIP) - Policy	NR/L2/INI/P3M/101 Issue 5	
NR/L1/INI/PM/GRIP/102 Issue 1	GRIP for Programmes	NR/L2/INI/P3M/102 Issue 2	
NR/L1/RMVP/0001 Issue 3	Network Rail's Plant and Traction and Rolling Stock (T&RS) Policy	NR/L1/RMVP/0001 Issue 4	
NR/L2/CIV/086 Issue 5	Management of Earthworks	NR/L2/CIV/086 Issue 6	
NR/L2/ELP/21015 Issue 3	Maintenance of Negative Traction Cables and Bonding for DC Conductor Rail Systems	NR/L2/ELP/21015 Issue 4	
NR/L2/ELP/21048 Issue 1	Maintenance of Positive Conductor Rail and Traction Cables for DC Conductor Rail Systems	NR/L2/ELP/21048 Issue 2	
NR/L2/ELP/27307 Issue 2	Management of Reports for Safety Related Events Applicable to Electrification and Plant	NR/L2/ELP/27307 Issue 3	
NR/L2/OCS/041 Issue 6	The Operations Manual	NR/L3/OPS/045 Issue 1	
NR/L2/OHS/00110 Issue 5	First Aid at Work	NR/L2/OHS/00110 Issue 6	
NR/L2/OPS/021 Issue 6	Weather - Managing the Operational Risks (formerly NR/L2/OCS/021)	NR/L2/OPS/021 Issue 7	
NR/L2/OPS/085 Issue 5	Permissive Platform Working	NR/L3/OPS/045 Issue 1	
NR/L2/TRK/3100 Issue 2	Topographic, Engineering, Land and Measured Building Surveying - Strategy and General	NR/L2/TRK/3100 Issue 3	
NR/L3/CIV/065 Issue 5	Examination of Earthworks	NR/L3/CIV/065 Issue 6	
NR/L3/CIV/F010 Issue 9	Index of Standard Designs and Details for Building and Civil Engineering Works	NR/L3/CIV/F010 Issue 10	
NR/L3/INI/PG115/PS/001 Issue 3	Management Level of Control Capital Projects	NR/L2/INI/P3M/101 Issue 5	
NR/L3/MTC/RCS0216 Issue 9	Risk Control Manual	NR/L3/MTC/RCS0216 Issue 10	
NR/L3/OPS/041 Issue 39	Operations Manual - Contents and Responsibilities Matrix	NR/L3/OPS/045 Issue 1	
NR/L3/OPS/043 Issue 20	National Contreol Instructions (formerly NR/L3/OCS/043)	NR/L3/OPS/045 Issue 1	
NR/L3/OPS/044 Issue 13	Managed Stations Manual - Content & Responsibilities Matrix (formerly NR/L3/OCS/044)	NR/L3/OPS/045 Issue 1	
NR/SIN/100 Issue 2	Type M & AEI-GS Type Z Relays	Withdrawn	
NR/SIN/111 Issue 1	Lever Modification Upgrade to Arthur Flury Single Rod Neutral Sections	Withdrawn	
NR/SIN/126 Issue 3	Risk Based Campaign for the Installation of Tubular Stretcher Bars	NR/SIN/126 Issue 4	
NR/SIN/132 Issue 1	36W Level Crossing Wig-Wag Units - Conversion to LED	Withdrawn	
NR/SIN/136 Issue 1	Special Inspection of Architectural Features Attached to Station Train Shed Roofs	Withdrawn	
NR/SÍN/139 Issue 1	Assessment and Control of Flange Climb Risks on Sub-250 Metre Radius Plain Line Curves	Withdrawn	
NR/SP/ELP/27048 Issue 2	Maintenance of Positive Conductor	NR/L2/ELP/21048 Issue 2	
NR/SP/OCS/043 Issue 1	National Control Instructions	NR/L3/OPS/045 Issue 1	

Historic 12/17			
References	Title	Replaced by/Status	
NR/GN/TRK/7001 Issue 13	Index of Track Work Information Sheets (TWI)	NR/GN/TRK/7001 Issue 14	
NR/L2/ELP/27307 Issue 3	Management of M&EE Safety Related Event Reports	NR/L2/ELP/27307 Issue 4	
NR/L2/ELP/27500 Issue 1	Production of Isolation Diagrams, Isolation Instructions, Comprehensive Track Diagrams and Operations Diagrams	NR/L2/ELP/27500 Issue 2	
NR/L2/INI/EDT/CP0091 Issue 2	Specification for Computer Aided Design	NR/L2/INI/EDT/CP0091 Issue 3	
NR/L2/RSE/0005 Issue 1	Product Design for Reliability	NR/L2/RSE/0005 Issue 2	
NR/L2/RSE/100 Issue 3	Network Rail Assurance Panel Processes	NR/L2/RSE/100 Issue 4	
NR/L2/SIG/10662 Issue 9	Process for the Implementation of new or Revised Maintenance Regimes using Reliability Centred Maintenance	NR/L2/MTC/10662 Issue 10	
NR/L2/TEL/30025 Issue 4	Standby Power Supply Requirements for Telecommunications Equipment	NR/L2/TEL/30025 Issue 5	
NR/L2/TEL/30081 Issue 3	Specification for the Maintenance of Telecommunication Power Plant, Batteries, Inverters and Uninterruptible Power Supplies	NR/L3/TEL/30081 Issue 4	
NR/L2/TEL/30089 Issue 2	Specification for the Maintenance of the Plessey (Hixon) AHB Telephone System	Withdrawn	
NR/L2/TEL/30150 Issue 1	Telecom Infrastructure Decision Support Tool Handbook	Withdrawn	
NR/L2/TRK/3100 Issue 3	Topographic, Engineering, Land and Measured Building Surveying – Strategy and General	NR/L2/TRK/3100 Issue 4	
NR/L3/CIV/142 Issue 2	The Management of the Movement of Abnormal Road Loads	NR/L3/CIV/142 Issue 3	
NR/L3/ELP/27237 Issue 13	Overhead Line Working Instructions	NR/L3/ELP/27237 Issue 14	
NR/L3/INF/02226 Issue 2	Corporate Records Retention Schedule	NR/L3/INF/02226 Issue 3	
NR/L3/INF/02226/Schedules Issue 3	Corporate Records Retention Schedule	NR/L3/INF/02226 Issue 3	
NR/L3/INI/CP0068 Issue 2	Investment Projects Forms Index	Withdrawn	
NR/L3/MTC/EP0203 Issue 2	Control and Amendment of Electrification Isolation Documentation	NR/L2/ELP/27550 Issue 1	
NR/L3/NDS/308 Issue 1	The Loading Manual for Infrastructure Traffic	NR/L3/SCO/308 Issue 2	
NR/L3/OPS/045 Issue 1	National Operating Procedures (NOPs) Index	NR/L3/OPS/045 Issue 2	
NR/L3/SIG/11761 Issue 4	Handbook for EBI Track 200 Audio Frequency Track Circuit	NR/L3/SIG/11761 Issue 5	
NR/L3/SIGELP/50001 Issue 3	Signalling Power Distribution Equipment above 175 Volts (Work Instructions)	NR/L3/SIGELP/50001 Issue 4	
NR/L3/TRK/003 Issue 24	Index of Track Engineering Forms	NR/L3/TRK/003 Issue 25	
NR/L3/TRK/3104 Issue 2	Asset Data Extraction and Topographic Surveying - Signalling	NR/L2/TRK/3100 Issue 4	
NR/SP/ASR/036 Issue 4	Network Rail Assurance Framework	NR/L2/ASR/036 Issue 5	
NR/WI/ELP/27051 Issue 4	Working Instructions for d.c. Electrified Lines in the Liverpool Area	NR/L3/ELP/27051 Issue 5	

References	Title	Replaced by/Status
RT/CE/S/035 Issue 2 (NR/SP/CIV/035)	Assessment of Structures	NR/L2/CIV/035 Issue 1
RT/CE/S/036 Issue E1	Management of Gauging and Clearances	NR/L2/TRK/036 Issue 2

Historic 03/18			
References	Title	Replaced by/Status	
NR/CS/TRK/05200 Issue 1	Vegetation	NR/L2/OTK/5201 Issue 1	
NR/GN/ELP/27088 Issue 2	Layout of Overhead Line Equipment	NR/L2/ELP/27715 Issue 2	
NR/GN/RMVP/27702 Issue 1	Plant Product Acceptance Process	NR/GN/RMVP/27702 Issue 2	
NR/L1/RSK/001 Issue 1	Network Rail Risk Policy	NR/L1/RSK/001 Issue 2	
NR/L2/CIV/086 Issue 6	Management of Earthworks Manual	NR/L2/CIV/086 Issue 7	
NR/L2/CSG/STP001 Issue 6	Standards and Controls Management Manual	NR/L2/CSG/STP001 Issue 7	
NR/L2/ELP/27715 Issue 1	Overhead Contact System Design Specification	NR/L2/ELP/27715 Issue 2	
NR/L2/ELP/27730 Issue 1	Specification for 750 V DC Switchgear	NR/L2/ELP/27730 Issue 2	
NR/L2/SIG/30009 Issue 12	Signalling Principles Handbook	NR/L2/SIG/30009 Issue 13	
NR/L2/SIG/30014 Issue 12	Signalling Works Testing Handbook	NR/L2/SIG/30014 Issue 13	
NR/L2/TEL/30076 Issue 2	Specification for the Maintenance of Processor Controlled Concentrators	NR/L3/TEL/30076 Issue 3	
NR/L2/TEL/31001 Issue 3	Operational Telecommunications - Telecom Maintenance Testing & Failure Investigation Process (TMT&FIP)	NR/L2/TEL/31001 Issue 4	
NR/L2/TRK/0032 Issue 6	Joining of Rails by Aluminothermic Welding	NR/L2/TRK/0032 Issue 7	
NR/L2/TRK/5100 Issue 2	Management of Fencing and Other Boundary Measures	NR/L2/OTK/5100 Issue 1	
NR/L2/TRK/5201 Issue 4	Management of Lineside Vegetation	NR/L2/OTK/5201 Issue 1	
NR/L3/CIV/151/F010 Issue 10	Index of Standard Designs and Details for Building and Civil Engineering Works	NR/L3/CIV/151/F10 Issue 11	
NR/L3/CPR/305 Issue 1	How to Change Utility Supplies	NR/L3/ENV/305 Issue 2	
NR/L3/ELP/27237 Issue 14	Overhead Line Work Instructions	NR/L3/ELP/27237 Issue 15	
NR/L3/ELP/27250 Issue 2	Conductor Rail Equipment Working Instructions	NR/L3/ELP/27250 Issue 3	
NR/L3/INI/PG115/BIS/001 Issue 2	Document Management (Formerly NR/L3/INI/PG115/DM/001)	NR/L3/INI/P3M/131 Iss 1	
NR/L3/INI/PG115/PS/015 Issue 2	Use of Earned Value Reporting in Investment Projects	NR/L3/INI/P3M/130 Iss 1	
NR/L3/INI/PG115/PS/016 Issue 2	Earned Value Reporting – Guidance on Definitions and Acceptable Practices	NR/L3//INI/P3M/130 Iss 1	
NR/L3/INI/PG115/PS/017 Issue 1	Earned Value Reporting – Guidance on Set Up and Maintenance of Primavera Schedules	NR/L3/INI//P3M/130 Iss 1	
NR/L3/MTC/MG0173 Issue 1	Monitoring of Spoken Safety Communications	NR/L3/MTC/MG0173 Issue 2	
NR/L3/MTC/MG0213 Issue 8	Index of Standard Maintenance Forms	NR/L3/MTC/MG0213 Issue 9	
NR/L3/MTC/PL0175 Issue 5	Infrastructure Maintenance Planning Handbook	NR/L2/MTC/PL0175 Issue 6	
NR/L3/MTC/RCS0216 Issue 10	Risk Control Manual	NR/L3/MTC/RCS0216 Issue 11	
NR/L3/NDS/047 Issue 21	Train Operations Manual - Contents	Withdrawn	
NR/L3/NDS/048 Issue 13	Train Operations Manual - Industry Mandatory Section	Withdrawn	
NR/L3/NDS/312 Issue 1	National Delivery Service Forms Index	Withdrawn	
NR/L3/NSC/313 Issue 1	On-Track Machines (OTMs) Driver and Operations Standards Manual	NR/L3/SCO/313 Issue 2	
NR/L3/OPS/045 Issue 02	National Operating Procedures Index	NR/L3/OPS/045 Issue 3	
NR/L3/SIG/10064 Issue 5	General Instructions to Staff Working on S&T Equipment	NR/L3/SIG/10064 Issue 6	
NR/L3/SIG/10661 Issue 15	Signalling Maintenance Task Intervals	NR/L3/SIG/10661 Issue 16	
NR/L3/SIG/10663 Issue 7	Signal Maintenance Specifications (SMS)	NR/L3/SIG/10663 Issue 8	
NR/L3/SIG/10665 Issue 14	Reliability Centred Maintenance of Signalling Equipment	NR/L3/SIG/10665 Issue 15	
NR/L3/SIG/11231 Issue 10	Signalling Maintenance Testing Handbook (SMTH)	NR/L3/SIG/11231 Issue 11	
NR/L3/TRK/003 Issue 25	Index of Track Engineering Forms	NR/L3/TRK/003 Issue 26	
NR/L3/TRK/3406 Issue 1	Installation of Modular S&C	NR/L3/TRK/3406 Issue 2	
NR/SP/ELP/21074 Issue 2	Overhead Line Equipment Allocation Design for Railway Electrification (formerly RT/E/S/21074)	NR/L2/ELP/27715 Issue 2	
NR/SP/ELP/21078 Issue 2	Design of Return Conductor Systems for AC Electrified Lines (formerly RT/E/S/21078)	NR/L2/ELP/27715 Issue 2	
NR/SP/ELP/27042 Issue 2	The Location and Design of Designated Earth Points for Overhead Line Equipment (formerly RT/E/C/27042)	NR/L2/ELP/27715 Issue 2	
NR/SP/ELP/27204 Issue 2	Specification for the Screening of Signals	NR/L2/ELP/27715 Issue 2	
RT/E/C/11711 Issue 1	ERTMS Readiness	NR/L2/SIG/11711 Issue 2	

	Historic 06/18			
References	Title	Replaced by/Status		
NR/GN/SIG/CAT005 Issue 51	Index of Network Rail Documents Relating to Signalling & Communications Equipment	NR/GN/SIG/CAT005 Issue 52		
NR/GN/TRK/7001/TWI2B009 Issue 1	How to Maintain Catchpits	NR/L2/CIV/005/13 Issue 1		
NR/GN/TRK/7001/TWI2B011 Issue 1	How to Recognise a Drain Failure	NR/L2/CIV/005 Issue 1		
NR/GN/TRK/7001/TWI2B012 Issue 1	How to Maintain Drains	NR/L2/CIV/005/13 Issue 1		
NR/GN/TRK/7001/TWI2B013 Issue 1	How to Inspect Drainage	NR/L2/CIV/005 Issue 1		

References	Title	Replaced by/Status
NR/GN/TRK/7001/TWI2B014 Issue 1	How to Carry out Flood Warning Inspection	NR/L2/CIV/005 Issue 1
NR/GN/TRK/7001/TWI2B017 Issue 1	How to Maintain Open Drains, Watercourses and Ditches	NR/L2/CIV/005/14 Issue 1
NR/L1/TEL/30093 Issue 3	Telecoms Maintenance	NR/L2/TEL/31002 Issue 5
NR/L2/CPR/306 Issue 2	Disposal of Redundant Railway Assets	NR/L2/SCO/306 Issue 3
NR/L2/ENV/015 Issue 6	Contract Requirements Environment	NR/L2/ENV/015 Issue 7
NR/L2/ERG/003 Issue 5	Management of Fatigue: Control of Working Hours for Staff Undertaking Safety Critical Work	NR/L2/OHS/003 Issue 6
NR/L2/INF/02223 Issue 2	Information Security Classification	NR/L2/INF/02223 Issue 3
NR/L2/MTC/10662 Issue 10	Process for the Implementation of New or Revised Maintenance Regimes Using Reliability Centred Maintenance	NR/L2/MTC/10662 Issue 11
NR/L2/SIG/11201 Issue 10	Signalling Design Handbook	NR/L2/SIG/11201 Issue 11
NR/L2/SIG/3009 Issue 13	Signalling Principles Handbook	NR/L2/SIG/3009 Issue 14
NR/L2/TEL/30127 Issue 3	GSM-R Air Interface Functionality, Availability Management and Compliance Validation	NR/L2/TEL/30127 issue 4
NR/L2/TEL/31002 Issue 4	Maintenance of Telecommunications Equipment	NR/L2/TEL/31002 Issue 5
NR/L2/TRK/038 Issue 5	Track Geometry: Management of Recording and of Immediate and Urgent Actions	NR/L2/TRK/038 Issue 6 RT/D/P/085 Issue 4
NR/L3/CIV/005 Issue 2	Railway Drainage Systems Manual	NR/L2/CIV/005 Issue 1
NR/L3/ENV/044 Issue 3	Track Maintenance, Renewal or Alteration – Used Ballast Handling	NR/L3/ENV/044 Issue 4
NR/L3/INI/CP0046 Issue 2	The Reporting and Investigation of Accidents and Incidents within Investment Projects and Asset Management Works Delivery	NR/L3/OHS/0046 Issue 3
NR/L3/INI/PG115/BIS/002 Issue 2	Corporate KPIs – Generation of the IPI Measures for Investment Projects	NR/L3/INI/P3M/129 Issue 1
NR/L3/MTC/MG0213 Issue 9	Index of Standard Maintenance Forms	NR/L3/MTC/MG0213 Issue 10
NR/L3/MTC/RCS0216 Issue 11	Risk Control Manual	NR/L3/MTC/RCS0216 Issue 12
NR/L3/NSC/311 Issue 2	Engineering and Management Control Arrangements for the National Supply Chain T&RS and OTM Fleet	NR/L3/SCO/311 Issue 3
NR/L3/OPS/045 Issue 3	National Operating Procedures Index	NR/L3/OPS/045 Issue 04
NR/L3/RVE/1006 Issue 1	Technical Audit Procedure for Rail Vehicle Engineering	NR/L3/RMVP/1006 Issue 2
NR/L3/SCO/313 Issue 2	On-Track Machines (OTMs) Driver and Operations Standards Manual	NR/L3/SCO/313 Issue 3
NR/L3/TEL/30090 Issue 3	Specification for the Maintenance of Telecoms Equipment Rooms	NR/L3/TEL/30090 Issue 4
NR/L3/TEL/30181 Issue 1	Telecoms Maintenance Work Instructions	NR/L3/TEL/30181 Issue 2
NR/SP/TEL/30133 Issue 1	Asset Condition Assessment for Telecommunications Equipment	NR/L3/TEL/30133 Issue 2
NR/L3/TRK/002/D08 Issue 1	Piped Drainage and Catchpit Maintenance	NR/L2/CIV/005 Issue 1
NR/L3/TRK/002/D18 Issue 1	Drainage Inspection	NR/L2/CIV/005 Issue 1
NR/SIN/164 Issue 1	Special Inspection of OLE Electrical Sections to Identify Staggered Limits	Closed
NR/SP/OHS/00106 Issue 2	Specialist Risk Assessment - Manual Handling	NR/L2/OHS/00106 Issue 3
RT/D/P/085 Issue 4	Management of Track Faults Found by Track Recording Vehicle	NR/L2/TRK/038 Issue 6

# Catalogue Index

NR/CAT/STP001	NR/GN/TEL/50017182	NR/L2/ELP/21048
NR/CS/CTM/001	NR/GN/TRK/058	NR/L2/ELP/21087
NR/CS/ENV/00171	NR/GN/TRK/059	NR/L2/ELP/21088
NR/CS/OHS/002121	NR/GN/TRK/060203	NR/L2/ELP/2112056
NR/CS/OHS/005	NR/GN/TRK/060/PG203	NR/L2/ELP/2401156
NR/CS/TEL/30101	NR/GN/TRK/065	NR/L2/ELP/24013
NR/GN/CIV/001	NR/GN/TRK/7001	NR/L2/ELP/25001
NR/GN/CIV/002	NR/GN/TRK/8001	NR/L2/ELP/2700957
NR/GN/CIV/025	NR/GN/TRK/8203211	NR/L2/ELP/27032
NR/GN/CIV/163	NR/L1/ADG/001	NR/L2/ELP/27212
NR/GN/CIV/165	NR/L1/AMG/1010165	NR/L2/ELP/27213
NR/GN/CIV/166	NR/L1/CIV/032	NR/L2/ELP/27214
NR/GN/CIV/201	NR/L1/CIV/04	NR/L2/ELP/27229
NR/GN/CIV/202	NR/L1/CIV/094	NR/L2/ELP/27238
NR/GN/CIV/203	NR/L1/CPR/101	NR/L2/ELP/2723959
NR/GN/CIV/801	NR/L1/CPR/102	NR/L2/ELP/2727559
NR/GN/CPR/401	NR/L1/CPR/103	NR/L2/ELP/27307
NR/GN/CTM/401	NR/L1/ELP/27000	NR/L2/ELP/27311
NR/GN/CTM/402	NR/L1/ENV/100	NR/L2/ELP/27314
NR/GN/ELP/00004	NR/L1/FIR/100	NR/L2/ELP/27320
NR/GN/ELP/0001166	NR/L1/HSS/00126	NR/L2/ELP/27325
NR/GN/ELP/0001567	NR/L1/INF/02232	NR/L2/ELP/2740060
NR/GN/ELP/2401567	NR/L1/INI/EDT/CP0090	NR/L2/ELP/2740160
NR/GN/ELP/27006	NR/L1/INI/P3M/100	NR/L2/ELP/2740260
NR/GN/ELP/27010	NR/L1/OHS/051	NR/L2/ELP/2741160
NR/GN/ELP/27019	NR/L1/OHS/210	NR/L2/ELP/27428
NR/GN/ELF/27019	NR/L1/OPS/010	NR/L2/ELP/27500
NR/GN/ELP/2702267	NR/L1/OPS/290	NR/L2/ELP/2755061
NR/GN/ELP/2703667	NR/L1/RMVP/0001	NR/L2/ELP/27715
NR/GN/ELP/2704067	NR/L1/RSE/30040	NR/L2/ELP/27730
NR/GN/ELP/27041	NR/L1/RSK/001	NR/L2/ELP/40045
NR/GN/ELP/27043	NR/L1/SIG/30040132	NR/L2/ELP/40068
NR/GN/ELP/27138	NR/L1/SIG/50021	NR/L2/ELP/40069
NR/GN/ELP/2718668	NR/L1/TEL/30029170	NR/L2/ENV/050
NR/GN/ELP/2719868	NR/L1/TEL/30092170	NR/L2/ENV/115
NR/GN/ELP/2723068	NR/L1/TEL/30099	NR/L2/ERG/24020
NR/GN/ELP/27233	NR/L1/TEL/30100170	NR/L2/HAM/02201
NR/GN/ELP/27235	NR/L1/TEL/30102	NR/L2/HSS/020
NR/GN/ELP/2724468	NR/L1/TRK/002	NR/L2/INF/02018
NR/GN/ELP/2724768	NR/L1/XNG/100	NR/L2/INF/02202
NR/GN/ELP/2731069	NR/L2/ADG/002	NR/L2/INF/02203
NR/GN/ELP/2731269	NR/L2/ADG/003	NR/L2/INF/02220
NR/GN/ELP/27313	NR/L2/AMG/02106	NR/L2/INF/02223
NR/GN/ELP/27315	NR/L2/AMG/1020165	NR/L2/INF/02230
NR/GN/ELP/27319	NR/L2/AMG/1030	NR/L2/INF/02237
NR/GN/ELP/2740769	NR/L2/AMG/1040	NR/L2/INF/02242
NR/GN/ELP/2741569	NR/L2/ASR/036	NR/L2/INI/02009
NR/GN/ELP/2760069	NR/L2/CIV/00328	NR/L2/INI/CP0043
NR/GN/ENV/004	NR/L2/CIV/00528	NR/L2/INI/CP0061
NR/GN/INF/00850	NR/L2/CIV/035	NR/L2/INI/CP0070
NR/GN/INI/001	NR/L2/CIV/044	NR/L2/INI/CP0075
NR/GN/INI/P3M/150	NR/L2/CIV/07229	NR/L2/INI/EDT/CP0091
NR/GN/MTC/00011		
	NR/L2/CIV/07329	NR/L2/INI/P3M/101
NR/GN/MTC/MG0226	NR/L2/CIV/074	NR/L2/INI/P3M/102
NR/GN/MTC/MG0227	NR/L2/CIV/08629	NR/L2/INI/P3M/104
NR/GN/MTC/MG0228	NR/L2/CIV/14029	NR/L2/INI/P3M/105
NR/GN/OHS/00150	NR/L2/CIV/168	NR/L2/INI/PG114
NR/GN/OPS/005	NR/L2/CIV/171	NR/L2/INV/002
NR/GN/RMVP/27700	NR/L2/CIV/172	NR/L2/MTC/006
NR/GN/SIG/02022	NR/L2/CIV/177	NR/L2/MTC/02020
NR/GN/SIG/02022	NR/L2/CIV/177	
		NR/L2/MTC/10662
NR/GN/SIG/10099	NR/L2/CPR/201	NR/L2/MTC/II0218
NR/GN/SIG/10670	NR/L2/CPR/302	NR/L2/MTC/MG0012
NR/GN/SIG/17901	NR/L2/CSG/10072	NR/L2/MTC/MG0042
NR/GN/SIG/17902	NR/L2/CSG/STP00139	NR/L2/MTC/PL017578
NR/GN/SIG/17903	NR/L2/CTM/012	NR/L2/MTC/SE011779
NR/GN/SIG/19002	NR/L2/CTM/013	NR/L2/NDS/203
NR/GN/SIG/19012	NR/L2/CTM/014	NR/L2/NDS/205
NR/GN/SIG/19020	NR/L2/CTM/018	NR/L2/OCS/009
NR/GN/SIG/19047	NR/L2/CTM/021	NR/L2/OCS/031
NR/GN/SIG/19053	NR/L2/CTM/022	NR/L2/OCS/042
NR/GN/SIG/19054	NR/L2/CTM/025	NR/L2/OCS/050
NR/GN/SIG/19101	NR/L2/CTM/028	NR/L2/OCS/060
NR/GN/SIG/19101	NR/L2/CTM/201	NR/L2/OCS/070
NR/GN/SIG/19801	NR/L2/CTM/202	NR/L2/OCS/095
NR/GN/SIG/50014	NR/L2/CTM/205	NR/L2/OCS/098
NR/GN/SIG/CAT005	NR/L2/CTM/206	NR/L2/OHS/00102
NR/GN/SIG/CAT006	NR/L2/CTM/207	NR/L2/OHS/00103
NR/GN/TEL/30037181	NR/L2/CTM/209	NR/L2/OHS/00106
NR/GN/TEL/30065181	NR/L2/CTM/220	NR/L2/OHS/00107
NR/GN/TEL/30003181	NR/L2/CTM/222	NR/L2/OHS/00107
NR/GN/TEL/30138181	NR/L2/CTM/223	NR/L2/OHS/00112
NR/GN/TEL/30139181	NR/L2/CTM/229	NR/L2/OHS/00113
NR/GN/TEL/30140181	NR/L2/EBM/088	NR/L2/OHS/00117
NR/GN/TEL/31106	NR/L2/ELP/1007	NR/L2/OHS/00120
NR/GN/TEL/31109	NR/L2/ELP/21015	NR/L2/OHS/00123

NR/L2/OHS/00124	NR/L2/SIG/19807140	NR/L2/TEL/30127
NR/L2/OHS/003	NR/L2/SIG/19809	NR/L2/TEL/30130
NR/L2/OHS/0044	NR/L2/SIG/19820140	NR/L2/TEL/30132175
NR/L2/OHS/0047	NR/L2/SIG/30003	NR/L2/TEL/30134
NR/L2/OHS/005	NR/L2/SIG/30004	NR/L2/TEL/30135
NR/L2/OHS/019	NR/L2/SIG/30009141	NR/L2/TEL/30136176
NR/L2/OHS/020	NR/L2/SIG/30010141	NR/L2/TEL/30141176
NR/L2/OHS/021	NR/L2/SIG/30014142	NR/L2/TEL/30143
NR/L2/OHS/022	NR/L2/SIG/30015144	NR/L2/TEL/30146
NR/L2/OHS/050	NR/L2/SIG/30017144	NR/L2/TEL/30147
NR/L2/OHS/052	NR/L2/SIG/30019	NR/L2/TEL/30151
NR/L2/OHS/053	NR/L2/SIG/30021144	NR/L2/TEL/30156
NR/L2/OHS/157	NR/L2/SIG/30027144	NR/L2/TEL/30160176
NR/L2/OPS/015	NR/L2/SIG/30035	NR/L2/TEL/30161
NR/L2/OPS/021	NR/L2/SIG/30036145	NR/L2/TEL/30182
NR/L2/OPS/033	NR/L2/SIG/30038145	NR/L2/TEL/30184
NR/L2/OPS/034	NR/L2/SIG/30050145	NR/L2/TEL/31001177
NR/L2/OPS/035	NR/L2/SIG/30060145	NR/L2/TEL/31002
NR/L2/OPS/037	NR/L2/SIG/30070145	NR/L2/TEL/31107
NR/L2/OPS/060	NR/L2/SIG/30080145	NR/L2/TEL/31108
NR/L2/OPS/100	NR/L2/SIG/30081	NR/L2/TEL/31111
NR/L2/OPS/101	NR/L2/SIG/30097/0001	NR/L2/TEL/31114
NR/L2/OPS/104	NR/L2/SIG/30099146	NR/L2/TRK/001
NR/L2/OPS/110	NR/L2/SIG/50010146	NR/L2/TRK/001/BRIEFING
	NR/L2/SIG/50010146 NR/L2/SIG/50019146	NR/L2/TRK/001/BRIEFING
NR/L2/OPS/202		
NR/L2/OPS/250	NR/L2/SIG/CAT003	NR/L2/TRK/0132
NR/L2/OPS/251	NR/L2/SIGELP/27408	NR/L2/TRK/029
NR/L2/OPS/254	NR/L2/SIGELP/27409	NR/L2/TRK/030
NR/L2/OPS/290	NR/L2/SIGELP/27410	NR/L2/TRK/036
NR/L2/OTK/5100	NR/L2/SIGELP/27416	NR/L2/TRK/038
NR/L2/OTK/5201	NR/L2/SIGELP/27417	NR/L2/TRK/053
NR/L2/PRO/001	NR/L2/SIGELP/27418	NR/L2/TRK/061
NR/L2/RMVP/0001	NR/L2/SIGELP/27419	NR/L2/TRK/070
NR/L2/RMVP/0002	NR/L2/SIGELP/27421	NR/L2/TRK/1019
NR/L2/RMVP/0002	NR/L2/SIGELP/27422	NR/L2/TRK/1054
NR/L2/RMVP/0090	NR/L2/SIGELP/27423	NR/L2/TRK/1120
NR/L2/RMVP/0131	NR/L2/SIGELP/27501	NR/L2/TRK/2102
NR/L2/RMVP/0139114	NR/L2/SIGELP/27725	NR/L2/TRK/2102/BRIEFING
NR/L2/RMVP/0140114	NR/L2/SIGELP/30007	NR/L2/TRK/2500
NR/L2/RMVP/0142114	NR/L2/SIGELP/50000	NR/L2/TRK/3011
NR/L2/RMVP/0172	NR/L2/TEL/00013	NR/L2/TRK/3038
NR/L2/RMVP/0200	NR/L2/TEL/30003	NR/L2/TRK/3100
NR/L2/RMVP/1332	NR/L2/TEL/30022	NR/L2/TRK/3201
NR/L2/RMVP/27701	NR/L2/TEL/30025	NR/L2/TRK/3203
NR/L2/RSE/0005	NR/L2/TEL/30026	NR/L2/TRK/4040
NR/L2/RSE/070	NR/L2/TEL/30027	NR/L2/TRK/4100
NR/L2/RSE/100	NR/L2/TEL/30028	NR/L2/TRK/4239
NR/L2/RSE/30041	NR/L2/TEL/30033	NR/L2/TRK/6001
NR/L2/RSK/001	NR/L2/TEL/30034	NR/L2/TRK/6100
NR/L2/RVE/0003	NR/L2/TEL/30036	NR/L2/TRK/8100
NR/L2/RVE/0130	NR/L2/TEL/30066	NR/L2/TRK/9016
NR/L2/RVE/0132	NR/L2/TEL/30067	NR/L2/XNG/200
NR/L2/RVE/01327	NR/L2/TEL/30069	NR/L2/XNG/300
NR/L2/RVE/01327	NR/L2/TEL/30009	NR/L2/XNG/310
NR/L2/RVE/0133	NR/L2/TEL/30070	NR/L3/AIF/003
NR/L2/RVE/0135	NR/L2/TEL/30073	NR/L3/AIF/005
NR/L2/RVE/0136	NR/L2/TEL/30075	NR/L3/AMG/02107166
NR/L2/RVE/1350	NR/L2/TEL/30078172	NR/L3/CIV/0001233
NR/L2/SCO/306	NR/L2/TEL/30079172	NR/L3/CIV/00632
NR/L2/SIG/10013132	NR/L2/TEL/30080172	NR/L3/CIV/020
NR/L2/SIG/10016132	NR/L2/TEL/30083172	NR/L3/CIV/023
NR/L2/SIG/10027132	NR/L2/TEL/30084	NR/L3/CIV/024
NR/L2/SIG/10028133	NR/L2/TEL/30085	NR/L3/CIV/02833
NR/L2/SIG/10047133	NR/L2/TEL/30086	NR/L3/CIV/03033
NR/L2/SIG/10157133	NR/L2/TEL/30087	NR/L3/CIV/03733
NR/L2/SIG/10158133	NR/L2/TEL/30094	NR/L3/CIV/038
NR/L2/SIG/10160	NR/L2/TEL/30095	NR/L3/CIV/039
NR/L2/SIG/10173133	NR/L2/TEL/30097173	NR/L3/CIV/040
NR/L2/SIG/11010	NR/L2/TEL/30098	NR/L3/CIV/04134
NR/L2/SIG/11070	NR/L2/TEL/30105	NR/L3/CIV/065
NR/L2/SIG/11120	NR/L2/TEL/30109	NR/L3/CIV/003
NR/L2/SIG/11120	NR/L2/TEL/301109	NR/L3/CIV/071
NR/L2/SIG/11201134	NR/L2/TEL/30111	NR/L3/CIV/142
NR/L2/SIG/11213136	NR/L2/TEL/30112	NR/L3/CIV/151
NR/L2/SIG/11400	NR/L2/TEL/30113	NR/L3/CIV/151/F010
NR/L2/SIG/11655	NR/L2/TEL/30114	NR/L3/CIV/160
NR/L2/SIG/11704136	NR/L2/TEL/30115174	NR/L3/CIV/16235
NR/L2/SIG/11711	NR/L2/TEL/30117174	NR/L3/CIV/16435
NR/L2/SIG/11766136	NR/L2/TEL/30118	NR/L3/CIV/17635
NR/L2/SIG/11774137	NR/L2/TEL/30119174	NR/L3/CIV/18535
NR/L2/SIG/13251	NR/L2/TEL/30120	NR/L3/CIV/19035
NR/L2/SIG/14201137	NR/L2/TEL/30121	NR/L3/CIV/30035
NR/L2/SIG/17002	NR/L2/TEL/30122	NR/L3/CTM/131
NR/L2/SIG/19608	NR/L2/TEL/30124	NR/L3/CTM/132
NR/L2/SIG/19609140	NR/L2/TEL/30125	NR/L3/CTM/301
NR/L2/SIG/19803	NR/L2/TEL/30126	NR/L3/CTM/302
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NRLSCHINGSS 44 NRLSSHIPPOPH 45 S			
NRA_STEP709	NP/L3/CTM/303	NP/L3/MTC/FP01/11 81	NR/L3/SIG/10102 152
NRLSCHTMOS 44 NRLSCHTMOS 55 A NRLSCHTMOS 56 A NRLSCHTMOS 56 A NRLSCHTMOS 56 A NRLSCHTMOS 56 A NRLSCHTMOS 57 A NRLSCHTMOS 58 A NRLSCHTMOS 58 A NRLSCHTMOS 58 A NRLSCHTMOS 59 A			
NR. 1871/18700			
NRLSEMONGO 6 08 NRLSEMONGO 7 153 NRLSEMONGO 8 08 NRLSEMONGO 8 154 NRLSEMONGO 1 153 NRLSEMONGO 1 154 NRLSEMONGO 1 155 NRLSEMONGO 1 156 NRLSEMONGO 1 156 NRLSEMONGO 1 157 NRLSEMONGO 1 156 NRLSEMONGO 1 157 NRLSEMON	NR/L3/CTM/305	NR/L3/MTC/EP0152	NR/L3/SIG/19808
NRLSEMONGO 6 08 NRLSEMONGO 7 153 NRLSEMONGO 8 08 NRLSEMONGO 8 154 NRLSEMONGO 1 153 NRLSEMONGO 1 154 NRLSEMONGO 1 155 NRLSEMONGO 1 156 NRLSEMONGO 1 156 NRLSEMONGO 1 157 NRLSEMONGO 1 156 NRLSEMONGO 1 157 NRLSEMON	NR/L3/CTM/306	NR/L3/MTC/EP0184	NR/L3/SIG/19810
NRLSEEPONTO   669   NRLSMTCEPONT   81   NRLSSIGGOOT   163			
NRALSELPZIOTO  22 NRALSHICZNOS  33 NRALSHICZNOS  34 NRALSHICZNOS  35 NRALSHICZNOS  36 NRALSHICZNOS  37 NRALSHICZNOS  38 NRALSHICZNOS  39 NRALSHICZNOS  30 NRALSHICZNOS  30 NRALSHICZNOS  30 NRALSHICZNOS  30 NRALSHICZNOS  30 NRALSHICZNOS  30 NRALSHICZNOS  31 NRALSHICZNOS  31 NRALSHICZNOS  32 NRALSHICZNOS  33 NRALSHICZNOS  34 NRALSHICZNOS  35 NRALSHICZNOS  36 NRALSHICZNOS  37 NRALSHICZNOS  38 NRALSHICZNOS  38 NRALSHICZNOS  39 NRALSHICZNOS  39 NRALSHICZNOS  30 NRALS			
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NRASEIPZZOOD 62 NRLSMICHEGE 22 82 NRLSMICSCOURS 153 NRLSEIPZZOOD 62 NRLSMICHEGE 22 82 NRLSMICSCOURS 153 NRLSEIPZZOOD 62 NRLSMICHEGE 24 82 NRLSMICSCOURS 153 NRLSEIPZZOOD 63 NRLSMICHEGE 24 82 NRLSMICSCOURS 154 NRLSEIPZZOOD 64 NRLSMICHEGE 24 82 NRLSMICSCOURS 154 NRLSEIPZZOOD 65 NRLSMICHEGE 24 82 NRLSMICSCOURS 154 NRLSEIPZZOOD 65 NRLSMICHEGE 25 NRLSMICHEGE 25 NRLSMICSCOURS 154 NRLSEIPZZOOD 65 NRLSMICHEGE 25 NRLSMICHEGE 25 NRLSMICSCOURS 154 NRLSEIPZZOOD 65 NRLSMICHEGE 25 NR	NR/L3/FLP/21067 62	NR/L3/MTC/FP0196 81	NR/L3/SIG/30071 153
NRA_SELP_27075  20 NRA_SANTCM00202  20 NRA_SSELP_270777  20 NRA_SANTCM002020  20 NRA_SSELP_270777  30 NRA_STELP_270777  30 NRA_STELP_270778  30 NRA_STELP_270718  31 NRA_STELP_270718  32 NRA_STELP_270718  33 NRA_STELP_270718  34 NRA_STELP_270718  35 NRA_STELP_270718  36 NRA_STELP_270718  37 NRA_STELP_270718  38 NRA_STELP_270718  39 NRA_STELP_270718  30 NRA_STELP_270718  30 NRA_STELP_270718  30 NRA_STELP_270718  30 NRA_STELP_270718  30 NRA_STELP_270718  31 NRA_STELP_270718  32 NRA_STELP_270718  33 NRA_STELP_270718  34 NRA_STELP_270718  35 NRA_STELP_270718  36 NRA_STELP_270718  37 NRA_STELP_270718  38 NRA_STELP_270718  39 NRA_STELP_270718  30 NRA_STELP_270718  30 NRA_STELP_270718  30 NRA_STELP_270718  31 NRA_STELP_270718  31 NRA_STELP_270718  32 NRA_STELP_270718  33 NRA_STELP_270718  34 NRA_STELP_270718  35 NRA_STELP_270718  36 NRA_STELP_270718  37 NRA_STELP_270718  38 NRA_STELP_270718  39 NRA_STELP_270718  39 NRA_STELP_270718  39 NRA_STELP_270718  30 NRA_STELP_270718  31 NRA_STELP_270718  31 NRA_STELP_270718  31 NRA_STELP_270718  32 NRA_STELP_270718  33 NRA_STELP_270718  34 NRA_STELP_270718  35 NRA_STELP_270718  36 NRA_STELP_270718  37 NRA_STELP_270718  38 NRA_STELP_270718  39 NRA_STELP_270718  39 NRA_STELP_270718  39 NRA_STELP_270718  30 NRA_STELP_27			
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NRLSE PZ715	NR/L3/ELP/2705162	NR/L3/MTC/II0219	NR/L3/SIG/30082153
NRALSELPZYTIS  6.3 NR.JASTCAMOGOT  1.5 S. NR.	NR/L3/ELP/27077	NR/L3/MTC/MG0020	NR/L3/SIG/31655
NPLLSELPZ7112		NP/L3/MTC/MC0021	
NRIASHER/27122 6.3 NRIASHC/MO0003 8.2 NRIASHC/G00064 164 NRIASHER/27134 6.3 NRIASHC/MO0003 8.2 NRIASHC/G00065 154 NRIASHER/27134 6.3 NRIASHC/G00065 154 NRIASHER/27134 6.3 NRIASHC/G00066 154 NRIASHER/27135 6.3 NRIASHC/G00066 154 NRIASHER/27135 6.3 NRIASHC/G00077 8.33 NRIASHC/G00078 154 NRIASHER/27137 6.3 NRIASHC/G00078 153 NRIASHER/27137 6.3 NRIASHC/G00078 8.3 NRIASHC/G00078 154 NRIASHER/27137 6.3 NRIASHC/G00078 8.3 NRIASHC/G00078 155 NRIASHER/27137 6.3 NRIASHC/G00078 8.3 NRIASHC/G00078 155 NRIASHER/27137 6.3 NRIASHC/G00078 8.3 NRIASHC/G00078 155 NRIASHER/27137 6.4 NRIASHC/G00078 155 NRIASHER/27137 6.5 NRIASHC/G00078 155 NRIASHER/27137 6.5 NRIASHC/G00078 155 NRIASHER/27138 6.5 NRIASHC/G00078 155 NRIASHER/27138 6.5 NRIASHC/G00078 155 NRIASHER/27138 6.5 NRIASHC/G00078 155 NRIASHER/27138 6.5 NRIASHC/G00078 155 NRIASHC/G000			==. =
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NRILSELEPZY140 6.3 NRILSMITCMG0174 8.2 NRILSELGGGGGGG 5154 NRILSELPZY141 8.3 NRILSMITCMG01773 8.3 NRILSELGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG	NR/L3/ELP/27134	NR/L3/MTC/MG0082	NR/L3/SIG/SG0057
NRILSELE/27149 8.5 NRILSMITCM00175 8.5 NRILSMITCM00175 8.5 NRILSMICSCOORS 1.54 NRILSELE/27149 8.5 NRILSMITCM00175 8.5 NRILSMITCM00175 8.5 NRILSMICSCOORS 1.54 NRILSELE/27240 8.5 NRILSMITCM00176 8.5 NRILSMICSCOORS 1.54 NRILSELE/27240 8.6 NRILSMITCM00194 8.5 NRILSMICSCOORS 1.54 NRILSELE/27240 8.6 NRILSMITCM00194 8.5 NRILSMICSCOORS 1.55 NRILSELE/27240 8.6 NRILSMITCM00195 8.5 NRILSMICSCOORS 1.55 NRILSELE/27250 9.6 NRILSMITCM00195 9.5 NRILSMICSCOORS 1.55 NRILSELE/27250 9.6 NRILSMITCM00195 9.5			NR/L3/SIG/SG0058 154
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NRA_SELP372740 63 NNLSANTCM00184 83 NRLSSIGSG0108 155 NRA_SELP37240 64 NRLSSIGSG01091 155 NRA_SELP37241 64 NRLSSIGSG01091 155 NRA_SELP37241 64 NRLSSIGSG01091 155 NRA_SELP37240 64 NRLSSIGSG01091 155 NRA_SELP37404 64 NRLSSIGSG01091 155 NRLSSELP37406 64 NRLSSIGSG01091 155 NRLSSELP37406 64 NRLSSIGSG01091 155 NRLSSELP37407 65 NRLSSIGSG01091 155 NRLSSELP37407 65 NRLSSIGSG01091 155 NRLSSELP37408 65 NRLSSIGSG01091 155 NRLSSELP37408 65 NRLSSIGSG01091 155 NRLSSELP374091 150	NR/L3/ELP/27232	NR/L3/MTC/MG0180	NR/L3/SIG/SG0093
NRA_SELP72740 63 NR.L3MTCM00194 83 NR.L3MSSG0111 155 NRA_SELP727251 64 NR.L3MTCM00197 83 NR.L3MSSG0113 155 NRA_SELP72740 64 64 NR.L3MTCM00218 83 NR.L3MSSG0113 155 NRA_SELP72740 65 NR.L3MSG0113 155 NRA_SELP72744 65 NR.L3MSG0113 155 NRA_SELP72744 65 NR.L3MSG0113 155 NRA_SELP7442 65 NR.L3MSG0113 155 NRA_SELP7444  NR.L3MSG0			
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NRIJSPIE/103	NR/L3/ENV/305	NR/L3/MTC/MG0229	NR/L3/SIGELP/27425
NRIJSPIE/103	NR/L3/FIR/101 74	NR/L3/MTC/MG0230 84	NR/L3/SIGELP/27427 156
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NRI_3FIR/106			
NRL3FIR105 74 NRL3MTC/PL0169 85 NRL3TEL0023 178 NRL3FIR106 74 NRL3MTC/PL0160 8.85 NRL3FIEL0092 178 NRL3FIR1069 74 NRL3MTC/PL0161 85 NRL3FIEL00071 178 NRL3MTC/PL0204 76 NRL3MTC/PL0211 85 NRL3TEL00071 178 NRL3MTC/PL0212 85 NRL3TEL00071 178 NRL3MTC/PL0215 8.85 NRL3TEL00071 178 NRL3MTC/PL0215 8.85 NRL3TEL00076 178 NRL3MTC/PL0215 8.85 NRL3TEL00076 178 NRL3MTC/PL0215 8.86 NRL3TEL00076 178 NRL3MTC/PL0215 8.86 NRL3TEL00076 178 NRL3MTC/PL0215 8.86 NRL3TEL00076 178 NRL3MTC/PL0215 8.86 NRL3MTL00077 178 NRL3MTC/PL0212 76 NRL3MTC/SE009 91 NRL3TEL00077 178 NRL3MTC/PL0215 76 NRL3MTC/SE009 91 NRL3TEL00077 178 NRL3MTC/SE009 91 NRL3MTL00077 178 NRL3MTC/SE009 91 NRL3MTL0009 91 NRL3MTC/SE009 92 NRL3MTL0009 91 NRL3MTL0009 91 NRL3MTC/SE009 92 NRL3MTL0009 91 NRL3MTC/SE009 91 NRL3MTC/SE009 92 NRL3MTL0009 91 NRL3MTC/SE009 91 NRL3MTC/SE009 92 NRL3MTL0009 91 NRL3MTC/SE009 91 NRL3MTC/SE009 91 NRL3MTC/SE009 92 NRL3MTL0009 91 NRL3MTC/SE009 91 NRL3MTC/SE009 92 NRL3MTC/SE009 91 NRL3MTC/SE009 9	NR/L3/FIR/105	NR/L3/MTC/PL009585	NR/L3/SIGELP/50003
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NRL3/INF/0225   76	NR/L3/INF/02222	NR/L3/MTC/SE008991	NR/L3/TEL/30077178
RRL_3INF/02265   76   RRL_3MTC/SE0116   91   RRL_3TEL/30088   179   RRL_3INF/02231   76   RRL_3MTC/SE0120   92   NRL_3TEL/30090   179   RRL_3INF/02236   77   RRL_3MTC/SE0120   92   NRL_3TEL/30105   179   RRL_3INF/02245   77   RRL_3MTC/SE0205   92   NRL_3TEL/30106   179   RRL_3INF/02245   77   RRL_3MTC/SE0205   92   NRL_3TEL/30106   179   RRL_3INF/02245   97   RRL_3MTC/SE0205   92   NRL_3TEL/30108   179   RRL_3INF/02028   97   RRL_3MTC/SE0207   92   NRL_3TEL/30108   179   RRL_3INF/02038   97   RRL_3MTC/SE0212   92   NRL_3TEL/30102   179   RRL_3INF/02038   97   RRL_3MTC/SE0212   92   NRL_3TEL/30102   179   RRL_3INF/02038   97   RRL_3MTC/SE0019   92   RRL_3TEL/30102   179   RRL_3INF/02038   97   RRL_3MTC/SE0066   92   RRL_3TEL/30102   179   RRL_3INF/02004   97   RRL_3MTC/SE0066   92   RRL_3TEL/30101   179   RRL_3INF/02007   97   RRL_3NDS/0306   103   RRL_3TEL/31103   160   RRL_3INF/02077   98   RRL_3NDS/0305   103   RRL_3TEL/31104   180   RRL_3INF/02077   98   RRL_3NDS/0306   103   RRL_3TEL/33000   180   RRL_3INF/03M12   98   RRL_3NDS/0307   103   RRL_3TEL/33001   180   RRL_3INF/03M12   99   RRL_3OHS/00125   125   RRL_3TEL/3001   180   RRL_3INF/03M12   99   RRL_3OHS/00125   125   RRL_3TEL/40047   180   RRL_3INF/03M12   99   RRL_3OHS/00145   125   RRL_3TEL/40030   193   RRL_3INF/03M12   99   RRL_3OHS/00145   125   RRL_3TEL/40030   196   RRL_3INF/03M12   99   RRL_3OHS/00145   125   RRL_3TER/0030   196   RRL_3INF/03M12   99   RRL_3OHS/00145   125   RRL_3TER/10030   196   RRL_3INF/03M12   99   RRL_3OHS/00145   125   RRL_3TER/10030   196   RRL_3INF/03M12   99   RRL_3OHS/00145   125   RRL_3TER/10030   196   RRL_3INF/03M12   99   RRL_3OHS/0014   125   RRL_3TER/10030   196   RRL_3INF/03M12   99   RRL_3OHS/00145   125   RRL_3TER/1001   196   RRL_3INF/03M12   199   RRL_3OHS/0014   110   RRL_3TER/1010   196   RRL_3INF/03M12   199   RRL_3OHS/0014   110   RRL_3TER/1010   196   RRL_3INF/03M13   100   RRL_3INF/03M13   100   RRL_3INF/03M13   110   RRL_3INF/03M13   110   RRL_3INF/03M13   110   RRL_3INF/03M13   110   RRL_3INF/03M	NR/L3/INF/02224	NR/L3/MTC/SE009091	NR/L3/TEL/30081
RRL_3INF/02265   76   RRL_3MTC/SE0116   91   RRL_3TEL/30088   179   RRL_3INF/02231   76   RRL_3MTC/SE0120   92   NRL_3TEL/30090   179   RRL_3INF/02236   77   RRL_3MTC/SE0120   92   NRL_3TEL/30105   179   RRL_3INF/02245   77   RRL_3MTC/SE0205   92   NRL_3TEL/30106   179   RRL_3INF/02245   77   RRL_3MTC/SE0205   92   NRL_3TEL/30106   179   RRL_3INF/02245   97   RRL_3MTC/SE0205   92   NRL_3TEL/30108   179   RRL_3INF/02028   97   RRL_3MTC/SE0207   92   NRL_3TEL/30108   179   RRL_3INF/02038   97   RRL_3MTC/SE0212   92   NRL_3TEL/30102   179   RRL_3INF/02038   97   RRL_3MTC/SE0212   92   NRL_3TEL/30102   179   RRL_3INF/02038   97   RRL_3MTC/SE0019   92   RRL_3TEL/30102   179   RRL_3INF/02038   97   RRL_3MTC/SE0066   92   RRL_3TEL/30102   179   RRL_3INF/02004   97   RRL_3MTC/SE0066   92   RRL_3TEL/30101   179   RRL_3INF/02007   97   RRL_3NDS/0306   103   RRL_3TEL/31103   160   RRL_3INF/02077   98   RRL_3NDS/0305   103   RRL_3TEL/31104   180   RRL_3INF/02077   98   RRL_3NDS/0306   103   RRL_3TEL/33000   180   RRL_3INF/03M12   98   RRL_3NDS/0307   103   RRL_3TEL/33001   180   RRL_3INF/03M12   99   RRL_3OHS/00125   125   RRL_3TEL/3001   180   RRL_3INF/03M12   99   RRL_3OHS/00125   125   RRL_3TEL/40047   180   RRL_3INF/03M12   99   RRL_3OHS/00145   125   RRL_3TEL/40030   193   RRL_3INF/03M12   99   RRL_3OHS/00145   125   RRL_3TEL/40030   196   RRL_3INF/03M12   99   RRL_3OHS/00145   125   RRL_3TER/0030   196   RRL_3INF/03M12   99   RRL_3OHS/00145   125   RRL_3TER/10030   196   RRL_3INF/03M12   99   RRL_3OHS/00145   125   RRL_3TER/10030   196   RRL_3INF/03M12   99   RRL_3OHS/00145   125   RRL_3TER/10030   196   RRL_3INF/03M12   99   RRL_3OHS/0014   125   RRL_3TER/10030   196   RRL_3INF/03M12   99   RRL_3OHS/00145   125   RRL_3TER/1001   196   RRL_3INF/03M12   199   RRL_3OHS/0014   110   RRL_3TER/1010   196   RRL_3INF/03M12   199   RRL_3OHS/0014   110   RRL_3TER/1010   196   RRL_3INF/03M13   100   RRL_3INF/03M13   100   RRL_3INF/03M13   110   RRL_3INF/03M13   110   RRL_3INF/03M13   110   RRL_3INF/03M13   110   RRL_3INF/03M	NR/L3/INF/02225 76	NR/L3/MTC/SE0091 91	NR/L3/TEL/30082 178
NRL3/INF0/2231   76			
NRL3/INF/02245   77			
RRL3/INIC/0029   97   NRL3/MTC/SE0207   92   NRL3/TEL/30106   179   NRL3/INIC/0029   97   NRL3/MTC/SE0207   92   NRL3/TEL/30108   179   NRL3/INIC/0038   97   NRL3/MTC/SE0212   92   NRL3/TEL/30133   179   NRL3/INIC/0038   97   NRL3/MTC/SE0210   92   NRL3/TEL/30162   179   NRL3/INIC/0038   97   NRL3/MTC/SE0210   92   NRL3/TEL/30162   179   NRL3/INIC/0038   97   NRL3/MTC/SE0019   92   NRL3/TEL/30162   179   NRL3/INIC/0063   97   NRL3/MTC/SE0019   92   NRL3/TEL/30170   179   NRL3/INIC/0064   97   NRL3/MTC/SE0019   92   NRL3/TEL/30181   179   NRL3/INIC/0066   97   NRL3/INIC/0066   92   NRL3/TEL/30181   179   NRL3/INIC/0067   97   NRL3/INIC/S006   103   NRL3/TEL/31103   180   NRL3/INIC/0077   98   NRL3/INIC/S006   103   NRL3/TEL/3000   180   NRL3/INIC/90077   98   NRL3/INIC/S006   103   NRL3/TEL/3000   180   NRL3/INIC/90077   98   NRL3/INIC/S006   103   NRL3/TEL/3000   180   NRL3/INIC/90077   98   NRL3/INIC/S006   103   NRL3/TEL/3000   180   NRL3/INIC/90072   99   NRL3/INIC/S0013   125   NRL3/TEL/3000   180   NRL3/INIC/90012   125   NRL3/TEL/3000   180   NRL3/INIC/90012   125   NRL3/TEL/3000   180   NRL3/INIC/90012   191   180   NRL3/INIC/90012   191   180   NRL3/INIC/90012   191   180   NRL3/INIC/90012   191   180			
NRL3/INI/CP0028 97 NRL3/MTC/SE0217 92 NRL3/TEL/30108 179 NRL3/INI/CP0036 97 NRL3/MTC/SE0212 92 NRL3/TEL/30133 179 NRL3/INI/CP0036 97 NRL3/MTC/SE0220 92 NRL3/TEL/30162 179 NRL3/INI/CP0036 97 NRL3/MTC/SE0219 92 NRL3/TEL/30162 179 NRL3/INI/CP0036 97 NRL3/MTC/SE0219 92 NRL3/TEL/30162 179 NRL3/INI/CP0036 97 NRL3/MTC/SE0019 92 NRL3/TEL/30161 179 NRL3/INI/CP0036 97 NRL3/MTC/SE0019 92 NRL3/TEL/30161 179 NRL3/INI/CP0037 97 NRL3/INI/CP0036 103 NRL3/TEL/31103 180 NRL3/INI/CP0037 98 NRL3/INI/CP0035 103 NRL3/TEL/31103 180 NRL3/INI/CP0037 98 NRL3/INI/CP3030 103 NRL3/TEL/31103 180 NRL3/INI/CP0037 98 NRL3/INI/CP3030 103 NRL3/TEL/31000 180 NRL3/INI/CP0037 98 NRL3/INI/CP3030 103 NRL3/TEL/31000 180 NRL3/INI/CP3/	NR/L3/INF/02236	NR/L3/MTC/SE019592	NR/L3/TEL/30105
NRL3/INIC/D0028 97 NRL3/MTC/SE0217 92 NRL3/TEL/30108 179 NRL3/INIC/D0036 97 NRL3/MTC/SE0212 92 NRL3/TEL/30113 179 NRL3/INIC/D0036 97 NRL3/MTC/SE0210 92 NRL3/TEL/301162 179 NRL3/INIC/D0036 97 NRL3/MTC/SE0210 92 NRL3/TEL/301162 179 NRL3/INIC/D0036 97 NRL3/MTC/SE0219 92 NRL3/TEL/301162 179 NRL3/INIC/D0036 97 NRL3/MTC/SE0019 92 NRL3/TEL/30110 179 NRL3/INIC/D0036 97 NRL3/MTC/SE0019 92 NRL3/TEL/30110 180 NRL3/INIC/D0037 97 NRL3/INIC/D0036 103 NRL3/TEL/31103 180 NRL3/INIC/D0037 98 NRL3/INIC/SO03 103 NRL3/TEL/31103 180 NRL3/INIC/D0037 98 NRL3/INIC/SO03 103 NRL3/TEL/31100 180 NRL3/INIC/D0037 98 NRL3/INIC/SO03 103 NRL3/TEL/31000 180 NRL3/INIC/D0037 98 NRL3/INIC/SO03 103 NRL3/TEL/33000 180 NRL3/INIC/D0037 98 NRL3/INIC/SO03 103 NRL3/TEL/33000 180 NRL3/INIC/D0037 98 NRL3/INIC/SO03 103 NRL3/TEL/33000 180 NRL3/INIC/D0037 103 NRL3/TEL/30007	NR/L3/INF/02245 77	NR/L3/MTC/SE0206 92	NR/L3/TFL/30106 179
NRL3/INI/CP0028 97 NRL3/MTC/SE0212 92 NRL3/TEL/30133 179 NRL3/INI/CP0036 97 NRL3/MTC/SE0220 92 NRL3/TEL/30162 179 NRL3/INI/CP0063 97 NRL3/MTC/SE0019 92 NRL3/TEL/30170 179 NRL3/INI/CP0064 97 NRL3/MTC/TE0066 92 NRL3/TEL/30181 179 NRL3/INI/CP0067 97 NRL3/MTC/TE0066 103 NRL3/TEL/30181 179 NRL3/INI/CP0067 97 NRL3/MTC/TE0066 103 NRL3/TEL/31103 180 NRL3/INI/CP0067 97 NRL3/MTS/3006 103 NRL3/TEL/31104 180 NRL3/INI/CP0077 98 NRL3/INIS/3006 103 NRL3/TEL/3100 180 NRL3/INI/CP0077 98 NRL3/INIS/3006 103 NRL3/TEL/33001 180 NRL3/INI/CP0077 98 NRL3/INIS/3006 103 NRL3/TEL/33001 180 NRL3/INI/P3/M121 98 NRL3/INIS/3007 103 NRL3/TEL/33001 180 NRL3/INI/P3/M122 99 NRL3/OHS/00125 125 NRL3/TRK/002 191 NRL3/INI/P3/M122 99 NRL3/OHS/00133 125 NRL3/TEL/30001 193 NRL3/INI/P3/M123 99 NRL3/OHS/0046 125 NRL3/TRK/002 193 NRL3/INI/P3/M124 99 NRL3/OHS/0046 125 NRL3/TRK/003 193 NRL3/INI/P3/M124 99 NRL3/OHS/0019-P 125 NRL3/TRK/003 196 NRL3/INI/P3/M126 99 NRL3/OHS/ND/S001 125 NRL3/TRK/003 196 NRL3/INI/P3/M126 99 NRL3/OHS/ND/S001 125 NRL3/TRK/003 196 NRL3/INI/P3/M127 99 NRL3/OHS/ND/S001 125 NRL3/TRK/003 196 NRL3/INI/P3/M127 99 NRL3/OHS/ND/S001 125 NRL3/TRK/1010 196 NRL3/INI/P3/M128 99 NRL3/OHS/ND/S001 125 NRL3/TRK/1010 196 NRL3/INI/P3/M128 99 NRL3/OHS/ND/S002 110 NRL3/TRK/1011 196 NRL3/INI/P3/M128 99 NRL3/OHS/ND/S003 110 NRL3/TRK/1011 196 NRL3/INI/P3/M129 99 NRL3/OHS/ND/S003 110 NRL3/TRK/1011 196 NRL3/INI/P3/M131 100 NRL3/OPS/008 110 NRL3/TRK/1011 196 NRL3/INI/P3/M131 100 NRL3/OPS/008 110 NRL3/TRK/1011 197 NRL3/INI/P3/M132 100 NRL3/OPS/008 110 NRL3/TRK/1011 197 NRL3/INI/P3/M132 100 NRL3/INI/P3/M131 110 NRL3/TRK/1011 197 NRL3/INI/P3/M132 100 NRL3/INI/P3/M131 110 NRL3/TRK/1011 197 NRL3/INI/P3/M132 100 NRL3/INI/P3/M131 110 NRL3/TRK/1011 199 NRL3/INI/P3/M132 100 NRL3/INI/P3/M131 11			
NRL3/INI/CP0066 9.7 NRL3/MTC/SE0220 9.2 NRL3/TEL/30162 179 NRL3/INI/CP0064 9.7 NRL3/MTC/SG0019 9.2 NRL3/TEL/30170 179 NRL3/INI/CP0067 9.7 NRL3/MTC/TE0066 9.2 NRL3/TEL/30181 179 NRL3/INI/CP0067 9.7 NRL3/MTC/TE0066 103 NRL3/TEL/31103 180 NRL3/INI/CP0074 9.7 NRL3/NDS/006 103 NRL3/TEL/31104 180 NRL3/INI/CP0077 9.8 NRL3/NDS/305 103 NRL3/TEL/33104 180 NRL3/INI/CP0077 9.8 NRL3/NDS/306 103 NRL3/TEL/33000 180 NRL3/INI/CP0077 9.8 NRL3/NDS/307 103 NRL3/TEL/33000 180 NRL3/INI/CP0077 9.8 NRL3/NDS/307 103 NRL3/TEL/33000 180 NRL3/INI/P3M1/21 9.8 NRL3/OHS/00125 125 NRL3/TEL/30001 180 NRL3/INI/P3M1/22 9.9 NRL3/OHS/00133 125 NRL3/TEL/3000 191 NRL3/INI/P3M1/23 9.9 NRL3/OHS/00133 125 NRL3/TEL/3003 193 NRL3/INI/P3M1/25 9.9 NRL3/OHS/0046 125 NRL3/TEK/003 193 NRL3/INI/P3M1/25 9.9 NRL3/OHS/0019 125 NRL3/TEK/003 196 NRL3/INI/P3M1/25 9.9 NRL3/OHS/00150 125 NRL3/TEK/003 196 NRL3/INI/P3M1/26 9.9 NRL3/OHS/00150 125 NRL3/TEK/003 196 NRL3/INI/P3M1/26 9.9 NRL3/OHS/001 125 NRL3/TEK/003 196 NRL3/INI/P3M1/26 9.9 NRL3/OHS/001 125 NRL3/TEK/005 196 NRL3/INI/P3M1/26 9.9 NRL3/OHS/001 125 NRL3/TEK/005 196 NRL3/INI/P3M1/26 9.9 NRL3/OHS/001 125 NRL3/TEK/005 196 NRL3/INI/P3M1/27 9.9 NRL3/OHS/002 110 NRL3/TEK/101 196 NRL3/INI/P3M1/28 9.9 NRL3/OHS/003 110 NRL3/TEK/101 196 NRL3/INI/P3M1/28 9.9 NRL3/OHS/0046 110 NRL3/TEK/101 196 NRL3/INI/P3M1/29 9.9 NRL3/OHS/0046 112 NRL3/TEK/101 197 NRL3/INI/P3M1/30 100 NRL3/OHS/0046 112 NRL3/TEK/101 197 NRL3/INI/P3M1/31 100 NRL3/OHS/0046 118 NRL3/TEK/101 197 NRL3/INI/P3M1/31 100 NRL3/OHS/0046 118 NRL3/TEK/101 197 NRL3/INI/P3M1/31 100 NRL3/GM1/P4/003 118 NRL3/TEK/101 197 NRL3/INI/TK0007 100 NRL3/SMV/P4/003 118 NRL3/TEK/101 197 NRL3/INI/TK0007 100 NRL3/SMV/P4/003 118 NRL3/TEK/101 197 NRL3/INI/TK0007 100 NRL3/SMV/P4/003 118 NRL3/TEK/101 197 NRL3/INI/TEK/0009 7.9 NRL3/SCO/31 105 NRL3/TEK/301 198 NRL3/MTC/EN0106 8.0 NRL3/SIG/1066 149 NRL3/TEK/301 198 NRL3/MTC/EN0			
NRL3/INI/CP0063   97   NRL3/MTC/ISG0019   92   NRL3/TEL/30170   179			
NRL3/INI/CP0664   97   NRL3/MTC/TE0066   92   NRL3/TEL/30181   179	NR/L3/INI/CP0036	NR/L3/MTC/SE022092	NR/L3/TEL/30162
NRL3/INI/CP0664   97   NRL3/MTC/TE0066   92   NRL3/TEL/30181   179	NR/L3/INI/CP0063	NR/L3/MTC/SG0019	NR/L3/TEL/30170179
NRL3/INI/CP0067   97   NRL3/NDS/006   103   NRL3/TEL/31104   180   NRL3/INI/CP0074   97   NRL3/NDS/305   103   NRL3/TEL/31104   180   NRL3/INI/CP0077   98   NRL3/NDS/306   103   NRL3/TEL/33000   180   NRL3/INI/CP0077   98   NRL3/NDS/306   103   NRL3/TEL/33000   180   NRL3/INI/CP0077   98   NRL3/NDS/306   103   NRL3/TEL/33001   180   NRL3/INI/P3M/120   98   NRL3/NDS/307   103   NRL3/TEL/33001   180   NRL3/INI/P3M/121   99   NRL3/ONS/00125   125   NRL3/TEL/300047   180   NRL3/INI/P3M/122   99   NRL3/ONS/00133   125   NRL3/TER/002   191   NRL3/INI/P3M/124   99   NRL3/ONS/00146   125   NRL3/TER/003   193   NRL3/INI/P3M/124   99   NRL3/ONS/0016   125   NRL3/TER/003   196   NRL3/INI/P3M/125   99   NRL3/ONS/00160   125   NRL3/TER/0030   196   NRL3/INI/P3M/125   99   NRL3/ONS/002   110   NRL3/TER/1010   196   NRL3/INI/P3M/126   99   NRL3/ONS/002   110   NRL3/TER/1010   196   NRL3/INI/P3M/129   99   NRL3/ONS/009   110   NRL3/TER/1011   196   NRL3/INI/P3M/130   100   NRL3/ONS/008   110   NRL3/TER/1011   197   NRL3/INI/P3M/131   100   NRL3/ONS/008   111   NRL3/TER/1014   197   NRL3/INI/P3M/132   100   NRL3/ONS/008   112   NRL3/TER/1015   197   NRL3/INI/P3M/132   100   NRL3/ONS/008   112   NRL3/TER/1015   197   NRL3/INI/P3M/132   100   NRL3/ONS/008   112   NRL3/TER/1016   197   NRL3/INI/P3M/132   100   NRL3/ONS/008   118   NRL3/TER/1016   197   NRL3/INI/P3M/132   100   NRL3/ONS/008   118   NRL3/TER/1016   197   NRL3/INI/P3M/132   100   NRL3/TER/0030   118   NRL3/TER/1016   197   NRL3/INI/P3M/106   118   NRL3/TER/1016   197   NRL3/INI/P3M/106   118   NRL3/TER/1016   198   NRL3/INI/P3M/106   198   NRL3/INI/P3M/106   198			
NRL3/INI/CP0074   97			
NRL3/INI/P3M/120			
NRL3/INI/P3M/120 98 NRL3/NDS/307 103 NRL3/TEL/33001 180 NRL3/INI/P3M/121 98 NRL3/OHS/00153 125 NRL3/TEL/40047 180 NRL3/INI/P3M/122 99 NRL3/OHS/0046 125 NRL3/TRK/002 191 NRL3/INI/P3M/123 99 NRL3/OHS/0046 125 NRL3/TRK/003 193 NRL3/INI/P3M/124 99 NRL3/OHS/0046 125 NRL3/TRK/003 193 NRL3/INI/P3M/125 99 NRL3/OHS/015/01-P 125 NRL3/TRK/003 196 NRL3/INI/P3M/125 99 NRL3/OHS/015/01-P 125 NRL3/TRK/0201 198 NRL3/INI/P3M/126 99 NRL3/OHS/MTC/0150 125 NRL3/TRK/02201 198 NRL3/INI/P3M/126 99 NRL3/OHS/MDS/301 125 NRL3/TRK/0201 196 NRL3/INI/P3M/126 99 NRL3/OPS/009 110 NRL3/TRK/1010 196 NRL3/INI/P3M/128 99 NRL3/OPS/009 110 NRL3/TRK/1011 196 NRL3/INI/P3M/128 99 NRL3/OPS/009 110 NRL3/TRK/1011 196 NRL3/INI/P3M/130 100 NRL3/OPS/084 112 NRL3/TRK/1013 197 NRL3/INI/P3M/131 100 NRL3/OPS/084 112 NRL3/TRK/1013 197 NRL3/INI/P3M/131 100 NRL3/OPS/084 112 NRL3/TRK/1014 197 NRL3/INI/P3M/132 100 NRL3/OPS/033 112 NRL3/TRK/1014 197 NRL3/INI/P3M/132 100 NRL3/OPS/033 112 NRL3/TRK/1016 197 NRL3/INI/P3M/130 100 NRL3/OPS/030 116 NRL3/TRK/1016 197 NRL3/INI/P3M/130 100 NRL3/OPS/030 118 NRL3/TRK/1014 197 NRL3/INI/P3M/130 100 NRL3/OPS/030 118 NRL3/TRK/1014 197 NRL3/INI/P3M/130 100 NRL3/OPS/030 119 NRL3/TRK/1014 197 NRL3/INI/P3M/130 100 NRL3/OPS/030 119 NRL3/TRK/1014 197 NRL3/INI/P3M/130 100 NRL3/OPS/030 119 NRL3/TRK/1016 197 NRL3/INI/P3M/130 100 NRL3/SRMVP/020 116 NRL3/TRK/1016 197 NRL3/INI/TK0027 100 NRL3/RMVP/0208 118 NRL3/TRK/1016 197 NRL3/INI/TK0020 198 NRL3/SRMVP/0008 118 NRL3/TRK/1010 197 NRL3/INI/TK0040 100 NRL3/SRMVP/0028 118 NRL3/TRK/1010 197 NRL3/INI/TK0040 100 NRL3/SRMVP/0031 118 NRL3/TRK/1010 197 NRL3/INI/TK0099 79 NRL3/SCO/331 105 NRL3/TRK/1010 198 NRL3/TRK/2000 198 NRL3/SCO/331 105 NRL3/TRK/2001 198 NRL3/MTC/EN0100 79 NRL3/SCO/320 106 NRL3/TRK/3011 198 NRL3/MTC/EN0100 79 NRL3/SCO/320 106 NRL3/TRK/3011 198 NRL3/MTC/EN0100 79 NRL3/SCO/320 106 NRL3/TRK/3011 198 NRL3/MTC/EN0100 80 NRL3/SIG/10663 149 NRL3/TRK/3011 199 NRL3/MTC/EN0100 80 NRL3/SIG/10666 149 NRL3/TRK/3011 199 NRL3/MTC/EN0036 80 NRL3/SIG/10666 149 NRL3/TRK/3200 199 NRL3/MTC/EP0038 80 NR	NR/L3/INI/CP0074		
NRL3/INI/P3M/121 9.8 NRL3/OHS/00125 1.25 NR/L3/TRL/0047 1.80 NRL3/INI/P3M/122 9.9 NR/L3/OHS/00133 1.25 NR/L3/TRK/002 1.91 NRL3/INI/P3M/123 9.9 NR/L3/OHS/00146 1.25 NR/L3/TRK/003 1.93 NRL3/INI/P3M/124 9.9 NRL3/OHS/019-IP 1.25 NR/L3/TRK/0030 1.96 NRL3/INI/P3M/125 9.9 NRL3/OHS/019-IP 1.25 NR/L3/TRK/0201 1.98 NRL3/INI/P3M/126 9.9 NR/L3/OHS/NDS/301 1.25 NR/L3/TRK/02201 1.98 NRL3/INI/P3M/127 9.9 NR/L3/OHS/NDS/301 1.25 NR/L3/TRK/055 1.96 NRL3/INI/P3M/127 9.9 NR/L3/OPS/002 1.10 NR/L3/TRK/1010 1.96 NRL3/INI/P3M/128 9.9 NR/L3/OPS/009 1.10 NR/L3/TRK/1011 1.96 NRL3/INI/P3M/129 9.9 NR/L3/OPS/045 1.10 NR/L3/TRK/1011 1.96 NRL3/INI/P3M/129 9.9 NR/L3/OPS/045 1.10 NR/L3/TRK/1012 1.97 NRL3/INI/P3M/130 1.00 NR/L3/OPS/084 1.12 NR/L3/TRK/1013 1.97 NRL3/INI/P3M/131 1.00 NR/L3/OPS/084 1.12 NR/L3/TRK/1014 1.97 NRL3/INI/P3M/132 1.00 NR/L3/OPS/033 1.12 NR/L3/TRK/1014 1.97 NRL3/INI/P3M/132 1.00 NR/L3/OPS/030 1.12 NR/L3/TRK/1016 1.97 NRL3/INI/P3M/130 1.00 NR/L3/OPS/030 1.12 NR/L3/TRK/1016 1.97 NRL3/INI/P3M/130 1.00 NR/L3/OPS/030 1.12 NR/L3/TRK/1016 1.97 NRL3/INI/F0415 9.8 NR/L3/RMVP/1006 1.18 NR/L3/TRK/1016 1.97 NRL3/INI/TK0027 1.00 NR/L3/RMVP/1006 1.18 NR/L3/TRK/1016 1.97 NRL3/INI/TK0040 1.00 NR/L3/RMVP/1006 1.18 NR/L3/TRK/1017 1.97 NRL3/INI/TK0040 1.10 NR/L3/RMVP/1006 1.18 NR/L3/TRK/1017 1.99 NRL3/INI/TK0040 1.10 NR/L3/RMVP/1006 1.18 NR/L3/TRK/1017 1.99 NRL3/INI/TK0040 1.10 NR/L3/RMVP/1006 1.18 NR/L3/TRK/1017 1.99 NRL3/INI/TK0040 1.10 NR/L3/TK/1010 1.99 N	NR/L3/INI/CP0077	NR/L3/NDS/306	NR/L3/TEL/33000
NRL3/INI/P3M/121 9.8 NRL3/OHS/00125 1.25 NR/L3/TRL/0047 1.80 NRL3/INI/P3M/122 9.9 NR/L3/OHS/00133 1.25 NR/L3/TRK/002 1.91 NRL3/INI/P3M/123 9.9 NR/L3/OHS/00146 1.25 NR/L3/TRK/003 1.93 NRL3/INI/P3M/124 9.9 NRL3/OHS/019-IP 1.25 NR/L3/TRK/0030 1.96 NRL3/INI/P3M/125 9.9 NRL3/OHS/019-IP 1.25 NR/L3/TRK/0201 1.98 NRL3/INI/P3M/126 9.9 NR/L3/OHS/NDS/301 1.25 NR/L3/TRK/02201 1.98 NRL3/INI/P3M/127 9.9 NR/L3/OHS/NDS/301 1.25 NR/L3/TRK/055 1.96 NRL3/INI/P3M/127 9.9 NR/L3/OPS/002 1.10 NR/L3/TRK/1010 1.96 NRL3/INI/P3M/128 9.9 NR/L3/OPS/009 1.10 NR/L3/TRK/1011 1.96 NRL3/INI/P3M/129 9.9 NR/L3/OPS/045 1.10 NR/L3/TRK/1011 1.96 NRL3/INI/P3M/129 9.9 NR/L3/OPS/045 1.10 NR/L3/TRK/1012 1.97 NRL3/INI/P3M/130 1.00 NR/L3/OPS/084 1.12 NR/L3/TRK/1013 1.97 NRL3/INI/P3M/131 1.00 NR/L3/OPS/084 1.12 NR/L3/TRK/1014 1.97 NRL3/INI/P3M/132 1.00 NR/L3/OPS/033 1.12 NR/L3/TRK/1014 1.97 NRL3/INI/P3M/132 1.00 NR/L3/OPS/030 1.12 NR/L3/TRK/1016 1.97 NRL3/INI/P3M/130 1.00 NR/L3/OPS/030 1.12 NR/L3/TRK/1016 1.97 NRL3/INI/P3M/130 1.00 NR/L3/OPS/030 1.12 NR/L3/TRK/1016 1.97 NRL3/INI/F0415 9.8 NR/L3/RMVP/1006 1.18 NR/L3/TRK/1016 1.97 NRL3/INI/TK0027 1.00 NR/L3/RMVP/1006 1.18 NR/L3/TRK/1016 1.97 NRL3/INI/TK0040 1.00 NR/L3/RMVP/1006 1.18 NR/L3/TRK/1017 1.97 NRL3/INI/TK0040 1.10 NR/L3/RMVP/1006 1.18 NR/L3/TRK/1017 1.99 NRL3/INI/TK0040 1.10 NR/L3/RMVP/1006 1.18 NR/L3/TRK/1017 1.99 NRL3/INI/TK0040 1.10 NR/L3/RMVP/1006 1.18 NR/L3/TRK/1017 1.99 NRL3/INI/TK0040 1.10 NR/L3/TK/1010 1.99 N	NR/L3/INI/P3M/120 98	NR/L3/NDS/307 103	NR/L3/TEL/33001 180
NRL3/INI/P3M/122 9.9 NRL3/OHS/0046 125 NR/L3/TRK/002 1.91 NRL3/INI/P3M/123 9.99 NRL3/OHS/0046 1.25 NRL3/TRK/003 1.93 NRL3/INI/P3M/124 9.99 NRL3/OHS/019-IP 1.25 NRL3/TRK/0030 1.96 NRL3/INI/P3M/125 9.99 NRL3/OHS/MTC/ID150 1.25 NRL3/TRK/02201 1.98 NRL3/INI/P3M/126 9.99 NRL3/OHS/MDS/301 1.25 NR/L3/TRK/02201 1.98 NRL3/INI/P3M/126 9.99 NR/L3/OHS/NDS/301 1.25 NR/L3/TRK/055 1.96 NRL3/INI/P3M/127 9.99 NR/L3/OPS/002 1.10 NRL3/TRK/1010 1.96 NRL3/INI/P3M/128 9.99 NRL3/OPS/009 1.10 NRL3/TRK/1011 1.96 NRL3/INI/P3M/128 9.99 NRL3/OPS/009 1.10 NR/L3/TRK/1011 1.96 NRL3/INI/P3M/128 9.99 NRL3/OPS/009 1.10 NR/L3/TRK/1011 1.97 NRL3/INI/P3M/130 1.00 NRL3/OPS/009 1.10 NR/L3/TRK/1012 1.97 NRL3/INI/P3M/131 1.00 NRL3/OPS/011 1.12 NRL3/TRK/1013 1.97 NRL3/INI/P3M/131 1.00 NRL3/OPS/111 1.12 NRL3/TRK/1014 1.97 NRL3/INI/P3M/131 1.00 NRL3/OPS/030 1.12 NRL3/TRK/1015 1.97 NRL3/INI/P3M/132 1.00 NRL3/OPS/030 1.12 NRL3/TRK/1016 1.97 NRL3/INI/F3M/131 1.00 NRL3/SOPS/031 1.12 NRL3/TRK/1016 1.97 NRL3/INI/F3M/131 1.00 NRL3/SOPS/031 1.12 NRL3/TRK/1016 1.97 NRL3/INI/F3M/131 1.00 NRL3/SOPS/031 1.10 NRL3/TRK/1016 1.97 NRL3/INI/F3M/131 1.00 NRL3/SNMVP/1006 1.18 NRL3/TRK/1016 1.97 NRL3/INI/F0040 1.00 NRL3/RMVP/1006 1.18 NRL3/TRK/1016 1.97 NRL3/INI/TK0040 1.00 NRL3/RMVP/40031 1.18 NRL3/TRK/1016 1.97 NRL3/INI/TK0040 1.00 NRL3/SMVP/40031 1.18 NRL3/TRK/1016 1.97 NRL3/INI/TK0040 1.00 NRL3/SNMVP/40031 1.18 NRL3/TRK/1016 1.97 NRL3/INI/TC/EN0099 7.9 NRL3/SCO/313 1.05 NRL3/TRK/1016 1.98 NRL3/MTC/EN0100 7.9 NRL3/SCO/313 1.05 NRL3/TRK/2070 1.98 NRL3/MTC/EN0100 7.9 NRL3/SCO/313 1.05 NRL3/TRK/3011 1.98 NRL3/MTC/EN0103 8.0 NRL3/SIG/10064 1.49 NRL3/TRK/3011 1.98 NRL3/MTC/EN0103 8.0 NRL3/SIG/10066 1.49 NRL3/TRK/3011 1.98 NRL3/MTC/EN0103 8.0 NRL3/SIG/10661 1.49 NRL3/TRK/3012 1.99 NRL3/MTC/EP0037 8.0 NRL3/SIG/10663 1.49 NRL3/TRK/3020 1.99 NRL3/MTC/EP0037 8.0 NRL3/SIG/110661 1.49 NRL3/TRK/3200 1.99 NRL3/MTC/EP0039 8.0 NRL3/SIG/11661 1.51 NRL3/TRK/3200 1.99 NRL3/MTC/EP0039 8.0 NRL3/SIG/11661 1.51 NRL3/TRK/3200 1.99			
NR.L3/INI/P3M/123   99   NR.L3/OHS/0046   125   NR.L3/TRK/003   193     NR.L3/INI/P3M/124   99   NR.L3/OHS/019P   125   NR.L3/TRK/0030   196     NR.L3/INI/P3M/125   99   NR.L3/OHS/MTC/0150   125   NR.L3/TRK/02201   198     NR.L3/INI/P3M/126   99   NR.L3/OHS/NDS/301   125   NR.L3/TRK/0250   196     NR.L3/INI/P3M/127   99   NR.L3/OPS/002   110   NR.L3/TRK/1055   196     NR.L3/INI/P3M/128   99   NR.L3/OPS/009   110   NR.L3/TRK/1010   196     NR.L3/INI/P3M/129   99   NR.L3/OPS/009   110   NR.L3/TRK/1011   196     NR.L3/INI/P3M/129   99   NR.L3/OPS/045   110   NR.L3/TRK/1012   197     NR.L3/INI/P3M/130   100   NR.L3/OPS/045   110   NR.L3/TRK/1013   197     NR.L3/INI/P3M/131   100   NR.L3/OPS/045   111   NR.L3/TRK/1014   197     NR.L3/INI/P3M/132   100   NR.L3/OPS/303   112   NR.L3/TRK/1014   197     NR.L3/INI/P3M/132   100   NR.L3/RMVP/0201   116   NR.L3/TRK/1016   197     NR.L3/INI/P6115   98   NR.L3/RMVP/201   116   NR.L3/TRK/1016   197     NR.L3/INI/TK0027   100   NR.L3/RMVP/006   118   NR.L3/TRK/1017   197     NR.L3/INI/TK0040   100   NR.L3/RMVP/40028   118   NR.L3/TRK/1018   197     NR.L3/INI/TK0040   100   NR.L3/RMVP/40031   118   NR.L3/TRK/1016   197     NR.L3/INI/TK00998   79   NR.L3/SCO/308   104   NR.L3/TRK/1016   198     NR.L3/MTC/EN0099   79   NR.L3/SCO/311   105   NR.L3/TRK/2070   198     NR.L3/MTC/EN0100   79   NR.L3/SCO/313   105   NR.L3/TRK/3011   198     NR.L3/MTC/EN0101   79   NR.L3/SCO/313   105   NR.L3/TRK/3011   198     NR.L3/MTC/EN0103   80   NR.L3/SIG/10064   149   NR.L3/TRK/3011   198     NR.L3/MTC/EN0103   80   NR.L3/SIG/10064   149   NR.L3/TRK/3011   198     NR.L3/MTC/EN0105   80   NR.L3/SIG/10665   149   NR.L3/TRK/3020   199     NR.L3/MTC/EP0037   80   NR.L3/SIG/10665   149   NR.L3/TRK/3220   199     NR.L3/MTC/EP0039   80   NR.L3/SIG/11331   150   NR.L3/TRK/3220   199     NR.L3/MTC/EP0039   80   NR.L3/SIG/11331   150   NR.L3/TRK/3220   199     NR.L3/MTC/EP0039   80   NR.L3/SIG/11661   151   NR.L3/TRK/3220   199     NR.L3/MTC/EP0039   80   NR.L3/SIG/11661   151   NR.L3/TRK/3220   199			
NR.L3/INI/P3M/124   99   NR.L3/OHS/019-IP   125   NR.L3/TRK/0030   196   NR.L3/INI/P3M/125   99   NR.L3/OHS/NDS/010   125   NR.L3/TRK/02201   198   NR.L3/INI/P3M/126   99   NR.L3/OHS/NDS/010   125   NR.L3/TRK/055   196   NR.L3/INI/P3M/127   99   NR.L3/OPS/002   110   NR.L3/TRK/1010   196   NR.L3/INI/P3M/128   99   NR.L3/OPS/009   110   NR.L3/TRK/1011   196   NR.L3/INI/P3M/129   99   NR.L3/OPS/045   110   NR.L3/TRK/1011   197   NR.L3/INI/P3M/130   100   NR.L3/OPS/045   110   NR.L3/TRK/1013   197   NR.L3/INI/P3M/131   100   NR.L3/OPS/084   112   NR.L3/TRK/1013   197   NR.L3/INI/P3M/131   100   NR.L3/OPS/1030   112   NR.L3/TRK/1014   197   NR.L3/INI/P3M/132   100   NR.L3/OPS/303   112   NR.L3/TRK/1015   197   NR.L3/INI/P3M/132   100   NR.L3/OPS/303   112   NR.L3/TRK/1016   197   NR.L3/INI/TK0027   100   NR.L3/MVP/0201   116   NR.L3/TRK/1016   197   NR.L3/INI/TK0027   100   NR.L3/RMVP/1006   118   NR.L3/TRK/1016   197   NR.L3/INI/TK0040   100   NR.L3/RMVP/40028   118   NR.L3/TRK/1018   197   NR.L3/INI/TK0040   109   NR.L3/RMVP/40028   118   NR.L3/TRK/1011   197   NR.L3/INI/TK0040   119   NR.L3/RMVP/40031   118   NR.L3/TRK/1011   198   NR.L3/TRK/1010   198   NR.L3/TRK/1000   79   NR.L3/SCO/311   105   NR.L3/TRK/1010   198   NR.L3/TRK/2049   198   NR.L3/TRK/2040   198   NR.L3/TRK/2040   198   NR.L3/TRK/2040   198   NR.L3/TRK/2040   198   NR.L3/TRK/2010   199			
NR/L3/INI/P3M/125         .99         NR/L3/OHS/MTC/0150         125         NR/L3/TRK/02201         .198           NR/L3/INI/P3M/126         .99         NR/L3/OHS/NDS/301         .125         NR/L3/TRK/055         .196           NR/L3/INI/P3M/127         .99         NR/L3/OPS/002         .110         NR/L3/TRK/1010         .196           NR/L3/INI/P3M/128         .99         NR/L3/OPS/009         .110         NR/L3/TRK/1011         .196           NR/L3/INI/P3M/129         .99         NR/L3/OPS/045         .110         NR/L3/TRK/1012         .197           NR/L3/INI/P3M/130         .100         NR/L3/OPS/084         .112         NR/L3/TRK/1014         .197           NR/L3/INI/P3M/131         .100         NR/L3/OPS/084         .112         NR/L3/TRK/1014         .197           NR/L3/INI/P3M/132         .100         NR/L3/OPS/303         .112         NR/L3/TRK/1015         .197           NR/L3/INI/P3M/132         .100         NR/L3/RMVP/0201         .116         NR/L3/TRK/1016         .197           NR/L3/INI/Y60027         .100         NR/L3/RMVP/0201         .116         NR/L3/TRK/1016         .197           NR/L3/INI/Y0001         .119         NR/L3/SRMVP/40028         .118         NR/L3/TRK/1016         .197           NR	NR/L3/INI/P3M/123	NR/L3/OHS/0046	NR/L3/TRK/003
NR/L3/INI/P3M/125         .99         NR/L3/OHS/MTC/0150         125         NR/L3/TRK/02201         .198           NR/L3/INI/P3M/126         .99         NR/L3/OHS/NDS/301         .125         NR/L3/TRK/055         .196           NR/L3/INI/P3M/127         .99         NR/L3/OPS/002         .110         NR/L3/TRK/1010         .196           NR/L3/INI/P3M/128         .99         NR/L3/OPS/009         .110         NR/L3/TRK/1011         .196           NR/L3/INI/P3M/129         .99         NR/L3/OPS/045         .110         NR/L3/TRK/1012         .197           NR/L3/INI/P3M/130         .100         NR/L3/OPS/084         .112         NR/L3/TRK/1014         .197           NR/L3/INI/P3M/131         .100         NR/L3/OPS/084         .112         NR/L3/TRK/1014         .197           NR/L3/INI/P3M/132         .100         NR/L3/OPS/303         .112         NR/L3/TRK/1015         .197           NR/L3/INI/P3M/132         .100         NR/L3/RMVP/0201         .116         NR/L3/TRK/1016         .197           NR/L3/INI/Y60027         .100         NR/L3/RMVP/0201         .116         NR/L3/TRK/1016         .197           NR/L3/INI/Y0001         .119         NR/L3/SRMVP/40028         .118         NR/L3/TRK/1016         .197           NR	NR/L3/INI/P3M/124	NR/L3/OHS/019-IP	NR/L3/TRK/0030
NR.L3/INI/P3M/126 99 NR.L3/OHS/NDS/301 125 NR.L3/TRK/055 196 NR/L3/INI/P3M/127 99 NR.L3/OPS/002 1110 NR/L3/TRK/1010 196 NR.L3/INI/P3M/128 99 NR.L3/OPS/009 1110 NR.L3/TRK/1011 196 NR.L3/INI/P3M/129 99 NR.L3/OPS/045 1110 NR.L3/TRK/1012 197 NR.L3/INI/P3M/130 100 NR.L3/OPS/084 1112 NR.L3/TRK/1013 197 NR.L3/INI/P3M/131 100 NR.L3/OPS/084 1112 NR.L3/TRK/1014 197 NR.L3/INI/P3M/132 100 NR.L3/OPS/303 1112 NR.L3/TRK/1015 197 NR.L3/INI/P3M/132 100 NR.L3/OPS/303 1112 NR.L3/TRK/1016 197 NR.L3/INI/P3M/132 100 NR.L3/OPS/303 1112 NR.L3/TRK/1016 197 NR.L3/INI/TK0027 100 NR.L3/RMVP/0201 116 NR/L3/TRK/1016 197 NR.L3/INI/TK0027 100 NR.L3/RMVP/1006 118 NR.L3/TRK/1017 197 NR.L3/INI/TK0040 100 NR.L3/RMVP/40028 118 NR.L3/TRK/1018 197 NR.L3/INI/TK0040 119 NR.L3/RMVP/40031 118 NR.L3/TRK/1018 197 NR.L3/INTC/EN0098 79 NR.L3/SCO/308 104 NR.L3/TRK/102 198 NR.L3/MTC/EN0099 79 NR.L3/SCO/311 105 NR.L3/TRK/102 198 NR.L3/MTC/EN0100 79 NR.L3/SCO/313 105 NR.L3/TRK/2049 198 NR.L3/MTC/EN0101 79 NR.L3/SCO/320 106 NR.L3/TRK/3001 198 NR.L3/MTC/EN0102 79 NR.L3/SCO/320 106 NR.L3/TRK/3011 198 NR.L3/MTC/EN0103 80 NR.L3/SIG/10064 149 NR.L3/TRK/3011 198 NR.L3/MTC/EN0104 80 NR.L3/SIG/10064 149 NR.L3/TRK/3011 198 NR.L3/MTC/EN0105 80 NR.L3/SIG/10661 149 NR.L3/TRK/3013 198 NR.L3/MTC/EN0105 80 NR.L3/SIG/10663 149 NR.L3/TRK/3013 198 NR.L3/MTC/EP0037 80 NR.L3/SIG/10665 149 NR.L3/TRK/3020 199 NR.L3/MTC/EP0037 80 NR.L3/SIG/11033 150 NR.L3/TRK/3200 199 NR.L3/MTC/EP0039 80 NR.L3/SIG/1120 150 NR.L3/TRK/3200 199			
NR/L3/INI/P3M/127         99         NR/L3/OPS/002         110         NR/L3/TRK/1010         196           NR/L3/INI/P3M/128         99         NR/L3/OPS/009         110         NR/L3/TRK/1011         196           NR/L3/INI/P3M/129         99         NR/L3/OPS/045         110         NR/L3/TRK/1012         197           NR/L3/INI/P3M/130         100         NR/L3/OPS/084         112         NR/L3/TRK/1013         197           NR/L3/INI/P3M/131         100         NR/L3/OPS/111         112         NR/L3/TRK/1014         197           NR/L3/INI/P3M/132         100         NR/L3/OPS/303         112         NR/L3/TRK/1015         197           NR/L3/INI/PG115         98         NR/L3/RMVP/0201         116         NR/L3/TRK/1016         197           NR/L3/INI/TK0027         100         NR/L3/RMVP/1006         118         NR/L3/TRK/1017         197           NR/L3/INI/TK0040         100         NR/L3/RMVP/40028         118         NR/L3/TRK/1016         197           NR/L3/INI/TK0040         119         NR/L3/SCO/308         104         NR/L3/TRK/1016         197           NR/L3/INI/TK0099         79         NR/L3/SCO/308         104         NR/L3/TRK/2016         198           NR/L3/MTC/EN0099         79			
NR/L3/INI/P3M/128 9.9 NR/L3/OPS/009 110 NR/L3/TRK/1011 1.96 NR/L3/INI/P3M/129 .99 NR/L3/OPS/045 110 NR/L3/TRK/1012 1.97 NR/L3/INI/P3M/130 100 NR/L3/OPS/084 1.112 NR/L3/TRK/1013 1.97 NR/L3/INI/P3M/131 100 NR/L3/OPS/111 1.112 NR/L3/TRK/1014 1.97 NR/L3/INI/P3M/131 100 NR/L3/OPS/303 1.112 NR/L3/TRK/1014 1.97 NR/L3/INI/P3M/132 100 NR/L3/OPS/303 1.112 NR/L3/TRK/1015 1.97 NR/L3/INI/P3M/132 100 NR/L3/RMVP/0201 1.16 NR/L3/TRK/1016 1.97 NR/L3/INI/TS 1.98 NR/L3/RMVP/0201 1.18 NR/L3/TRK/1016 1.97 NR/L3/INI/TK0027 1.00 NR/L3/RMVP/1006 1.118 NR/L3/TRK/1017 1.97 NR/L3/INI/TK0040 1.00 NR/L3/RMVP/40028 1.18 NR/L3/TRK/1017 1.97 NR/L3/INI/TK0040 1.19 NR/L3/RMVP/40031 1.18 NR/L3/TRK/1018 1.97 NR/L3/MTC/EN0098 7.9 NR/L3/SCO/308 1.04 NR/L3/TRK/1010 1.97 NR/L3/MTC/EN0099 7.9 NR/L3/SCO/311 1.05 NR/L3/TRK/102 1.98 NR/L3/MTC/EN0100 7.9 NR/L3/SCO/313 1.05 NR/L3/TRK/2049 1.98 NR/L3/MTC/EN0101 7.9 NR/L3/SCO/320 1.06 NR/L3/TRK/2070 1.98 NR/L3/MTC/EN0101 7.9 NR/L3/SCO/320 1.06 NR/L3/TRK/3001 1.98 NR/L3/MTC/EN0102 7.9 NR/L3/SCO/320 1.06 NR/L3/TRK/3001 1.98 NR/L3/MTC/EN0103 8.0 NR/L3/SIG/10066 1.49 NR/L3/TRK/3011 1.98 NR/L3/MTC/EN0103 8.0 NR/L3/SIG/10066 1.49 NR/L3/TRK/3011 1.98 NR/L3/MTC/EN0103 8.0 NR/L3/SIG/10661 1.49 NR/L3/TRK/3012 1.99 NR/L3/MTC/EN0105 8.0 NR/L3/SIG/10665 1.49 NR/L3/TRK/3122 1.99 NR/L3/MTC/EP0036 8.0 NR/L3/SIG/10665 1.49 NR/L3/TRK/3201 1.99 NR/L3/MTC/EP0037 8.0 NR/L3/SIG/11303 1.50 NR/L3/TRK/3202 1.99 NR/L3/MTC/EP0038 8.0 NR/L3/SIG/11303 1.50 NR/L3/TRK/3202 1.99 NR/L3/MTC/EP0039 8.0 NR/L3/SIG/11303 1.50 NR/L3/TRK/3202 1.99 NR/L3/MTC/EP0039 8.0 NR/L3/SIG/11303 1.50 NR/L3/TRK/3202 1.99			
NR/L3/INI/P3M/129 99 NR/L3/OPS/045 110 NR/L3/TRK/1012 197 NR/L3/INI/P3M/130 100 NR/L3/OPS/084 1112 NR/L3/TRK/1013 197 NR/L3/INI/P3M/131 100 NR/L3/OPS/084 1112 NR/L3/TRK/1014 197 NR/L3/INI/P3M/132 100 NR/L3/OPS/0303 1112 NR/L3/TRK/1015 197 NR/L3/INI/P3M/132 100 NR/L3/OPS/0303 1112 NR/L3/TRK/1016 197 NR/L3/INI/P6115 98 NR/L3/RMVP/0201 116 NR/L3/TRK/1016 197 NR/L3/INI/TK0027 100 NR/L3/RMVP/1006 118 NR/L3/TRK/1017 197 NR/L3/INI/TK0040 100 NR/L3/RMVP/40028 118 NR/L3/TRK/1017 197 NR/L3/INI/TK0040 110 NR/L3/RMVP/40028 118 NR/L3/TRK/1018 197 NR/L3/INI/TK0040 119 NR/L3/RMVP/40031 118 NR/L3/TRK/1011 197 NR/L3/INI/TC/EN0098 79 NR/L3/SCO/308 104 NR/L3/TRK/1010 198 NR/L3/MTC/EN0100 79 NR/L3/SCO/311 105 NR/L3/TRK/2049 198 NR/L3/MTC/EN0100 79 NR/L3/SCO/313 105 NR/L3/TRK/2049 198 NR/L3/MTC/EN0101 79 NR/L3/SCO/320 106 NR/L3/TRK/2070 198 NR/L3/MTC/EN0101 79 NR/L3/SCO/320 106 NR/L3/TRK/3011 198 NR/L3/MTC/EN0103 80 NR/L3/SIG/10046 149 NR/L3/TRK/3011 198 NR/L3/MTC/EN0103 80 NR/L3/SIG/10046 149 NR/L3/TRK/3011 198 NR/L3/MTC/EN0103 80 NR/L3/SIG/100661 149 NR/L3/TRK/3013 198 NR/L3/MTC/EN0105 80 NR/L3/SIG/10661 149 NR/L3/TRK/3013 198 NR/L3/MTC/EN0105 80 NR/L3/SIG/10665 149 NR/L3/TRK/3010 199 NR/L3/MTC/EP0036 80 NR/L3/SIG/10665 149 NR/L3/TRK/3020 199 NR/L3/MTC/EP0037 80 NR/L3/SIG/11303 150 NR/L3/TRK/3200 199 NR/L3/MTC/EP0039 80 NR/L3/SIG/11303 150 NR/L3/TRK/3200 199 NR/L3/MTC/EP0039 80 NR/L3/SIG/11611 151 NR/L3/TRK/3200 199			
NR/L3/INI/P3M/130         100         NR/L3/OPS/084         112         NR/L3/TRK/1013         197           NR/L3/INI/P3M/131         100         NR/L3/OPS/111         112         NR/L3/TRK/1014         197           NR/L3/INI/P3M/132         100         NR/L3/OPS/303         112         NR/L3/TRK/1015         197           NR/L3/INI/P6115         98         NR/L3/RWVP/0201         116         NR/L3/TRK/1016         197           NR/L3/INI/TK0027         100         NR/L3/RWVP/1006         118         NR/L3/TRK/1017         197           NR/L3/INI/TK0040         100         NR/L3/RWVP/40028         118         NR/L3/TRK/1018         197           NR/L3/INI/TK0091         119         NR/L3/RWVP/40031         118         NR/L3/TRK/1018         197           NR/L3/INI/TK0096         79         NR/L3/SCO/308         104         NR/L3/TRK/1010         197           NR/L3/MTC/EN0098         79         NR/L3/SCO/308         104         NR/L3/TRK/2010         198           NR/L3/MTC/EN0100         79         NR/L3/SCO/313         105         NR/L3/TRK/2049         198           NR/L3/MTC/EN0101         79         NR/L3/SCO/320         106         NR/L3/TRK/3001         198           NR/L3/MTC/EN0102         79	NR/L3/INI/P3M/128	NR/L3/OPS/009	NR/L3/TRK/1011
NR/L3/INI/P3M/130         100         NR/L3/OPS/084         112         NR/L3/TRK/1013         197           NR/L3/INI/P3M/131         100         NR/L3/OPS/111         112         NR/L3/TRK/1014         197           NR/L3/INI/P3M/132         100         NR/L3/OPS/303         112         NR/L3/TRK/1015         197           NR/L3/INI/P6115         98         NR/L3/RWVP/0201         116         NR/L3/TRK/1016         197           NR/L3/INI/TK0027         100         NR/L3/RWVP/1006         118         NR/L3/TRK/1017         197           NR/L3/INI/TK0040         100         NR/L3/RWVP/40028         118         NR/L3/TRK/1018         197           NR/L3/INI/TK0091         119         NR/L3/RWVP/40031         118         NR/L3/TRK/1018         197           NR/L3/INI/TK0096         79         NR/L3/SCO/308         104         NR/L3/TRK/1010         197           NR/L3/MTC/EN0098         79         NR/L3/SCO/308         104         NR/L3/TRK/2010         198           NR/L3/MTC/EN0100         79         NR/L3/SCO/313         105         NR/L3/TRK/2049         198           NR/L3/MTC/EN0101         79         NR/L3/SCO/320         106         NR/L3/TRK/3001         198           NR/L3/MTC/EN0102         79		NR/L3/OPS/045	
NR/L3/INI/P3M/131 100 NR/L3/OPS/111 112 NR/L3/TRK/1014 197 NR/L3/INI/P3M/132 100 NR/L3/OPS/303 112 NR/L3/TRK/1015 197 NR/L3/INI/PG115 98 NR/L3/RMVP/0201 116 NR/L3/TRK/1016 197 NR/L3/INI/TK0027 100 NR/L3/RMVP/1006 118 NR/L3/TRK/1017 197 NR/L3/INI/TK0040 100 NR/L3/RMVP/40028 118 NR/L3/TRK/1018 197 NR/L3/INI/TK0040 119 NR/L3/RMVP/40028 118 NR/L3/TRK/1018 197 NR/L3/INI/TK0040 119 NR/L3/RMVP/40031 118 NR/L3/TRK/1018 197 NR/L3/INV/3001 119 NR/L3/RMVP/40031 118 NR/L3/TRK/1101 197 NR/L3/MTC/EN0098 79 NR/L3/SCO/308 104 NR/L3/TRK/1102 198 NR/L3/MTC/EN0099 79 NR/L3/SCO/313 105 NR/L3/TRK/2049 198 NR/L3/MTC/EN0100 79 NR/L3/SCO/313 105 NR/L3/TRK/2070 198 NR/L3/MTC/EN0101 79 NR/L3/SCO/320 106 NR/L3/TRK/3001 198 NR/L3/MTC/EN0102 79 NR/L3/SCO/320 106 NR/L3/TRK/3001 198 NR/L3/MTC/EN0103 80 NR/L3/SIG/10046 149 NR/L3/TRK/3011 198 NR/L3/MTC/EN0104 80 NR/L3/SIG/10064 149 NR/L3/TRK/3011 198 NR/L3/MTC/EN0105 80 NR/L3/SIG/10061 149 NR/L3/TRK/3011 198 NR/L3/MTC/EN0105 80 NR/L3/SIG/10661 149 NR/L3/TRK/3011 198 NR/L3/MTC/EN0105 80 NR/L3/SIG/10665 149 NR/L3/TRK/3105 199 NR/L3/MTC/EP0036 80 NR/L3/SIG/10665 149 NR/L3/TRK/3201 199 NR/L3/MTC/EP0037 80 NR/L3/SIG/10665 149 NR/L3/TRK/3201 199 NR/L3/MTC/EP0038 80 NR/L3/SIG/11303 150 NR/L3/TRK/3200 199 NR/L3/MTC/EP0039 80 NR/L3/SIG/11761 151 NR/L3/TRK/3230 199			
NR/L3/INI/P3M/132         100         NR/L3/OPS/303         112         NR/L3/TRK/1015         197           NR/L3/INI/PG115         .98         NR/L3/RMVP/1006         .116         NR/L3/TRK/1016         .197           NR/L3/INI/TK0027         .100         NR/L3/RMVP/1006         .118         NR/L3/TRK/1017         .197           NR/L3/INI/TK0040         .100         NR/L3/RWVP/40028         .118         NR/L3/TRK/1018         .197           NR/L3/INV/3001         .119         NR/L3/RWVP/40031         .118         NR/L3/TRK/1016         .197           NR/L3/MTC/EN0098         .79         NR/L3/SCO/308         .104         NR/L3/TRK/1010         .197           NR/L3/MTC/EN0099         .79         NR/L3/SCO/311         .105         NR/L3/TRK/2049         .198           NR/L3/MTC/EN0100         .79         NR/L3/SCO/313         .105         NR/L3/TRK/3001         .198           NR/L3/MTC/EN0101         .79         NR/L3/SCO/320         .106         NR/L3/TRK/3001         .198           NR/L3/MTC/EN0102         .79         NR/L3/SIG/10046         .149         NR/L3/TRK/3011         .198           NR/L3/MTC/EN0103         .80         NR/L3/SIG/10664         .149         NR/L3/TRK/3012         .198           NR/L3/MTC/EN0104 <td></td> <td></td> <td></td>			
NR/L3/INI/PG115         98         NR/L3/RMVP/0201         116         NR/L3/TRK/1016         197           NR/L3/INI/TK0027         100         NR/L3/RMVP/1006         118         NR/L3/TRK/1017         197           NR/L3/INI/TK0040         100         NR/L3/RMVP/140028         118         NR/L3/TRK/1018         197           NR/L3/INI/TK0040         119         NR/L3/RMVP/140031         118         NR/L3/TRK/1018         197           NR/L3/INI/TK0001         119         NR/L3/RMVP/140031         118         NR/L3/TRK/1101         197           NR/L3/INTC/EN0098         79         NR/L3/SCO/308         104         NR/L3/TRK/1102         198           NR/L3/MTC/EN0099         79         NR/L3/SCO/311         105         NR/L3/TRK/2049         198           NR/L3/MTC/EN0100         79         NR/L3/SCO/313         105         NR/L3/TRK/2070         198           NR/L3/MTC/EN0101         79         NR/L3/SIG/1020         106         NR/L3/TRK/3001         198           NR/L3/MTC/EN0102         79         NR/L3/SIG/10664         149         NR/L3/TRK/3011         198           NR/L3/MTC/EN0103         80         NR/L3/SIG/10664         149         NR/L3/TRK/3012         198           NR/L3/MTC/EN0225         80 <td>NR/L3/INI/P3M/131</td> <td>NR/L3/OPS/111</td> <td>NR/L3/TRK/1014</td>	NR/L3/INI/P3M/131	NR/L3/OPS/111	NR/L3/TRK/1014
NR/L3/INI/TK0027         100         NR/L3/RMVP/1006         118         NR/L3/TRK/1017         197           NR/L3/INI/TK0040         100         NR/L3/RMVP/40028         118         NR/L3/TRK/1018         197           NR/L3/INV/3001         119         NR/L3/RMVP/40031         118         NR/L3/TRK/101         197           NR/L3/MTC/EN0098         79         NR/L3/SCO/308         104         NR/L3/TRK/102         198           NR/L3/MTC/EN0099         79         NR/L3/SCO/311         105         NR/L3/TRK/2049         198           NR/L3/MTC/EN0100         79         NR/L3/SCO/313         105         NR/L3/TRK/2070         198           NR/L3/MTC/EN0101         79         NR/L3/SCO/320         106         NR/L3/TRK/3001         198           NR/L3/MTC/EN0102         79         NR/L3/SIG/10064         149         NR/L3/TRK/3011         198           NR/L3/MTC/EN0103         80         NR/L3/SIG/10064         149         NR/L3/TRK/3012         198           NR/L3/MTC/EN0104         80         NR/L3/SIG/10120         149         NR/L3/TRK/3013         198           NR/L3/MTC/EN0225         80         NR/L3/SIG/10661         149         NR/L3/TRK/3105         199           NR/L3/MTC/EP0036         80	NR/L3/INI/P3M/132	NR/L3/OPS/303	NR/L3/TRK/1015
NR/L3/INI/TK0027         100         NR/L3/RMVP/1006         118         NR/L3/TRK/1017         197           NR/L3/INI/TK0040         100         NR/L3/RMVP/40028         118         NR/L3/TRK/1018         197           NR/L3/INV/3001         119         NR/L3/RMVP/40031         118         NR/L3/TRK/101         197           NR/L3/MTC/EN0098         79         NR/L3/SCO/308         104         NR/L3/TRK/102         198           NR/L3/MTC/EN0099         79         NR/L3/SCO/311         105         NR/L3/TRK/2049         198           NR/L3/MTC/EN0100         79         NR/L3/SCO/313         105         NR/L3/TRK/2070         198           NR/L3/MTC/EN0101         79         NR/L3/SCO/320         106         NR/L3/TRK/3001         198           NR/L3/MTC/EN0102         79         NR/L3/SIG/10064         149         NR/L3/TRK/3011         198           NR/L3/MTC/EN0103         80         NR/L3/SIG/10064         149         NR/L3/TRK/3012         198           NR/L3/MTC/EN0104         80         NR/L3/SIG/10120         149         NR/L3/TRK/3013         198           NR/L3/MTC/EN0225         80         NR/L3/SIG/10661         149         NR/L3/TRK/3105         199           NR/L3/MTC/EP0036         80	NR/L3/INI/PG115 98	NR/L3/RMVP/0201 116	NR/L3/TRK/1016 197
NR/L3/INI/TK0040         100         NR/L3/RMVP/40028         118         NR/L3/TRK/1018         197           NR/L3/INV/3001         119         NR/L3/RMVP/40031         118         NR/L3/TRK/1101         197           NR/L3/MTC/EN0098         79         NR/L3/SCO/308         104         NR/L3/TRK/1102         198           NR/L3/MTC/EN0099         79         NR/L3/SCO/311         105         NR/L3/TRK/2049         198           NR/L3/MTC/EN0100         79         NR/L3/SCO/313         105         NR/L3/TRK/2070         198           NR/L3/MTC/EN0101         79         NR/L3/SIG/0320         106         NR/L3/TRK/3001         198           NR/L3/MTC/EN0102         79         NR/L3/SIG/10046         149         NR/L3/TRK/3011         198           NR/L3/MTC/EN0103         80         NR/L3/SIG/10064         149         NR/L3/TRK/3012         198           NR/L3/MTC/EN0104         80         NR/L3/SIG/10664         149         NR/L3/TRK/3012         198           NR/L3/MTC/EN0105         80         NR/L3/SIG/10661         149         NR/L3/TRK/3015         199           NR/L3/MTC/EP0036         80         NR/L3/SIG/10665         149         NR/L3/TRK/3102         199           NR/L3/MTC/EP0037         80			
NR/L3/INV/3001         119         NR/L3/RMVP/40031         118         NR/L3/TRK/1101         197           NR/L3/MTC/EN0098         .79         NR/L3/SCO/308         104         NR/L3/TRK/1102         198           NR/L3/MTC/EN0099         .79         NR/L3/SCO/311         105         NR/L3/TRK/2049         198           NR/L3/MTC/EN0100         .79         NR/L3/SCO/313         105         NR/L3/TRK/2070         198           NR/L3/MTC/EN0101         .79         NR/L3/SCO/320         106         NR/L3/TRK/3001         198           NR/L3/MTC/EN0102         .79         NR/L3/SIG/10046         149         NR/L3/TRK/3011         198           NR/L3/MTC/EN0103         .80         NR/L3/SIG/10064         149         NR/L3/TRK/3012         198           NR/L3/MTC/EN0104         .80         NR/L3/SIG/10664         149         NR/L3/TRK/3012         198           NR/L3/MTC/EN0105         .80         NR/L3/SIG/10661         149         NR/L3/TRK/3013         198           NR/L3/MTC/EN0225         .80         NR/L3/SIG/10663         149         NR/L3/TRK/3105         199           NR/L3/MTC/EP0036         .80         NR/L3/SIG/10665         149         NR/L3/TRK/3201         199           NR/L3/MTC/EP0038         .80 <td></td> <td></td> <td></td>			
NR/L3/MTC/EN0098         .79         NR/L3/SCO/308         .104         NR/L3/TRK/1102         .198           NR/L3/MTC/EN0099         .79         NR/L3/SCO/311         .105         NR/L3/TRK/2049         .198           NR/L3/MTC/EN0100         .79         NR/L3/SCO/313         .105         NR/L3/TRK/2070         .198           NR/L3/MTC/EN0101         .79         NR/L3/SCO/320         .106         NR/L3/TRK/3001         .198           NR/L3/MTC/EN0102         .79         NR/L3/SIG/10046         .149         NR/L3/TRK/3011         .198           NR/L3/MTC/EN0103         .80         NR/L3/SIG/10064         .149         NR/L3/TRK/3012         .198           NR/L3/MTC/EN0104         .80         NR/L3/SIG/10664         .149         NR/L3/TRK/3013         .198           NR/L3/MTC/EN0105         .80         NR/L3/SIG/10661         .149         NR/L3/TRK/3015         .199           NR/L3/MTC/EP0025         .80         NR/L3/SIG/10663         .149         NR/L3/TRK/3102         .199           NR/L3/MTC/EP0036         .80         NR/L3/SIG/10665         .149         NR/L3/TRK/3201         .199           NR/L3/MTC/EP0038         .80         NR/L3/SIG/11303         .150         NR/L3/TRK/3202         .199           NR/L3/MTC/EP0039 </td <td></td> <td></td> <td></td>			
NR/L3/MTC/EN0098         .79         NR/L3/SCO/308         .104         NR/L3/TRK/1102         .198           NR/L3/MTC/EN0099         .79         NR/L3/SCO/311         .105         NR/L3/TRK/2049         .198           NR/L3/MTC/EN0100         .79         NR/L3/SCO/313         .105         NR/L3/TRK/2070         .198           NR/L3/MTC/EN0101         .79         NR/L3/SCO/320         .106         NR/L3/TRK/3001         .198           NR/L3/MTC/EN0102         .79         NR/L3/SIG/10046         .149         NR/L3/TRK/3011         .198           NR/L3/MTC/EN0103         .80         NR/L3/SIG/10064         .149         NR/L3/TRK/3012         .198           NR/L3/MTC/EN0104         .80         NR/L3/SIG/10664         .149         NR/L3/TRK/3013         .198           NR/L3/MTC/EN0105         .80         NR/L3/SIG/10661         .149         NR/L3/TRK/3015         .199           NR/L3/MTC/EP0025         .80         NR/L3/SIG/10663         .149         NR/L3/TRK/3102         .199           NR/L3/MTC/EP0036         .80         NR/L3/SIG/10665         .149         NR/L3/TRK/3201         .199           NR/L3/MTC/EP0038         .80         NR/L3/SIG/11303         .150         NR/L3/TRK/3202         .199           NR/L3/MTC/EP0039 </td <td>NR/L3/INV/3001</td> <td>NR/L3/RMVP/40031</td> <td>NR/L3/TRK/1101</td>	NR/L3/INV/3001	NR/L3/RMVP/40031	NR/L3/TRK/1101
NR/L3/MTC/EN0099         .79         NR/L3/SCO/311         .105         NR/L3/TRK/2049         .198           NR/L3/MTC/EN0100         .79         NR/L3/SCO/313         .105         NR/L3/TRK/2070         .198           NR/L3/MTC/EN0101         .79         NR/L3/SCO/320         .106         NR/L3/TRK/3001         .198           NR/L3/MTC/EN0102         .79         NR/L3/SIG/10046         .149         NR/L3/TRK/3011         .198           NR/L3/MTC/EN0103         .80         NR/L3/SIG/10064         .149         NR/L3/TRK/3012         .198           NR/L3/MTC/EN0104         .80         NR/L3/SIG/10120         .149         NR/L3/TRK/3013         .198           NR/L3/MTC/EN0105         .80         NR/L3/SIG/10661         .149         NR/L3/TRK/3105         .199           NR/L3/MTC/EP00225         .80         NR/L3/SIG/10663         .149         NR/L3/TRK/3122         .199           NR/L3/MTC/EP0036         .80         NR/L3/SIG/10665         .149         NR/L3/TRK/3201         .199           NR/L3/MTC/EP0038         .80         NR/L3/SIG/11303         .150         NR/L3/TRK/3220         .199           NR/L3/MTC/EP0039         .80         NR/L3/SIG/11761         .151         NR/L3/TRK/3230         .199			
NR/L3/MTC/EN0100         .79         NR/L3/SCO/313         .105         NR/L3/TRK/2070         .198           NR/L3/MTC/EN0101         .79         NR/L3/SCO/320         .106         NR/L3/TRK/3001         .198           NR/L3/MTC/EN0102         .79         NR/L3/SIG/10046         .149         NR/L3/TRK/3011         .198           NR/L3/MTC/EN0103         .80         NR/L3/SIG/10064         .149         NR/L3/TRK/3012         .198           NR/L3/MTC/EN0104         .80         NR/L3/SIG/10120         .149         NR/L3/TRK/3013         .198           NR/L3/MTC/EN0105         .80         NR/L3/SIG/10661         .149         NR/L3/TRK/3105         .199           NR/L3/MTC/EN0225         .80         NR/L3/SIG/10663         .149         NR/L3/TRK/3122         .199           NR/L3/MTC/EP0036         .80         NR/L3/SIG/10665         .149         NR/L3/TRK/3201         .199           NR/L3/MTC/EP0037         .80         NR/L3/SIG/11231         .150         NR/L3/TRK/3202         .199           NR/L3/MTC/EP0038         .80         NR/L3/SIG/11303         .150         NR/L3/TRK/3220         .199           NR/L3/MTC/EP0039         .80         NR/L3/SIG/11761         .151         NR/L3/TRK/3230         .199			
NR/L3/MTC/EN0101         .79         NR/L3/SCO/320         .106         NR/L3/TRK/3001         .198           NR/L3/MTC/EN0102         .79         NR/L3/SIG/10046         .149         NR/L3/TRK/3011         .198           NR/L3/MTC/EN0103         .80         NR/L3/SIG/10064         .149         NR/L3/TRK/3012         .198           NR/L3/MTC/EN0104         .80         NR/L3/SIG/10120         .149         NR/L3/TRK/3013         .198           NR/L3/MTC/EN0105         .80         NR/L3/SIG/10661         .149         NR/L3/TRK/3105         .199           NR/L3/MTC/EN0225         .80         NR/L3/SIG/10663         .149         NR/L3/TRK/3122         .199           NR/L3/MTC/EP0036         .80         NR/L3/SIG/10665         .149         NR/L3/TRK/3201         .199           NR/L3/MTC/EP0037         .80         NR/L3/SIG/11231         .150         NR/L3/TRK/3202         .199           NR/L3/MTC/EP0038         .80         NR/L3/SIG/11303         .150         NR/L3/TRK/3220         .199           NR/L3/MTC/EP0039         .80         NR/L3/SIG/11761         .151         NR/L3/TRK/3230         .199			
NR/L3/MTC/EN0102         .79         NR/L3/SIG/10046         .149         NR/L3/TRK/3011         .198           NR/L3/MTC/EN0103         .80         NR/L3/SIG/10064         .149         NR/L3/TRK/3012         .198           NR/L3/MTC/EN0104         .80         NR/L3/SIG/10120         .149         NR/L3/TRK/3013         .198           NR/L3/MTC/EN0105         .80         NR/L3/SIG/10661         .149         NR/L3/TRK/3105         .199           NR/L3/MTC/EN0225         .80         NR/L3/SIG/10663         .149         NR/L3/TRK/3122         .199           NR/L3/MTC/EP0036         .80         NR/L3/SIG/10665         .149         NR/L3/TRK/3201         .199           NR/L3/MTC/EP0037         .80         NR/L3/SIG/11231         .150         NR/L3/TRK/3202         .199           NR/L3/MTC/EP0038         .80         NR/L3/SIG/11303         .150         NR/L3/TRK/3220         .199           NR/L3/MTC/EP0039         .80         NR/L3/SIG/11761         .151         NR/L3/TRK/3230         .199			
NR/L3/MTC/EN0102         .79         NR/L3/SIG/10046         .149         NR/L3/TRK/3011         .198           NR/L3/MTC/EN0103         .80         NR/L3/SIG/10064         .149         NR/L3/TRK/3012         .198           NR/L3/MTC/EN0104         .80         NR/L3/SIG/10120         .149         NR/L3/TRK/3013         .198           NR/L3/MTC/EN0105         .80         NR/L3/SIG/10661         .149         NR/L3/TRK/3105         .199           NR/L3/MTC/EN0225         .80         NR/L3/SIG/10663         .149         NR/L3/TRK/3122         .199           NR/L3/MTC/EP0036         .80         NR/L3/SIG/10665         .149         NR/L3/TRK/3201         .199           NR/L3/MTC/EP0037         .80         NR/L3/SIG/11231         .150         NR/L3/TRK/3202         .199           NR/L3/MTC/EP0038         .80         NR/L3/SIG/11303         .150         NR/L3/TRK/3220         .199           NR/L3/MTC/EP0039         .80         NR/L3/SIG/11761         .151         NR/L3/TRK/3230         .199	NR/L3/MTC/EN0101	NR/L3/SCO/320	NR/L3/TRK/3001
NR/L3/MTC/EN0103         .80         NR/L3/SIG/10064         .149         NR/L3/TRK/3012         .198           NR/L3/MTC/EN0104         .80         NR/L3/SIG/10120         .149         NR/L3/TRK/3013         .198           NR/L3/MTC/EN0105         .80         NR/L3/SIG/10661         .149         NR/L3/TRK/3105         .199           NR/L3/MTC/EN0225         .80         NR/L3/SIG/10663         .149         NR/L3/TRK/3122         .199           NR/L3/MTC/EP0036         .80         NR/L3/SIG/10665         .149         NR/L3/TRK/3201         .199           NR/L3/MTC/EP0037         .80         NR/L3/SIG/11231         .150         NR/L3/TRK/3202         .199           NR/L3/MTC/EP0038         .80         NR/L3/SIG/11303         .150         NR/L3/TRK/3220         .199           NR/L3/MTC/EP0039         .80         NR/L3/SIG/11761         .151         NR/L3/TRK/3230         .199			
NR/L3/MTC/EN0104         .80         NR/L3/SIG/10120         .149         NR/L3/TRK/3013         .198           NR/L3/MTC/EN0105         .80         NR/L3/SIG/10661         .149         NR/L3/TRK/3105         .199           NR/L3/MTC/EN0225         .80         NR/L3/SIG/10663         .149         NR/L3/TRK/3122         .199           NR/L3/MTC/EP0036         .80         NR/L3/SIG/10665         .149         NR/L3/TRK/3201         .199           NR/L3/MTC/EP0037         .80         NR/L3/SIG/11231         .150         NR/L3/TRK/3202         .199           NR/L3/MTC/EP0038         .80         NR/L3/SIG/11303         .150         NR/L3/TRK/3220         .199           NR/L3/MTC/EP0039         .80         NR/L3/SIG/11761         .151         NR/L3/TRK/3230         .199			
NR/L3/MTC/EN0105         .80         NR/L3/SIG/10661         .149         NR/L3/TRK/3105         .199           NR/L3/MTC/EN0225         .80         NR/L3/SIG/10663         .149         NR/L3/TRK/3122         .199           NR/L3/MTC/EP0036         .80         NR/L3/SIG/10665         .149         NR/L3/TRK/3201         .199           NR/L3/MTC/EP0037         .80         NR/L3/SIG/11231         .150         NR/L3/TRK/3202         .199           NR/L3/MTC/EP0038         .80         NR/L3/SIG/11303         .150         NR/L3/TRK/3220         .199           NR/L3/MTC/EP0039         .80         NR/L3/SIG/11761         .151         NR/L3/TRK/3230         .199			
NR/L3/MTC/EN0225         .80         NR/L3/SIG/10663         .149         NR/L3/TRK/3122         .199           NR/L3/MTC/EP0036         .80         NR/L3/SIG/10665         .149         NR/L3/TRK/3201         .199           NR/L3/MTC/EP0037         .80         NR/L3/SIG/11231         .150         NR/L3/KK/3202         .199           NR/L3/MTC/EP0038         .80         NR/L3/SIG/11303         .150         NR/L3/TRK/3220         .199           NR/L3/MTC/EP0039         .80         NR/L3/SIG/11761         .151         NR/L3/TRK/3230         .199			
NR/L3/MTC/EN0225         .80         NR/L3/SIG/10663         .149         NR/L3/TRK/3122         .199           NR/L3/MTC/EP0036         .80         NR/L3/SIG/10665         .149         NR/L3/TRK/3201         .199           NR/L3/MTC/EP0037         .80         NR/L3/SIG/11231         .150         NR/L3/KK/3202         .199           NR/L3/MTC/EP0038         .80         NR/L3/SIG/11303         .150         NR/L3/TRK/3220         .199           NR/L3/MTC/EP0039         .80         NR/L3/SIG/11761         .151         NR/L3/TRK/3230         .199	NR/L3/MTC/EN0105	NR/L3/SIG/10661149	NR/L3/TRK/3105
NR/L3/MTC/EP0036       .80       NR/L3/SIG/10665       .149       NR/L3/TRK/3201       .199         NR/L3/MTC/EP0037       .80       NR/L3/SIG/11231       .150       NR/L3/TRK/3202       .199         NR/L3/MTC/EP0038       .80       NR/L3/SIG/11303       .150       NR/L3/TRK/3220       .199         NR/L3/MTC/EP0039       .80       NR/L3/SIG/11761       .151       NR/L3/TRK/3230       .199		NR/L3/SIG/10663	NR/L3/TRK/3122
NR/L3/MTC/EP0037     .80     NR/L3/SIG/11231     .150     NR/L3/TRK/3202     .199       NR/L3/MTC/EP0038     .80     NR/L3/SIG/11303     .150     NR/L3/TRK/3220     .199       NR/L3/MTC/EP0039     .80     NR/L3/SIG/11761     .151     NR/L3/TRK/3230     .199			
NR/L3/MTC/EP0038         .80         NR/L3/SIG/11303         .150         NR/L3/TRK/3220         .199           NR/L3/MTC/EP0039         .80         NR/L3/SIG/11761         .151         NR/L3/TRK/3230         .199			
NR/L3/MTC/EP0039			
	NR/L3/MTC/EP003880	NR/L3/SIG/11303150	NR/L3/TRK/3220
MINES/MINES/EL 0170			
	141 ( EG / WIT O / ET O 170	1417,207,0107,117,07	1410 20/11410 02 70

NR/L3/TRK/3241	NR/SP/ELP/21028	NR/WI/TEL/30104
NR/L3/TRK/3242	NR/SP/ELP/21030	NR/WI/TEL/30123
NR/L3/TRK/3250	NR/SP/ELP/21032	NR/WI/TRK/03401
NR/L3/TRK/3260	NR/SP/ELP/21033	NR/WI/TRK/03404
NR/L3/TRK/3261	NR/SP/ELP/21036	RT/CE/C/015
NR/L3/TRK/3262	NR/SP/ELP/21041	RT/CE/P/018
NR/L3/TRK/3310	NR/SP/ELP/21046	RT/CE/P/027
NR/L3/TRK/3402	NR/SP/ELP/21051	RT/CE/P/044
		RT/CE/S/001
NR/L3/TRK/3405	NR/SP/ELP/21060	
NR/L3/TRK/3406	NR/SP/ELP/21066	RT/CE/S/002183
NR/L3/TRK/3407	NR/SP/ELP/21073	RT/CE/S/005
NR/L3/TRK/3510	NR/SP/ELP/21075	RT/CE/S/008
NR/L3/TRK/3530	NR/SP/ELP/21081	RT/CE/S/009
NR/L3/TRK/3701	NR/SP/ELP/21082	RT/CE/S/010
NR/L3/TRK/4004	NR/SP/ELP/21085	RT/CE/S/012
NR/L3/TRK/4041	NR/SP/ELP/21104	RT/CE/S/013185
NR/L3/TRK/4900	NR/SP/ELP/21106	RT/CE/S/014
NR/L3/TRK/6001	NR/SP/ELP/21107	RT/CE/S/016
NR/L3/TRK/6002	NR/SP/ELP/21112	RT/CE/S/019
NR/L3/TRK/7002	NR/SP/ELP/21130	RT/CE/S/021
NR/L3/TRK/7004	NR/SP/ELP/27021	RT/CE/S/023
NR/L3/TRK/7005	NR/SP/ELP/27030	RT/CE/S/024
NR/PRC/MPI/CP0037	NR/SP/ELP/27044	RT/CE/S/025
	,,	
NR/PRC/MPI/ST002995	NR/SP/ELP/27169	RT/CE/S/026186
NR/PRC/MPI/TK002295	NR/SP/ELP/27175	RT/CE/S/027
NR/PS/ELP/00003	NR/SP/ELP/27176	RT/CE/S/028
NR/PS/ELP/00006	NR/SP/ELP/27178	RT/CE/S/033
NR/PS/ELP/00007	NR/SP/ELP/27183	RT/CE/S/034
NR/PS/ELP/00008	NR/SP/ELP/27192	RT/CE/S/037
NR/PS/ELP/00021	NR/SP/ELP/27193	RT/CE/S/042
NR/PS/ELP/00022	NR/SP/ELP/27195	RT/CE/S/043
NR/PS/ELP/21072	NR/SP/ELP/27200	RT/CE/S/050
NR/PS/ELP/21101	NR/SP/ELP/27202	RT/CE/S/051
NR/PS/ELP/27182	NR/SP/ELP/27203	RT/CE/S/052
NR/PS/ELP/27184	NR/SP/ELP/27205	RT/CE/S/056
NR/PS/ELP/27185	NR/SP/ELP/27210	RT/CE/S/057
NR/PS/ELP/27187	NR/SP/ELP/27217	RT/CE/S/063
		RT/CE/S/064
NR/PS/ELP/27188	NR/SP/ELP/27224	
NR/PS/ELP/27189	NR/SP/ELP/27228	RT/CE/S/069121
NR/PS/ELP/27196	NR/SP/ELP/27234	RT/CE/S/077
NR/PS/ELP/27219	NR/SP/ELP/27242	RT/CE/S/080
NR/PS/ELP/27220	NR/SP/ELP/27243	RT/CE/S/082
NR/PS/ELP/27236	NR/SP/ELP/27300	RT/CE/S/084
NR/PS/SIG/00018	NR/SP/ELP/40041	RT/CE/S/087
NR/PS/SIG/19802	NR/SP/ELP/40042	RT/CE/S/089
		RT/CE/S/091
NR/PS/TEL/00014	NR/SP/ELP/40067	
NR/PS/TEL/00015	NR/SP/ENV/00171	RT/CE/S/130187
NR/PS/TEL/00025	NR/SP/ERG/0000573	RT/CE/S/131
NR/PS/TEL/00026	NR/SP/OHS/00114121	RT/D/P/003
NR/PS/TEL/00027	NR/SP/OHS/00122121	RT/D/S/006
NR/PS/TEL/00028	NR/SP/OHS/501121	RT/E/C/11724
NR/PS/TEL/30107	NR/SP/SIG/02023	RT/E/C/11772
	NR/SP/SIG/02024	RT/E/C/11821
NR/PS/TEL/31102		
NR/SIN/092	NR/SP/SIG/10040	RT/E/C/17904
NR/SIN/11370	NR/SP/SIG/11130126	RT/E/C/19008
NR/SIN/126	NR/SP/SIG/19253	RT/E/C/19010160
NR/SIN/143	NR/SP/SIG/19812	RT/E/C/19014160
NR/SIN/150	NR/SP/SIG/50002	RT/E/C/19015
NR/SIN/155	NR/SP/SIG/50003	RT/E/C/19016160
NR/SIN/157	NR/SP/SIG/50004	RT/E/C/19019
NR/SIN/158	NR/SP/SIG/50006	RT/E/C/19023
NR/SIN/160	NR/SP/SIG/50006	RT/E/C/19023
NR/SIN/161	NR/SP/SIG/50012	RT/E/C/19025
NR/SIN/162	NR/SP/SIG/50015	RT/E/C/19026
NR/SIN/163	NR/SP/TEL/30002	RT/E/C/19030160
NR/SIN/165	NR/SP/TEL/30024	RT/E/C/19032
NR/SIN/166	NR/SP/TEL/30031	RT/E/C/19036
NR/SIN/167	NR/SP/TEL/30032	RT/E/C/19039
NR/SIN/169	NR/SP/TEL/30035	RT/E/C/19040
NR/SIN/173	NR/SP/TEL/50016	RT/E/C/19041161
NR/SIN/180	NR/SP/TRK/0133183	RT/E/C/19044
NR/SIN/180102	NR/SP/TRK/1110	RT/E/C/19045
NR/SIN/181	NR/SP/TRK/8011	RT/E/C/19046
NR/SIN/183	NR/SP/TRK/9003183	RT/E/C/19048
NR/SP/CTM/011	NR/SPEC/1003	RT/E/C/19050
NR/SP/CTM/015	NR/WI/ELP/27052	RT/E/C/19051
NR/SP/CTM/016	NR/WI/ELP/27096	RT/E/C/19052
NR/SP/CTM/017	NR/WI/ELP/27114	RT/E/C/19254
NR/SP/CTM/03240	NR/WI/ELP/27116	RT/E/C/19257162
NR/SP/ELP/21014	NR/WI/ELP/27127	RT/E/C/19258
NR/SP/ELP/21018	NR/WI/ELP/27171	RT/E/C/19259162
NR/SP/ELP/21019	NR/WI/ELP/27173	RT/E/C/19262
NR/SP/ELP/21020	NR/WI/ELP/27231	RT/E/C/19265
NR/SP/ELP/21021	NR/WI/SIG/00111	RT/E/C/19269
NR/SP/ELP/21024	NR/WI/TEL/30102	RT/E/C/27003
NR/SP/ELP/21024	NR/WI/TEL/30102	RT/E/C/27035
141VOI /LLI /Z10Z0	1417/44// 122/30/103100	N1/E/O/Z1000110

#### Catalogue Index By Reference Number

RT/E/C/45002 .		69
RT/E/C/50005 .		162
RT/E/C/50007		
RT/E/C/50008		
RT/E/C/50009		
RT/E/C/50013		
RT/E/C/50018		
RT/E/G/00007		
RT/E/G/00007 .		
RT/E/G/00028 .		163
RT/E/G/27225 .		
RT/E/P/10024 .		127
RT/E/P/10025 .		127
RT/E/P/24000 .		
RT/E/P/24010 .		53
RT/E/P/27180 .		53
RT/E/PS/00002		130
RT/E/PS/00005		130
RT/E/PS/00009		130
RT/E/PS/00011		130
RT/E/PS/00012		
RT/E/PS/00016		113
RT/E/PS/00032		130
RT/E/PS/00801		
RT/E/PS/11755		131
RT/E/PS/11756		
RT/E/PS/11757		
RT/E/PS/11760		131
RT/E/PS/11762		131
RT/E/PS/11763		131
RT/E/PS/11764		131
RT/E/PS/11765		131
RT/E/S/02026 .		127
RT/E/S/10015 .		131
RT/E/S/10029 .		127
RT/E/S/10031 .		131
RT/E/S/10041 .		131
RT/E/S/10059 .		132
RT/E/S/10060		127
RT/E/S/10062		128
RT/E/S/10065		
RT/E/S/10067		
RT/E/S/10007 .		128
RT/E/S/10073		
RT/E/S/10081 .		128
RT/E/S/10110 . RT/E/S/10127 .		
		128
RT/E/S/10131 .		128
RT/E/S/10133 .		128
RT/E/S/10134 .		128
RT/E/S/10137 .		129
RT/E/S/10138 .		129
RT/E/S/10178 .		129
RT/E/S/11189		168
RT/E/S/11752 .		129
RT/E/S/17004 .		129
RT/E/WI/00112		
RT/E/WI/00113		
RT/E/WI/27130		
RT/LS/CAT004		
RT/LS/G/00002		
RT/LS/P/007		71
RT/LS/P/034		120
RT/LS/P/200		108
STDCHAL-APP	A	8
STDCHAI -GUIF	E-A	6

25kV Overhead Line Equipment Insulators	
25kV Power Transformers and Voltage Regulators for Auxiliary Supplies	
25kV Rotating Post Type Isolators	
25kVAC Single Phase Switchgear and Ancillary Equipment	
33C1 Check Rails	
400V 3-phase AC Shore Supply Equipment for use in non Electrified Areas	100
50 Cycle Single Phase AC Electrification Overhead Line Equipment	
750V DC Conductor Rail Equipment Design Manual	65
750V DC Track Voltage Relays	
A Guide to Track Geometry Trend Analysis as a Precursor to Speed Restrictions	
A Guide to Track Geometry Trend Analysis as a Precursor to Speed Restrictions	
A.C. Electric Traction Energy Subsystems - System Design Principles	
AC Phase-sensitive Track Circuits	
Acceptance of High Mast Winching Mechanisms and Associated Equipment	50
Access Through Land Belonging to an Outside Party	
Accident and Incident Reporting and Investigation	
Adjustable Tie Bar for Rail Clamp Point Lock	
Advanced Apprenticeship Scheme and Foundation Degree (Part-time) Programme Administration	
Advanced SSI Go/No-Go Tester Specification	
Air Operations Manual	110
for AC Electrified Lines	50
Alterations to Authorised Line Speeds.	
Alterations to Signalling Power Systems	
Ancillary Equipment Enclosures for 25kV Structure Mounted Outdoor Switchgear	54
Application of a BR Standard Short Circuiting Bar in an Emergency	
Application of Short Circuits for Conductor Rail Isolations	
Application of the Construction (Design and Management) Regulations to Network Rail Construction Projects	
Arrangements for Isolation of the Conductor Rail for Pre-planned Possessions of the Line	63
Arrangements for Maintenance of New and Changed Assets	165
Assembly of BR Mk111 4-and 6-hole insulated Joints	185
Assessing the Risk of Stress in the Workplace	123
Assessment of Footbridges	
Assessment of Operational Property Structures	
Assessment of Strength of Rails with Localised Head Loss in Tunnels	191
Asset Condition Assessments for Telecoms Renewals & Enhancement Planning	179
Asset Data Exchange Plan	
Asset Data Governance Framework Manual	
Asset Data Management for Ellipse and GEOGIS	
Asset Management of Station Information and Surveillance Systems (SISS)	25 175
Asset Management Plan	166
Asset Management Policy for Electrical Power Assets	
Assurance of Project, Programme and Portfolio (P3M) Investment	97
Assurance, Performance and Monitoring of Rail Vehicles	115
Aster and Aster21 Track Circuit Manual	
ATG (Absolute Track Geometry) Maintenance Process Using 'ATG Geometry Methods'	
ATG (Absolute Track Geometry) Maintenance Process Using 'ATG Lite Method'	
Automated Pouts Setting Specification	
Automated Route Setting Specification	
Awarding Body	145
Axle Counter System Design Principles & Generic Application Rules	
Axle Counter System Handbook	
Barrier Boom Light Units for Level Crossings	
Bedford - Bletchley: Control and use of VHLC Local Panels	
Best Practicable Means: Control of Noise and Vibration From Construction Operations	
Bolted Running Rail Connections for Traction Bonding on AC and DC Electrified Lines	50
Booster Transformer Outages	56
Booster Transformer Outages: Managing the Consequences for Telecommunication Systems Boundary Management Manual	
Briefing Materials for NR/L2/TRK/2102 Issue 8: Design and Construction of Track - Summary and Details of Changes and Further Explanation Behind Change	
Buildings and Architecture: Instructing Reactive, Minor Emerging Works and Business Plan Interventions	
Buildings, Stations & Depots Engineering Policy	
Buried Cable Route and Cable Route Through Station Platform	181
Buried Services Data Feedback	
Buried Services Data Provision	
Business Continuity Management	
Business Process for Selection of Point Operating Equipment	
CAD Cell Library	
Calculation and Analysis of Overhead Contact System Geometry.	
Calculation of Protection Settings for 3-phase H.V. Distribution Systems	
Calculation of Protection Settings for DC Track Feeders	
Calibration Work Instruction Manual	
Cast Austenitic Manganese Steel Crossings	
Cast Chairs, Baseplates and Blocks	
Cast Crossing Inspection and Replacement - NR56 JEZ 1:13 Design	
Catalogue of Network Rail Standards	
CCTV for Stations – Functional, Technical and Operational Requirements	
Characteristics of Railway Electrification Traction Power Supplies	68

Clamp Lock Handbook	137
Communicating with the Public	85
Communications with Electrical Control Rooms - ETD Network Testing Specification	175
Communications with Emergency Services - ETD Network Testing Procedures	
Competence & Training in On Track Plant Operation	
Competence and Training for Emergency Evacuation Wardens and Persons Responsible for Fire Safety	
Competence and Training for the Maintenance of Traction and Rolling Stock and On-track Machines	
Competence and Training in CCV Engineering	40
Competence and Training in Fixed Plant Engineering	
Competence and Training in Lookout Operated Warning Systems	
Competence and Training in Managing Site Safety	
Competence and Training In OLE Construction Engineering	42
Competence and Training in Overhead Line Engineering	
Competence and Training in Planning	
Competence and Training in Portable Transportable and Mobile Plant Operation	
Competence and Training in Safe System of Work Planner	
Competence and Training in Signal Engineering	
Competence and Training in the Loading and Load Examination of Infrastructure Wagons (Including Special Vehicles)	
Competence and Training in Track Engineering	
Competence and Training in Track Welding, Weld Inspection and Ancillary Processes	
Competence and Training in Traction Power Distribution	
Competence Management	
Competence Management	
Competence Specific Medical Fitness Requirements and Occupational Health Provider Requirements for Medical Assessments	124
Compliance with Fixed Telecoms Network Design Criteria	
Component Kits for BR MkIII 4- and 6-Hole Glued Insulated Joints	
Concrete for Overhead Line Equipment Structures	
Conductor Rail Equipment Working Instructions	
Configuration Management and Change to Protection and Control Systems	
Construction Noise Mitigation Through Section 61 Consent Process	
Content and Preparation of Control Room instructions.	
Continuous vielded Raii (CVVR) Hack	
Control and Testing with Rolling Stock Using Special Operating Instructions	112
Control of On-track Machines.	
Control of Rail Vehicle Testing	
Control of the Issue of S & T Keys from Unipart Rail	
Control of Wheel Impact Forces	183
Control Room Design Specification, Process and Guidance	73
Controlled Climate Trackside Housing for Telecommunications Equipment	
Controlled Publications - Document Control Handbook	
Controlled Publications - Issue and Receipt	
Controlled Publications - Process and Accountabilities	
Controls Maridal	
Core Maintenance for Wheel/Bogie Drops	
Core Maintenance Specification for Overhead Trolley Jumper Systems	
Core Maintenance Specification for Powered Scrubber/ Sweeper	
Corporate Archive Policy	75
Corporate Environment Manual	
Corporate Records Retention Schedule	76
Corrective Maintenance (Faulting) of Operational Telecoms Assets	
Corrective Maintenance of Signalling Assets	
Covtec Supplementary Audible Warning Device (SAWD)	
Critical Asset – Repeat Failure Escalation Process.	
Critical Rail Temperature (CRT) Management Plan	
Customer requirements for the Provision of Train Running Information on Stations	107
DC Electrified Lines Working Instructions	
DC Electrified Track, Electrical Protection Arrangements for Work on or Near Conductor Rails	
DC Track Circuits	
De-icing of Operational Property Assets	
Delivering High Quality S&C Renewals	203
Delivering Works Within Possessions	
Depot Facilities	
Depot Protection Equipment List (formerly CP-PM-023)	
Design and Construction of Track	
Design and Installation of Carriage Washing Machines	
Design and Installation of Composite Aluminium/stalliless Steel Conductor Rail and Associated Equipment on DC Electrified Lines	
Design and Installation of Cranes.  Design and Installation of Electric Track Equipment for DC Electrified Lines	
Design and Installation of Fuelling, Lubrication Oil and Coolant Storage and Delivery Systems	
Design and Installation of Negative Bonding and Associated Equipment on DC Electrified Lines	
Design and Installation of Negative Bonding and Associated Equipment on High Current DC Electrified Lines	
Design and Installation of Overhead Line Foundations	
Design and Installation of Station Cabling	176
Design and Installation of Steel Conductor Rail and Associated Equipment for DC Electrified Lines	
Design and Installation of Traversers	
Design and Installation of Turntables	
Design and Installation of Underfloor Wheel Lathes	
Design and Installation Requirements for Driver Only Operation (Passenger) Systems	
Design and Installation Requirements for Public Announcement, Voice Alarm and Long Line Public Announcement Systems	
Design of Earthing and Bonding Systems for 25kV AC Electrified Lines	

Design of Emergency and Temporary Speed Restrictions	155
Design of Overhead Line Structures	29
Design of Retention Toilet Servicing Installations	
Design Specification S&C System:- NR60/HPSS and NR60/Hydrive Configurations	
Design, Acquisition and Engineering Change for Rail Vehicles and On-track Plant	
Design, Installation and Maintenance of Modular Bearer Joints	
Design, Installation and Testing of Earthing in Signalling Power Systems	
Developing Extreme Weather Plans	
Digital Railway Ready Signalling	
Digital Subscriber Line Transmission Equipment	. 169
Disposal of Records	76
Disposal of Redundant Assets	104
Dissemination of Urgent Operating Advice	
Distribution Work Instructions	
Do Maintenance Task	
Document and Records Management	
Document Creation and Approval	76
Document Index for In-sourcing of Thales	. 180
Document Index for Transfer of Stoke Telecoms Engineering Centre Staff from the FTN/GSM-R Project	180
Document Management Manual	
Drainage Systems Manual	
Driving Cab Passes	
Drugs and Alcohol Policy	
E&P Records Management Process	
Earthing and Bonding at North Pole International Depot	51
Earthing Systems for DC Traction Substations, Track Paralleling Huts and Similar Equipment Locations	48
Electric Point Heating	61
Electric Track Equipment Layout Design for DC Electrified Lines	
Electrical Safety Principles for New Electrification	56
Electrical Galety i militapies ful New Liebumiliation	50
Electromagnetic Compatibility (EMC) Assurance Process	. 16/
Electronic Signatures	
Electronic Visual Customer Information Systems	. 175
Electroslag Welded Vees for Part-welded Crossings	. 185
Ellipse for Network Rail Work Management	
Ellipse Management Handbook.	83
EMC Strategy for Network Rail.	
EMC Strategy for Network Rail.	
Emergency Disconnection of Grid Supply Feeders for DC Electrification	
Emergency Response Manual	
Energisation of Commercial and Operational Radio Antenna Systems	. 180
Engineering Assurance Arrangements for Communications Engineering Schemes and Services	. 170
Engineering Assurance Arrangements for Signalling Engineering Schemes and Services	141
Engineering Assurance Arrangements for Track Engineering Projects	190
Engineering Assurance of Building and Civil Engineering Works	28
Engineering Assurance of Building and Civil Engineering Works	28 34
Engineering Assurance of Building and Civil Engineering Works	28 34 60
Engineering Assurance of Building and Civil Engineering Works	28 34 60 73
Engineering Assurance of Building and Civil Engineering Works	28 34 60 73
Engineering Assurance of Building and Civil Engineering Works	28 34 60 73 64
Engineering Assurance of Building and Civil Engineering Works Engineering Assurance of Standard Designs and Details for Building and Civil Engineering Works Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects Engineering Assurance Requirements for Ergonomics Within Design and Development Projects Engineering Deliverable Requirements for Electrical Power Asset Design Engineering Management for Projects	28 34 60 73 64 95
Engineering Assurance of Building and Civil Engineering Works Engineering Assurance of Standard Designs and Details for Building and Civil Engineering Works Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects Engineering Assurance Requirements for Ergonomics Within Design and Development Projects Engineering Deliverable Requirements for Electrical Power Asset Design Engineering Management for Projects Engineering Verification	28 34 60 73 64 95 . 167
Engineering Assurance of Building and Civil Engineering Works  Engineering Assurance of Standard Designs and Details for Building and Civil Engineering Works  Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects  Engineering Assurance Requirements for Ergonomics Within Design and Development Projects  Engineering Deliverable Requirements for Electrical Power Asset Design  Engineering Management for Projects  Engineering Verification  Enterprise Risk Management	28 34 60 73 64 95 . 167 94
Engineering Assurance of Building and Civil Engineering Works	28 34 60 73 64 95 . 167 94 71
Engineering Assurance of Building and Civil Engineering Works  Engineering Assurance of Standard Designs and Details for Building and Civil Engineering Works  Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects  Engineering Assurance Requirements for Ergonomics Within Design and Development Projects  Engineering Deliverable Requirements for Electrical Power Asset Design  Engineering Management for Projects  Engineering Verification.  Enterprise Risk Management  Environment and Social Management System Requirements  Environment and Social Performance Policy	28 34 60 73 64 95 167 94 71
Engineering Assurance of Building and Civil Engineering Works. Engineering Assurance of Standard Designs and Details for Building and Civil Engineering Works. Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects. Engineering Assurance Requirements for Ergonomics Within Design and Development Projects. Engineering Deliverable Requirements for Electrical Power Asset Design. Engineering Management for Projects. Engineering Verification. Enterprise Risk Management Enterprise Risk Management System Requirements Environment and Social Management System Requirements Environment Management Standard.	28 34 60 73 64 95 . 167 94 71 71
Engineering Assurance of Building and Civil Engineering Works.  Engineering Assurance of Standard Designs and Details for Building and Civil Engineering Works.  Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects.  Engineering Assurance Requirements for Ergonomics Within Design and Development Projects.  Engineering Deliverable Requirements for Electrical Power Asset Design.  Engineering Management for Projects.  Engineering Verification.  Enterprise Risk Management  Environment and Social Management System Requirements  Environment and Social Performance Policy  Environment Management Standard.  Environment Management System for Infrastructure Maintenance	28 34 60 73 64 95 .167 94 71 71 71
Engineering Assurance of Building and Civil Engineering Works.  Engineering Assurance of Standard Designs and Details for Building and Civil Engineering Works.  Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects.  Engineering Assurance Requirements for Ergonomics Within Design and Development Projects.  Engineering Deliverable Requirements for Electrical Power Asset Design  Engineering Management for Projects  Engineering Verification.  Enterprise Risk Management  Environment and Social Management System Requirements.  Environment and Social Performance Policy  Environment Management Standard.  Environment Management System for Infrastructure Maintenance  Environmental Performance Indicators	28 34 60 73 64 95 71 71 80 71
Engineering Assurance of Building and Civil Engineering Works.  Engineering Assurance of Standard Designs and Details for Building and Civil Engineering Works.  Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects.  Engineering Assurance Requirements for Ergonomics Within Design and Development Projects.  Engineering Deliverable Requirements for Electrical Power Asset Design.  Engineering Management for Projects.  Engineering Verification.  Enterprise Risk Management  Environment and Social Management System Requirements  Environment and Social Performance Policy  Environment Management Standard.  Environment Management System for Infrastructure Maintenance	28 34 60 73 64 95 71 71 80 71
Engineering Assurance of Building and Civil Engineering Works.  Engineering Assurance of Standard Designs and Details for Building and Civil Engineering Works.  Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects.  Engineering Assurance Requirements for Ergonomics Within Design and Development Projects.  Engineering Deliverable Requirements for Electrical Power Asset Design.  Engineering Management for Projects  Engineering Werification.  Enterprise Risk Management  Environment and Social Management System Requirements.  Environment and Social Performance Policy  Environment Management Standard.  Environment Management System for Infrastructure Maintenance  Environmental Performance Indicators  Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal	28 34 60 73 64 95 71 71 71 71 71 71 71 71 728
Engineering Assurance of Building and Civil Engineering Works.  Engineering Assurance of Standard Designs and Details for Building and Civil Engineering Works.  Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects.  Engineering Assurance Requirements for Ergonomics Within Design and Development Projects.  Engineering Deliverable Requirements for Electrical Power Asset Design.  Engineering Management for Projects.  Engineering Werification.  Enterprise Risk Management  Environment and Social Management System Requirements.  Environment and Social Performance Policy.  Environment Management Standard.  Environment Management System for Infrastructure Maintenance  Environmental Performance Indicators  Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal  Equivalent Cable Sizes for Signalling Power Distribution Cables	28 34 60 73 64 95 71 71 71 71 71 71 71 75 75 75
Engineering Assurance of Building and Civil Engineering Works.  Engineering Assurance of Standard Designs and Details for Building and Civil Engineering Works.  Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects.  Engineering Assurance Requirements for Ergonomics Within Design and Development Projects.  Engineering Deliverable Requirements for Electrical Power Asset Design.  Engineering Management for Projects.  Engineering Verification.  Enterprise Risk Management  Environment and Social Management System Requirements.  Environment and Social Performance Policy.  Environment Management Standard.  Environment Management System for Infrastructure Maintenance  Environmental Performance Indicators  Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal  Equivalent Cable Sizes for Signalling Power Distribution Cables  ERSE Mk.4 Product Specification	28 34 60 73 64 95 71 71 71 71 71 71 71 71 71 71 73 71
Engineering Assurance of Building and Civil Engineering Works.  Engineering Assurance of Standard Designs and Details for Building and Civil Engineering Works.  Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects.  Engineering Assurance Requirements for Ergonomics Within Design and Development Projects.  Engineering Deliverable Requirements for Electrical Power Asset Design.  Engineering Wanagement for Projects.  Engineering Werification.  Enterprise Risk Management  Environment and Social Management System Requirements.  Environment and Social Performance Policy.  Environment Management Standard.  Environment Management System for Infrastructure Maintenance  Environmental Performance Indicators  Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal  Equivalent Cable Sizes for Signalling Power Distribution Cables  ERSE Mk. 4 Product Specification  Evaluation and Assessment of Earthworks	28 34 60 73 64 95 71 71 71 80 71 .128 .156 .130 36
Engineering Assurance of Building and Civil Engineering Works.  Engineering Assurance of Standard Designs and Details for Building and Civil Engineering Works.  Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects.  Engineering Assurance Requirements for Ergonomics Within Design and Development Projects.  Engineering Deliverable Requirements for Electrical Power Asset Design.  Engineering Wanagement for Projects.  Engineering Verification.  Enterprise Risk Management  Environment and Social Management System Requirements.  Environment and Social Performance Policy.  Environment Management Standard.  Environment Management System for Infrastructure Maintenance.  Environmental Performance Indicators.  Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal  Equivalent Cable Sizes for Signalling Power Distribution Cables.  ERSE Mk.4 Product Specification.  Evaluation and Assessment of Earthworks  Examination of DC Traction Electrification Equipment in Light Maintenance Depots.	28 34 60 73 64 95 71 71 71 71 71 71 71 36 156 36 48
Engineering Assurance of Building and Civil Engineering Works. Engineering Assurance of Standard Designs and Details for Building and Civil Engineering Works Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects.  Engineering Assurance Requirements for Ergonomics Within Design and Development Projects.  Engineering Deliverable Requirements for Electrical Power Asset Design.  Engineering Management for Projects Engineering Verification.  Enterprise Risk Management Environment and Social Management System Requirements Environment and Social Performance Policy Environment Management System for Infrastructure Maintenance Environment Management System for Infrastructure Maintenance Environmental Performance Indicators  Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal Equivalent Cable Sizes for Signalling Power Distribution Cables ERSE Mk.4 Product Specification  Examination of DC Traction Electrification Equipment in Light Maintenance Depots.  Examination of Earthworks Manual	28 34 60 73 64 95 167 71 71 71 128 156 130 36 34 34
Engineering Assurance of Building and Civil Engineering Works. Engineering Assurance of Standard Designs and Details for Building and Civil Engineering Works. Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects.  Engineering Assurance Requirements for Ergonomics Within Design and Development Projects.  Engineering Deliverable Requirements for Electrical Power Asset Design  Engineering Management for Projects.  Engineering Werification.  Enterprise Risk Management  Environment and Social Management System Requirements  Environment and Social Performance Policy  Environment Management System for Infrastructure Maintenance  Environment Management System for Infrastructure Maintenance  Environmental Performance Indicators  Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal  Equivalent Cable Sizes for Signalling Power Distribution Cables  ERSE Mk.4 Product Specification  Evaluation and Assessment of Earthworks  Examination of DC Traction Electrification Equipment in Light Maintenance Depots.  Examination of Perssure Vessels.	28 34 60 73 64 95 167 71 71 71 128 156 130 36 48 34 50
Engineering Assurance of Building and Civil Engineering Works.  Engineering Assurance of Standard Designs and Details for Building and Civil Engineering Works.  Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects.  Engineering Assurance Requirements for Ergonomics Within Design and Development Projects.  Engineering Deliverable Requirements for Electrical Power Asset Design  Engineering Management for Projects  Engineering Werification.  Enterprise Risk Management  Environment and Social Management System Requirements  Environment and Social Performance Policy  Environment Management Standard.  Environment Management System for Infrastructure Maintenance  Environment Agendary System for Infrastructure Maintenance  Environment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal  Equivalent Cable Sizes for Signalling Power Distribution Cables  ERSE Mk 4 Product Specification  Evaluation and Assessment of Earthworks  Examination of DC Traction Electrification Equipment in Light Maintenance Depots.  Examination of Berthworks Manual  Examination of Pressure Vessels  Examinations, Inspections and Assessments of Buildings & Architecture Assets: Structures and Fabric.	28 34 60 73 64 95 71 71 71 71 71 71 30 36 36 38 34 50 31
Engineering Assurance of Building and Civil Engineering Works. Engineering Assurance of Standard Designs and Details for Building and Civil Engineering Works. Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects.  Engineering Assurance Requirements for Ergonomics Within Design and Development Projects.  Engineering Deliverable Requirements for Electrical Power Asset Design  Engineering Management for Projects.  Engineering Werification.  Enterprise Risk Management  Environment and Social Management System Requirements  Environment and Social Performance Policy  Environment Management System for Infrastructure Maintenance  Environment Management System for Infrastructure Maintenance  Environmental Performance Indicators  Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal  Equivalent Cable Sizes for Signalling Power Distribution Cables  ERSE Mk.4 Product Specification  Evaluation and Assessment of Earthworks  Examination of DC Traction Electrification Equipment in Light Maintenance Depots.  Examination of Perssure Vessels.	28 34 60 73 64 95 71 71 71 71 71 71 30 36 36 38 34 50 31
Engineering Assurance of Building and Civil Engineering Works.  Engineering Assurance of Standard Designs and Details for Building and Civil Engineering Works.  Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects.  Engineering Assurance Requirements for Ergonomics Within Design and Development Projects.  Engineering Deliverable Requirements for Electrical Power Asset Design  Engineering Management for Projects  Engineering Werification.  Enterprise Risk Management  Environment and Social Management System Requirements  Environment and Social Performance Policy  Environment Management Standard.  Environment Management System for Infrastructure Maintenance  Environment Agendary System for Infrastructure Maintenance  Environment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal  Equivalent Cable Sizes for Signalling Power Distribution Cables  ERSE Mk 4 Product Specification  Evaluation and Assessment of Earthworks  Examination of DC Traction Electrification Equipment in Light Maintenance Depots.  Examination of Berthworks Manual  Examination of Pressure Vessels  Examinations, Inspections and Assessments of Buildings & Architecture Assets: Structures and Fabric.	28 34 60 73 64 95 71 71 71 71 71 30 36 34 35 35 38 34 50 31 82
Engineering Assurance of Building and Civil Engineering Works.  Engineering Assurance of Standard Designs and Details for Building and Civil Engineering Works.  Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects.  Engineering Assurance Requirements for Ergonomics Within Design and Development Projects.  Engineering Deliverable Requirements for Electrical Power Asset Design  Engineering Management for Projects  Engineering Verification.  Enterprise Risk Management  Environment and Social Management System Requirements  Environment and Social Management System Requirements  Environment Management Standard  Environment Management Standard  Environment Management System for Infrastructure Maintenance  Environmental Performance Indicators  Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal  Equivalent Cable Sizes for Signalling Power Distribution Cables  ERSE Mk. 4 Product Specification  Evaluation and Assessment of Earthworks  Examination of DC Traction Electrification Equipment in Light Maintenance Depots  Examination of Fersure Vessels  Examination of Pressure Vessels  Examinations, Inspections and Assessments of Buildings & Architecture Assets: Structures and Fabric.  Exploiting New Technology.  Failure Escalation of Servo Type Hot Axle Bearing Detector (HABD) Equipment.	28 34 60 73 64 95 71 71 71 71 71 30 31 38 38 38 38 39 31 36 38 39 31 82 92
Engineering Assurance of Building and Civil Engineering Works.  Engineering Assurance of Standard Designs and Details for Building and Civil Engineering Works.  Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects.  Engineering Assurance Requirements for Ergonomics Within Design and Development Projects.  Engineering Deliverable Requirements for Electrical Power Asset Design.  Engineering Management for Projects.  Engineering Verification.  Enterprise Risk Management  Environment and Social Management System Requirements.  Environment and Social Performance Policy.  Environment Management Standard.  Environment Management System for Infrastructure Maintenance.  Environment Management System for Infrastructure Maintenance.  Environment Agenomical Performance Indicators.  Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal.  Equivalent Cable Sizes for Signalling Power Distribution Cables.  ERSE Mk. 4 Product Specification.  Evaluation and Assessment of Earthworks.  Examination of D Traction Electrification Equipment in Light Maintenance Depots.  Examination of Pressure Vessels.  Examinations, Inspections and Assessments of Buildings & Architecture Assets: Structures and Fabric.  Exploiting New Technology.  Failure Escalation of Servo Type Hot Axle Bearing Detector (HABD) Equipment.  Fatigue Risk Management.	28 34 60 73 64 95 71 71 71 71 71 36 36 34 35 36 38 34 50 31 82 92 122
Engineering Assurance of Building and Civil Engineering Works. Engineering Assurance of Standard Designs and Details for Building and Civil Engineering Works. Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects Engineering Assurance Requirements for Ergonomics Within Design and Development Projects. Engineering Deliverable Requirements for Electrical Power Asset Design Engineering Management for Projects Engineering Management for Projects Engineering Verification. Enterprise Risk Management Environment and Social Management System Requirements Environment and Social Management System Requirements Environment Management System for Infrastructure Maintenance Environment Management System for Infrastructure Maintenance Environmental Performance Indicators Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal Equivalent Cable Sizes for Signalling Power Distribution Cables ERSE Mk. 4 Product Specification Evaluation and Assessment of Earthworks Examination of DC Traction Electrification Equipment in Light Maintenance Depots Examination of DC Traction Electrification Equipment in Light Maintenance Depots Examination of Portion Electrification Equipment Samination of Servo Type Hot Axle Bearing Detector (HABD) Equipment Failure Escalation of Servo Type Hot Axle Bearing Detector (HABD) Equipment Failure Risk Management Fault Priority and Response Times for Operational Telecommunications Services	28 34 60 73 94 71 71 71 71 71 36 36 34 34 35 32
Engineering Assurance of Building and Civil Engineering Works.  Engineering Assurance of Standard Designs and Details for Building and Civil Engineering Works.  Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects.  Engineering Assurance Requirements for Ergonomics Within Design and Development Projects.  Engineering Deliverable Requirements for Electrical Power Asset Design.  Engineering Management for Projects.  Engineering Verification.  Enterprise Risk Management  Environment and Social Management System Requirements.  Environment and Social Performance Policy.  Environment Management Standard.  Environment Management System for Infrastructure Maintenance.  Environment Management Infrastructure Maintenance.  Environmental Performance Indicators.  Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal.  Equivalent Cable Sizes for Signalling Power Distribution Cables.  ERSE Mk. 4 Product Specification  Evaluation and Assessment of Earthworks.  Examination of DC Traction Electrification Equipment in Light Maintenance Depots.  Examination of Pressure Vessels.  Examination of Pressure Vessels.  Examinations, Inspections and Assessments of Buildings & Architecture Assets: Structures and Fabric.  Exploiting New Technology.  Failure Escalation of Servo Type Hot Axle Bearing Detector (HABD) Equipment.  Fatigue Risk Management.  Fatigue Risk Management.  Fatigue Risk Management.  Fatigue Price Extinguishers.	28 34 60 73 71 71 71 71 71 71 71 71 30 36 36 36 36 36 36 36 36 37 31 82 92 122 .168 74
Engineering Assurance of Building and Civil Engineering Works. Engineering Assurance of Standard Designs and Details for Building and Civil Engineering Works. Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects. Engineering Assurance Requirements for Ergonomics Within Design and Development Projects. Engineering Banagement for Projects Engineering Management for Projects Engineering Werification. Enterprise Risk Management Environment and Social Management System Requirements Environment and Social Management System Requirements Environment and Social Performance Policy Environment Management System for Infrastructure Maintenance Environment Management System for Infrastructure Maintenance Environment Performance Indicators Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal Equivalent Cable Sizes for Signalling Power Distribution Cables ERSE Mk. 4 Product Specification Evaluation and Assessment of Earthworks Examination of DC Traction Electrification Equipment in Light Maintenance Depots Examination of Pressure Vessels Examination of Pressure Vessels Examination of Pressure Vessels Examination of Servo Type Hot Axle Bearing Detector (HABD) Equipment Failure Escalation of Servo Type Hot Axle Bearing Detector (HABD) Equipment Failure Risk Management. Fault Priority and Response Times for Operational Telecommunications Services Fire Safety — Fire Log Book.	28 34 60 73 71 71 71 71 71 71 71 71 30 36 36 34 50 31 82 92 122 92 122 74 74 74 74
Engineering Assurance of Building and Civil Engineering Works. Engineering Assurance of Standard Designs and Details for Building and Civil Engineering Works. Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects. Engineering Assurance Requirements for Ergonomics Within Design and Development Projects. Engineering Deliverable Requirements for Electrical Power Asset Design. Engineering Management for Projects. Engineering Management for Projects. Engineering Werification. Enterprise Risk Management Environment and Social Management System Requirements Environment and Social Management System Requirements Environment Management Standard Environment Management Standard Environment Management System for Infrastructure Maintenance Environmental Performance Indicators. Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal Equipment Specification Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal Equipment Specification Filament Lamp (Type SL35) for use in the Long	28 34 60 73 74 71 80 71 71 80 74 75 36 36 36 36 36 36 37 37 82 92 122 168 74 74 74 74 74
Engineering Assurance of Standard Designs and Details for Building and Civil Engineering Works. Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects. Engineering Assurance Requirements for Ergonomics Within Design and Development Projects. Engineering Deliverable Requirements for Electrical Power Asset Design. Engineering Management for Projects. Engineering Management for Projects. Engineering Werification. Enterprise Risk Management System Requirements. Environment and Social Management System Requirements. Environment and Social Performance Policy. Environment Management Standard. Environment Management Standard. Environment Management System for Infrastructure Maintenance. Environmental Performance Indicators Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal Equivalent Cable Sizes for Signalling Power Distribution Cables ERSE Mk 4 Product Specification. Evaluation and Assessment of Earthworks. Examination of DC Traction Electrification Equipment in Light Maintenance Depots. Examination of Pressure Vessels Examinations, Inspections and Assessments of Buildings & Architecture Assets: Structures and Fabric. Examinations, Inspections and Assessments of Buildings & Architecture Assets: Structures and Fabric. Exploiting New Technology. Failure Escalation of Servo Type Hot Axle Bearing Detector (HABD) Equipment. Faitgue Risk Management. Faitgue Risk Management. Faitgue Risk Management. Faitgue Risk Management. Fire Safety – Fire Extinguishers Fire Safety – Fire Extinguishers Fire Safety – Fire Risk Assessment.	28 34 60 71 71 80 71 71 80 71 36 48 34 50 31 36 48 34 50 31 82 74 74 74 74 74 74
Engineering Assurance of Suilding and Civil Engineering Works. Engineering Assurance of Standard Designs and Details for Building and Civil Engineering Works. Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects. Engineering Assurance Requirements for Ergonomics Within Design and Development Projects. Engineering Deliverable Requirements for Electrical Power Asset Design. Engineering Management for Projects. Engineering Management for Projects. Engineering Werification. Enterprise Risk Management Environment and Social Management System Requirements. Environment and Social Performance Policy. Environment Management Standard. Environment Management System for Infrastructure Maintenance. Environment Management System for Infrastructure Maintenance. Environment Management System for Infrastructure Maintenance. Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal Equipment of Product Specification Explaination of Product Specification Evaluation and Assessment of Earthworks Examination of DC Traction Electrification Equipment in Light Maintenance Depots Examination of Farthworks Manual Examination of Farthworks Manual Examination of Farthworks Manual Examinations, Inspections and Assessments of Buildings & Architecture Assets: Structures and Fabric Exploiting New Technology. Failure Escalation of Servo Type Hot Axle Bearing Detector (HABD) Equipment. Fault Priority and Response Times for Operational Telecommunications Services Fire Safety – Fire Extinguishers Fire Safety – Fire Extinguishers Fire Safety – Fire Risk Assessment. Fire Safety – Fire Risk Assessment. Fire Safety – Maintenance. Fire Safety – Maintenance.	28 34 60 73 71 80 71 71 80 71 81 34 50 31 82 168 48 34 50 31 82 122 .168 74 74 74 74 74 74 74
Engineering Assurance of Standard Designs and Details for Building and Civil Engineering Works. Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects. Engineering Assurance Requirements for Ergonomics Within Design and Development Projects. Engineering Deliverable Requirements for Electrical Power Asset Design. Engineering Management for Projects. Engineering Management for Projects. Engineering Werification. Enterprise Risk Management System Requirements. Environment and Social Management System Requirements. Environment and Social Performance Policy. Environment Management Standard. Environment Management Standard. Environment Management System for Infrastructure Maintenance. Environmental Performance Indicators Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal Equivalent Cable Sizes for Signalling Power Distribution Cables ERSE Mk 4 Product Specification. Evaluation and Assessment of Earthworks. Examination of DC Traction Electrification Equipment in Light Maintenance Depots. Examination of Pressure Vessels Examinations, Inspections and Assessments of Buildings & Architecture Assets: Structures and Fabric. Examinations, Inspections and Assessments of Buildings & Architecture Assets: Structures and Fabric. Exploiting New Technology. Failure Escalation of Servo Type Hot Axle Bearing Detector (HABD) Equipment. Faitgue Risk Management. Faitgue Risk Management. Faitgue Risk Management. Faitgue Risk Management. Fire Safety – Fire Extinguishers Fire Safety – Fire Extinguishers Fire Safety – Fire Risk Assessment.	28 34 60 73 71 80 71 71 80 71 81 34 50 31 82 168 48 34 50 31 82 122 .168 74 74 74 74 74 74 74
Engineering Assurance of Building and Civil Engineering Works. Engineering Assurance of Standard Designs and Details for Building and Civil Engineering Works Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects. Engineering Assurance Requirements for Ergonomics Within Design and Development Projects. Engineering Deliverable Requirements for Electrical Power Asset Design Engineering Management for Projects Engineering Management for Projects Engineering Werification Enterprise Risk Management Environment and Social Management System Requirements Environment and Social Performance Policy Environment Management Standard Environment Management System for Infrastructure Maintenance Environment Management System for Infrastructure Maintenance Environmental Performance Indicators Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal Equivalent Cable Sizes for Signalling Power Distribution Cables ERSE Mk 4 Product Specification Evaluation and Assessment of Earthworks Examination of Earthworks Manual Examination of Farthworks Manual Examination of Farthworks Manual Examination of Farthworks Manual Examinations, Inspections and Assessments of Buildings & Architecture Assets: Structures and Fabric Exploiting New Technology. Failure Escalation of Servo Type Hot Axle Bearing Detector (HABD) Equipment. Fault Priority and Response Times for Operational Telecommunications Services Fire Safety – Fire Extinguishers Fire Safety – Fire Extinguishers Fire Safety – Fire Risk Assessment. Fire Safety – Fire Risk Assessment. Fire Safety – Fire Risk Assessment. Fire Safety – Managed Stations	28 34 60 73 74
Engineering Assurance of Building and Civil Engineering Works. Engineering Assurance of Standard Designs and Details for Building and Civil Engineering Works. Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects. Engineering Deliverable Requirements for Electrical Power Asset Design. Engineering Deliverable Requirements for Electrical Power Asset Design. Engineering Deliverable Requirements for Electrical Power Asset Design. Engineering Management for Projects. Engineering Warfication. Enterprise Risk Management Environment and Social Management System Requirements. Environment and Social Performance Policy. Environment Management Standard. Environment Management System for Infrastructure Maintenance. Environment Management System Infrastructure Maintenance. Environment Performance Indicators Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal . Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal . Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal . Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal . Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal . Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal . Equipment Specification of DC Traction Electrification Equipment in Light Maintenance Depots . Examination of DC Traction and Assessment of Eurification Equipment in Light Maintenance Depots . Examination of Pressure Vessels . Exami	28 34 60 73 64 95 .167 71 71 71 80 156 130 36 48 34 49 128 128 129 129 129 129 129 129 129 129 129 74 74 74 74 74
Engineering Assurance of Building and Civil Engineering Works. Engineering Assurance of Standard Designs and Details for Building and Civil Engineering Works. Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects. Engineering Assurance Requirements for Ergonomics Within Design and Development Projects. Engineering Deliverable Requirements for Electrical Power Asset Design. Engineering Deliverable Requirements for Electrical Power Asset Design. Engineering Management for Projects. Engineering Verification. Enterprise Risk Management Environment and Social Management System Requirements. Environment and Social Management System Requirements. Environment and Social Performance Policy. Environment Management Standard. Environment Management Standard. Environment Management Standard. Environment Management System for Infrastructure Maintenance. Environment Apecification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal. Equivalent Calbe Sizes for Signalling Power Distribution Cables ERSE Mk 4 Product Specification. Evaluation and Assessment of Earthworks. Examination of DC Traction Electrification Equipment in Light Maintenance Depots. Examination of DC Traction Electrification Equipment in Light Maintenance Depots. Examination of Pressure Vessels. Examination of Pressure Vessels. Examination of Pressure Vessels. Examination of Pressure Devises Assessments of Buildings & Architecture Assets: Structures and Fabric. Examination of Pressure Devises Selection of Servo Type Hot Axle Bearing Detector (HABD) Equipment. Failure Escalation of Servo Type Hot Axle Bearing Detector (HABD) Equipment. Failure Escalation of Servo Type Hot Axle Bearing Detector (HABD) Equipment. Failure Escalation of Servo Type Hot Axle Bearing Detector (HABD) Equipment. Fire Safety — Fire Risk Assessment. Fire Safety — Fire Risk Assessment. Fire Safety — Fire Risk Assessment. Fire Safety — Fire Poperty Business Space, Freight & Miscellaneous Portfolios	28 34 60 73 64 95 .167 91 71 80 71 80 156 .130 36 48 34 50 122 162 162 74 74 74 74 74 74
Engineering Assurance of Building and Civil Engineering Works Engineering Assurance of Standard Designs and Details for Building and Civil Engineering Works  Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects  Engineering Assurance Requirements for Ergonomics Within Design and Development Projects  Engineering Management for Projects  Engineering Management for Projects  Engineering Verification  Enterprise Risk Management System Requirements  Environment and Social Management System Requirements  Environment and Social Performance Policy  Environment Management Standard  Environment Management System for Infrastructure Maintenance  Environment Management System for Infrastructure Maintenance  Environmental Performance Indicators  Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal  Equivalent Cable Sizes for Signalling Power Distribution Cables  ENSE Mk. 4 Product Specification  Evaluation and Assessment of Earthworks  Examination of DC Traction Electrification Equipment in Light Maintenance Depots  Examination of Berthworks Manual  Examination of Pressure Vessels  Examination of Pressure Vessels  Examination of Pressure Vessels  Examination of Servo Type Hot Axle Bearing Detector (HABD) Equipment  Fault Priority and Response Times for Operational Telecommunications Services  Fire Safety — Fire Extinguishers  Fire Safety — Fire Risk Assessment.  Fire Safety — Operational Estate  Fire Safety — Property: Business Space, Freight & Miscellaneous Portfolios  Fire Safety — Operational Estate	28 34 60 73 64 95 .167 94 71 80 71 .128 156 36 34 30 31 36 48 34 50 31 82 92 168 74 74 74 74 74 74 74 74 74
Engineering Assurance of Building and Civil Engineering Works.  Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects.  Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects.  Engineering Deliverable Requirements for Electrical Power Asset Design  Engineering Deliverable Requirements for Electrical Power Asset Design  Engineering Management for Projects  Engineering Verification  Enterprise Risk Management  Environment and Social Management System Requirements  Environment and Social Performance Policy  Environment Management System for Infrastructure Maintenance  Environmental Performance Indicators  Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal  Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal  Equipment Specification  EVALUATION OF The Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal  Equipment Specification of the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal  Equipment Specification of the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal  Equipment Specification of the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal  Equipment Specification of Servi Dute State Sta	28 34 60 73 64 95 .167 94 71 80 71 .128 156 48 34 50 31 82 168 74 74 74 74 74 74 74 74 74 74 74 74 74
Engineering Assurance of Building and Civil Engineering Works Engineering Assurance Requirements for Design and Details for Building and Civil Engineering Morks Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects Engineering Assurance Requirements for Electrical Power Asset Design Engineering Deliverable Requirements for Electrical Power Asset Design Engineering Deliverable Requirements for Electrical Power Asset Design Engineering Verification. Enterprise Risk Management for Projects Environment and Social Management System Requirements Environment and Social Performance Policy Environment Almagement Standard Environment Management System for Infrastructure Maintenance Environment Management System for Infrastructure Maintenance Environmental Performance Indicators Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal Equipment Specification of the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal Equipment Specification of the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal Equivalent Cable Sizes for Signalling Power Distribution Cables ERSE Mk. 4 Product Specification Evaluation and Assessment of Earthworks Examination of DC Traction Electrification Equipment in Light Maintenance Depots Examination of Barthworks Manual Examination of Pressure Vessels Examination of DC Traction Electrification Equipment Includes the Architecture Assets: Structures and Fabric Examination of Barthworks Manual Examination of DC Traction Electrification Equipment Includes the Architecture Assets: Structures and Fabric Examination of DC Traction Electrification Equipment Incl	28 34 60 73 64 95 167 71 71 71 71 71 71 36 34 34 50 31 82 168 74
Engineering Assurance of Building and Civil Engineering Works.  Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects.  Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects.  Engineering Deliverable Requirements for Electrical Power Asset Design  Engineering Deliverable Requirements for Electrical Power Asset Design  Engineering Management for Projects  Engineering Verification  Enterprise Risk Management  Environment and Social Management System Requirements  Environment and Social Performance Policy  Environment Management System for Infrastructure Maintenance  Environmental Performance Indicators  Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal  Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal  Equipment Specification  EVALUATION OF The Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal  Equipment Specification of the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal  Equipment Specification of the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal  Equipment Specification of the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal  Equipment Specification of Servi Dute State Sta	28 34 60 73 64 95 167 71 71 71 71 71 71 36 34 34 50 31 82 168 74
Engineering Assurance of Building and Civil Engineering Works Engineering Assurance Requirements for Design and Details for Building and Civil Engineering Morks Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects Engineering Assurance Requirements for Electrical Power Asset Design Engineering Deliverable Requirements for Electrical Power Asset Design Engineering Deliverable Requirements for Electrical Power Asset Design Engineering Verification. Enterprise Risk Management for Projects Environment and Social Management System Requirements Environment and Social Performance Policy Environment Almagement Standard Environment Management System for Infrastructure Maintenance Environment Management System for Infrastructure Maintenance Environmental Performance Indicators Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal Equipment Specification of the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal Equipment Specification of the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal Equivalent Cable Sizes for Signalling Power Distribution Cables ERSE Mk. 4 Product Specification Evaluation and Assessment of Earthworks Examination of DC Traction Electrification Equipment in Light Maintenance Depots Examination of Barthworks Manual Examination of Pressure Vessels Examination of DC Traction Electrification Equipment Includes the Architecture Assets: Structures and Fabric Examination of Barthworks Manual Examination of DC Traction Electrification Equipment Includes the Architecture Assets: Structures and Fabric Examination of DC Traction Electrification Equipment Incl	28 34 60 73 74 76 60 69
Engineering Assurance of Building and Civil Engineering Works Engineering Assurance of Standard Designs and Details for Building and Civil Engineering Morks Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects Engineering Deliverable Requirements for Electrical Power Asset Design Engineering Verification. Enterprise Risk Management for Projects Environment and Social Management System Requirements Environment and Social Performance Policy Environment Management System for Infrastructure Maintenance Environment Management System for Infrastructure Maintenance Environmental Performance Indicators Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal Equipment Specification of the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal Equipment Specification of Electrification Equipment in Light Maintenance Depots. Examination of DC Traction Electrification Equipment in Light Maintenance Depots. Examination of DC Traction Electrification Equipment in Light Maintenance Depots. Examination of Earthworks Manual Examination in Inspections and Assessments of Buildings & Architecture Assets: Structures and Fabric Examination of Pressure Vessels Examination of Earthworks Manual Examination Inspections and Assessments of Buildings & Architecture Assets: Structures and Fabric Exploiting New Technology Files Safety — Files Depote Maintenance Files Safety — Files Light Report P	28 34 60 73 64 95 .167 91 71 80 71 80 1130 36 48 34 50 31 82 92 128 128 74 74 74 74 74 74 74 74 74 74 74 74 60 69 64
Engineering Assurance of Suiding and Civil Engineering Works. Engineering Assurance of Standard Designs and Details for Building and Civil Engineering Morks Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects. Engineering Assurance Requirements for Electrical Power Asset Design Engineering Deliverable Requirements for Electrical Power Asset Design Engineering Management for Projects Engineering Management for Projects Engineering Verification. Enterprise Risk Management Environment and Social Management System Requirements Environment and Social Management System Requirements Environment and Social Management System Requirements Environment Management System for Infrastructure Maintenance Environment Management System for Infrastructure Maintenance Environmental Performance Indicators Equivalent Cable Sizes for Signalling Power Distribution Cables ERSE Mk A Product Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal Equivalent Cable Sizes for Signalling Power Distribution Cables ERSE Mk A Product Specification Evaluation and Assessment of Earthworks Examination of DC Traction Electrification Equipment in Light Maintenance Depots Examination of DC Traction Electrification Equipment in Light Maintenance Depots Examination of Earthworks Manual Examination of Pressure Vessels Examination of Pressure Vessels Examination of Management Failure Escalation of Servo Type Hot Axie Bearing Detector (HABD) Equipment Failure File Safety – Fire Extinguishers Fire Safety – Fire Extinguishers Fire Safety – Fire Extinguishers Fire Safety – Operational Estate Fire	28 34 60 73 64 95 .167 94 71 80 71 128 156 36 48 34 50 36 48 34 50 162 162 74
Engineering Assurance of Building and Civil Engineering Works. Engineering Assurance of Standard Designs and Details for Building and Civil Engineering Morks Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects. Engineering Assurance Requirements for Electrical Power Asset Design Engineering Deliverable Requirements for Electrical Power Asset Design Engineering Management for Projects Engineering Verification. Enterprise Risk Management Environment and Social Management System Requirements Environment and Social Management System Requirements Environment and Social Management System Requirements Environment Management System for Infrastructure Maintenance Environment Management System for Infrastructure Maintenance Environment Performance Indicators Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal Equivalent Cable Sizes for Signalling Power Distribution Cables ERSE Mk. 4 Product Specification Evaluation and Assessment of Earthworks Examination of DC Traction Electrification Equipment in Light Maintenance Depots Examination of DC Traction Electrification Equipment in Light Maintenance Depots Examinations, Inspections and Assessments of Buildings & Architecture Assets: Structures and Fabric. Exploiting New Technology. Failure Escalation of Servo Type Hot Axle Bearing Detector (HABD) Equipment. Failure Risk Management. Failure Priority and Response Times for Operational Telecommunications Services Fire Salety — Fire English Management. Fire Salety — Fire English Sassessments Fire Salety — Fire Property: Business Space, Freight & Miscellaneous Portfolios Fire Salety — Froperty: Business Space, Freight & Miscellaneous Portfolios Fire Salety — Froperty: Business Space, Freight & Miscellaneous Portfolios Fire Salety — Flant Equipment Reporting Fire Aslety Polary Stations, Switch Rails and Transition Rails.	28 34 60 73 64 95 .167 94 71 71 80 71 .128 36 36 34 30 36 48 34 50 31 36 48 74
Engineering Assurance of Suiding and Civil Engineering Works. Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects. Engineering Assurance Requirements for Engonomics Within Design and Development Projects. Engineering Deliverable Requirements for Electrical Power Asset Design Engineering Geliverable Requirements for Electrical Power Asset Design Engineering Management for Projects. Engineering Werification. Enterprise Risk Management Environment and Social Management System Requirements. Environment and Social Management System Requirements. Environment and Social Performance Policy Environment Management System for Infrastructure Maintenance. Expulsion of Derformance Infrastructure Maintenance. Expulsion of Der Traction Electrification Equipment in Light Maintenance Depots. Examination of Der Traction Electrification Equipment in Light Maintenance Depots. Examination of Pressure Vessels. Examination of Earthworks Manual.  Examination of Pressure Vessels. Examination of Pressure Vessels. Examination of Pressure Vessels. Examination of Earthworks Manual.  Examination of Pressure Vessels. Examination of Pressure Ves	28 34 60 61 62 62 62 62 62 62 62 62 62 63 64 74
Engineering Assurance of Building and Civil Engineering Works. Engineering Assurance of Standard Designs and Details for Building and Civil Engineering Morks Engineering Assurance Requirements for Design and Implementation of Electrical Power Engineering Infrastructure Projects. Engineering Assurance Requirements for Electrical Power Asset Design Engineering Deliverable Requirements for Electrical Power Asset Design Engineering Management for Projects Engineering Verification. Enterprise Risk Management Environment and Social Management System Requirements Environment and Social Management System Requirements Environment and Social Management System Requirements Environment Management System for Infrastructure Maintenance Environment Management System for Infrastructure Maintenance Environment Performance Indicators Equipment Specification for the Filament Lamp (Type SL35) for use in the Long Range Colour Light Signal Equivalent Cable Sizes for Signalling Power Distribution Cables ERSE Mk. 4 Product Specification Evaluation and Assessment of Earthworks Examination of DC Traction Electrification Equipment in Light Maintenance Depots Examination of DC Traction Electrification Equipment in Light Maintenance Depots Examinations, Inspections and Assessments of Buildings & Architecture Assets: Structures and Fabric. Exploiting New Technology. Failure Escalation of Servo Type Hot Axle Bearing Detector (HABD) Equipment. Failure Risk Management. Failure Priority and Response Times for Operational Telecommunications Services Fire Salety — Fire English Management. Fire Salety — Fire English Sassessments Fire Salety — Fire Property: Business Space, Freight & Miscellaneous Portfolios Fire Salety — Froperty: Business Space, Freight & Miscellaneous Portfolios Fire Salety — Froperty: Business Space, Freight & Miscellaneous Portfolios Fire Salety — Flant Equipment Reporting Fire Aslety Polary Stations, Switch Rails and Transition Rails.	28 34 60 73 74

Gauge Capability Certification	188
General Guidelines on Train Protection and the Provision of Signalling	163
General Instructions to Staff Working on S & T Equipment	149
General Maintenance Parameters for Overhead Line Electrification Equipment	56
Generic Environmental Management for Light Maintenance Depots	72
Geotechnical Design	
Geotextiles	
Good Practice Guide - Acic Track Circuit Leaf Fall Detection Unit	
Governance for Railway Investment Projects (GRIP) - Closing a Project	
Governance for Railway Investment Projects (GRIP) - Controlling a Stage	
Governance for Railway Investment Projects (GRIP) – Initiating a Project.	
Governance for Railway Investment Projects (GRIP) - Leading a Project	
Governance for Railway Investment Projects (GRIP) - Managing a Stage Boundary	99
Governance for Railway Investment Projects (GRIP) – Programmes	
Governance for Railway Investment Projects (GRIP) – Projects	
Governance for Railway Investment Projects (GRIP) – Starting a Project	
Graffiti, Litter and Fly-tipping Management	
SSM-R Air Interface Functionality, Availability Management and Compliance Validation	175
Guidance for Compatibility Between Electric Trains and Electrification Systems	67
Guidance for Completing the Standards Challenge Application Form	6
Guidance for Consideration of TASS Balises During Railway Engineering Activities	
Guidance For Consideration of TPWS During Railway Engineering Activities	163
Guidance for Electric Cable Installations Associated With Plant and Machinery in B.R. Underground and Other Specified Locations	67
Guidance for Electrical Installations on Rail Premises (Including Plugs, Sockets, Trailing Leads and Appliances)	
Guidance for Signalling Power Supplies	
Guidance for the Design, Specification and Maintenance of Hydraulic Systems	
J , 1	
Guidance for the Technical Management of Booster Transformer Outages	
Guidance Manual for Stations and Depots – Equipment Maintenance	
Guidance Note for New and Upgraded Lifts	
Guidance Note for Signalling Power Supply Design	67
Guidance Note for the Management of Safety Related Reports for Telecoms Failures	
Guidance Note for Uninterruptible Power Supply (UPS) Equipment	
Guidance on Contractual Health and Safety Requirements	46
Guidance on Contraction Fleath and Galety Requirements  Guidance on Taking Possession of Withdrawable DC Circuit Breakers	
Guidance on the Management of Door to Door Work and Travel Time.	09
Hand Arm Vibration Management	
Handbook for EBI Track 200 Audio Frequency Track Circuit	
Handbook for EBI Track 400 Audio Frequency Track Circuit	
Handbook for the Examination of Structures	32
Health & Safety Notice Boards	91
Health Screening and Health Surveillance for Noise Induced Hearing Loss	124
Health Surveillance and Management of Diagnoses for Hand-Arm Vibration Syndrome	
Health Surveillance for Silica and Asbestos and the Management of Diagnosed Occupational Respiratory Conditions	124
High Risk Sites for Wrong Side Track Circuit Failures in Leaf Fall Areas and for Low Rail Adhesion	
ligh Street Environment & Conditions for Work Outside Network Rail Managed Infrastructure	
Highways Interface Planning in Infrastructure Maintenance	
How to Change Utility Supplies	
HPSS Handbook	136
HVI Track Circuits	131
Hy-Drive Supplementary Point Drive System	152
dentification and Colours for Signalling Power Distribution Cables	156
dentification and Inspection of Two-Levelled S&C	211
dentification of Bonds on all Electrified Lines Except the Southern Areas of Network Rail	
dentification of Component Failures in 25kV Overhead Line Equipment	
ECC Applications Manual Contents	
ECC Internal Subsystems Communications Requirements	
ECC Operating Specification for Signalling Control and Indications Purposes	
ECC Technicians Manual	
ECC Timetable Processor Edit Facilities User Guide	127
mmunity Test Requirements for Lineside Communications Systems	170
mpedance Bonds	
rpedances of 25kV AC Overhead Lines for Classic System	
mplementation of the Network Rail Project Control Cycle	
mposition and Removal of Emergency and Temporary Speed Restrictions.	
ndex of Network Rail Documents relating to Signalling & Communications Equipment	
ndex of Network Rail Documents Relating to Signalling and Communications Equipment: Part 2 – Signalling Structure Drawings	
ndex of Network Rail Documents Relating to Signalling Equipment: Mechanical & Electrical Drawings	
ndex of NR Documents Relating to Signalling and Communications Equipment	
ndex of Standard Designs and Details for Building and Civil Engineering Works	
ndex of Standard Electrical Power Forms	69
ndex of Standard Maintenance Forms	84
ndex of Track Bowties	
ndex of Track Engineering Forms	
ndex of Track Work Information Sheets	
nfection Control Guidance	
nformation Classifications - Security	
nformation Security Manual	
nformation Security Policy	
nfrastructure Maintenance Engineering Management Plan for Projects	84
nfrastructure Maintenance Planning Handbook	78
nfrastructure Maintenance Process for the Management of Fatigue and Control of Working Hours for Employees Undertaking Safety Critical Work	84
nfrastructure Maintenance Restructure – Competency Matrix	
nfrastructure Maintenance Restructure - Cross Boundary Working for S&T Response	
nfrastructure Maintenance Restructure - Guidance on the Electrification & Plant Organisation	dЗ
nfrastructure Maintenance Restructure - Guidance on the Electrification & Plant Organisation	
nfrastructure Maintenance Restructure - Guidance on the Signalling Organisation	93
	93 93

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Management of Building Services

Management of Cable & Wire Insulation	
Management of Coal Mining Subsidence Affecting Track Infrastructure	
Management of Cold Weather Precautions (Track)	
Management of Contractors	
Management of Data from Logging Systems & Event Recorders	
Management of Defective Cables	
Management of Disconnections that Affect Signalling Equipment	154 20
Management of Existing Ancillary Structures	23 27
Management of Existing Bridges and Culverts	
Management of Existing Buildings and Station Structures	
Management of Existing Coastal, Estuarine and River Defences	
Management of Existing Retaining Walls	
Management of Existing Tunnels	
Management of Hot Weather Precautions (Track)	
Management of Incidents Involving Damage to the OLE	
Management of Industrial Rail Vehicles	115
Management of M&EE Safety Related Event Reports	155
Management of Maintenance for Traction and Rolling Stock, On Track Machines and On Track Plant	
Management of Maintenance Work Within a Worksite to Prevent a Possession Overrun	84
Management of Manual Handling Risk	123
Management of Manual Ultrasonic Weld Testing	197
Management of Occupational Road Risk Policy	
Management of Operational Signalling Equipment Involved in Wrong Side Failures and Incidents	156
Management of Pan 8 and Lockspiked Track	
Management of Permanent Way Inspections	
Management of Portable and Transportable Plant	
Management of Rail Defects	
Management of Rail Stress and Critical Rail Temperatures	198
Management of Rail Testing using Train Based Sperry-Equipped Ultrasonic Test Unit (Sperry UTU)	189
Management of Rail Welding	201
Management of Reports of Safety Related Geotechnical Incidents	
Management of Reports on Bridge Strikes	
Management of Request for Extended DC Feeding Arrangements	
Management of Responses to Extreme Weather Conditions at Structures, Earthworks and Other Key Locations	
Management of Risk Arising from Deferred Renewals	
Management of Risk Arising from Deferred Renewals (Track)	
Management of Risk at User Worked Level Crossings Equipped with Power Gate Openers (POGOs) or with Barriers and Miniature Stop Lights (MSLs)	
Management of Rule Book Change	109
Management of Safety Related Reports for Signalling and Telecoms Failures	
	153
Management of Safety Related Reports for Signalling Failures Appendix	
Management of Safety Related Reports for Signalling Failures Appendix	180
Management of Safety Related Reports for Signalling Failures Appendix	180 107
Management of Safety Related Reports for Signalling Failures Appendix	180 107 154
Management of Safety Related Reports for Signalling Failures Appendix	180 107 154 133
Management of Safety Related Reports for Signalling Failures Appendix	180 107 154 133
Management of Safety Related Reports for Signalling Failures Appendix	180 107 154 155 155
Management of Safety Related Reports for Signalling Failures Appendix	180 154 133 155 155 69
Management of Safety Related Reports for Signalling Failures Appendix	180 154 155 155 155 155 155
Management of Safety Related Reports for Signalling Failures Appendix	180 154 155 155 155 155 178
Management of Safety Related Reports for Signalling Failures Appendix	180154155155155155178178
Management of Safety Related Reports for Signalling Failures Appendix	18015415515569178178178178
Management of Safety Related Reports for Signalling Failures Appendix	
Management of Safety Related Reports for Signalling Failures Appendix.  Management of Safety Related Reports for Telecoms Failures Appendix.  Management of Short-term Network Change	
Management of Safety Related Reports for Signalling Failures Appendix.  Management of Safety Related Reports for Telecoms Failures Appendix  Management of Short-term Network Change	
Management of Safety Related Reports for Signalling Failures Appendix	
Management of Safety Related Reports for Signalling Failures Appendix.  Management of Safety Related Reports for Telecoms Failures Appendix.  Management of Short-term Network Change	
Management of Safety Related Reports for Signalling Failures Appendix  Management of Safety Related Reports for Telecoms Failures Appendix  Management of Short-term Network Change	
Management of Safety Related Reports for Signalling Failures Appendix.  Management of Safety Related Reports for Telecoms Failures Appendix.  Management of Short-term Network Change	
Management of Safety Related Reports for Signalling Failures Appendix Management of Safety Related Reports for Telecoms Failures Appendix Management of Short-term Network Change.  Management of Signal Relay Reservicing.  Management of Signalling and Communication Systems.  Management of Signalling Defects.  Management of Signalling Defects.  Management of Signalling Power Supplies.  Management of Signalling Wrong Side Failures.  Management of Signalling Wrong Side Failures.  Management of Sipnalling Communication.  Management of Spoken Safety Communication.  Management of the Control and Calibration of Inspection, Measuring and Test Equipment.  Management of the Risk of Bridge Strikes.  Management of the Risk of Bridge Strikes from Road Vehicles and Waterborne Vessels.  Management of Third Party Works on Network Rail Infrastructure.  Management of Tight Clearances and Track Position.  Management of Tight Clearances and Track Position.  Management of Warnings and Alarms Received from Trackside Pantograph Monitoring Equipment  Management of Warnings and Alarms Received from Trackside Pantograph Monitoring Equipment  Management Procedure - Display Screen Equipment.	
Management of Safety Related Reports for Signalling Failures Appendix Management of Safety Related Reports for Telecoms Failures Appendix Management of Short-term Network Change Management of Signal Relay Reservicing	
Management of Safety Related Reports for Signalling Failures Appendix Management of Safety Related Reports for Telecoms Failures Appendix Management of Short-term Network Change Management of Signal Relay Reservicing Management of Signalling and Communication Systems Management of Signalling Defects Management of Signalling Maintenance Diagrams Management of Signalling Mointenance Diagrams Management of Signalling Worng Side Failures Management of Signalling Worng Side Failures Management of Sinc Records for Telecoms Assets Management of Shoken Safety Communication Management of the Control and Calibration of Inspection, Measuring and Test Equipment Management of the Risk of Bridge Strikes from Road Vehicles and Waterborne Vessels Management of Third Party Works on Network Rail Infrastructure Management of Tight Clearances and Track Position Management of Tight Clearances and Track Position Management of Track Geometry Recording and Remedial Actions Management of Warnings and Alarms Received from Trackside Pantograph Monitoring Equipment Management of Warnings and Alarms Received from Trackside Pantograph Monitoring Equipment Management Procedure - Display Screen Equipment Management Procedure - Display Screen Equipment Managing bridge strike incidents - Good Practice Guide for Bridge Strike Nominees Managing Complaints About Pigeons Managing Discharges to Sewers and Controlled Waters  Managing Discharges to Sewers and Controlled Waters	
Management of Safety Related Reports for Telecoms Failures Appendix Management of Safety Related Reports for Telecoms Failures Appendix Management of Short-term Network Change	
Management of Safety Related Reports for Signalling Failures Appendix.  Management of Safety Related Reports for Telecoms Failures Appendix.  Management of Signal Relay Reservicing  Management of Signal Relay Reservicing  Management of Signalling and Communication Systems  Management of Signalling Defects  Management of Signalling Power Supplies  Management of Signalling Power Supplies  Management of Signalling Power Supplies  Management of Signalling Wrong Side Failures  Management of Sinc's Records for Telecoms Assets  Management of Spoken Safety Communication.  Management of the Control and Calibration of Inspection, Measuring and Test Equipment  Management of the Risk of Bridge Strikes  Management of the Risk of Bridge Strikes from Road Vehicles and Waterborne Vessels  Management of Third Party Works on Network Rail Infrastructure  Management of Tight Clearances and Track Position  Management of Tight Clearances and Track Position  Management of Warnings and Alarms Received from Trackside Pantograph Monitoring Equipment  Management of Warnings and Alarms Received from Trackside Pantograph Monitoring Equipment  Management Procedure - Display Screen Equipment  Managing bridge strike incidents - Good Practice Guide for Bridge Strike Nominees  Managing Claims Within Maintenance Organisation  Managing Complaints About Pigeons  Managing Discharges to Sewers and Controlled Waters  Managing Bructures Works  Managing The Potential Effects of Coal Mining Subsidence	
Management of Safety Related Reports for Signalling Failures Appendix.  Management of Safety Related Reports for Telecoms Failures Appendix  Management of Signal Relay Reservicing.  Management of Signal Relay Reservicing.  Management of Signalling Dafects.  Management of Signalling Defects.  Management of Signalling Defects.  Management of Signalling Defects.  Management of Signalling Wrong Side Failures.  Management of Signalling Wrong Side Failures.  Management of Signalling Wrong Side Failures.  Management of Sipnalling Wrong Side Failures.  Management of Sipoken Safety Communication.  Management of the Risk of Bridge Strikes  Management of the Risk of Bridge Strikes from Road Vehicles and Waterborne Vessels.  Management of Third Party Works on Network Rail Infrastructure  Management of Tight Clearances and Track Position  Management of Tight Clearances and Track Position  Management of Tight Clearances and Track Position  Management of Warnings and Alarms Received from Trackside Pantograph Monitoring Equipment  Management of Warnings and Alarms Received from Trackside Pantograph Monitoring Equipment  Management of Water Supply  Managing Complaints About Pigeons.  Managing Claims Within Maintenance Organisation.  Managing Discharges to Sewers and Controlled Waters  Managing Structures Works  Managing Tructures Works  Managing the Paising / Removing of Track Speed Restrictions and Inspecting the Line After Track Engineering Work.	
Management of Safety Related Reports for Signalling Failures Appendix.  Management of Safety Related Reports for Telecoms Failures Appendix.  Management of Signal Relay Reservicing  Management of Signal Relay Reservicing  Management of Signalling and Communication Systems  Management of Signalling Defects  Management of Signalling Power Supplies  Management of Signalling Power Supplies  Management of Signalling Power Supplies  Management of Signalling Wrong Side Failures  Management of Sinc's Records for Telecoms Assets  Management of Spoken Safety Communication.  Management of the Control and Calibration of Inspection, Measuring and Test Equipment  Management of the Risk of Bridge Strikes  Management of the Risk of Bridge Strikes from Road Vehicles and Waterborne Vessels  Management of Third Party Works on Network Rail Infrastructure  Management of Tight Clearances and Track Position  Management of Tight Clearances and Track Position  Management of Warnings and Alarms Received from Trackside Pantograph Monitoring Equipment  Management of Warnings and Alarms Received from Trackside Pantograph Monitoring Equipment  Management Procedure - Display Screen Equipment  Managing bridge strike incidents - Good Practice Guide for Bridge Strike Nominees  Managing Claims Within Maintenance Organisation  Managing Complaints About Pigeons  Managing Discharges to Sewers and Controlled Waters  Managing Bructures Works  Managing The Potential Effects of Coal Mining Subsidence	
Management of Safety Related Reports for Signalling Failures Appendix Management of Safety Related Reports for Telecoms Failures Appendix Management of Short-term Network Change.  Management of Signal Relay Reservicing.  Management of Signalling and Communication Systems  Management of Signalling Defects.  Management of Signalling Maintenance Diagrams.  Management of Signalling Power Supplies.  Management of Signalling Power Supplies.  Management of Signalling Wrong Side Failures.  Management of Signalling Wrong Side Failures.  Management of Signalling Wrong Side Failures.  Management of Spoken Safety Communication  Management of the Control and Calibration of Inspection, Measuring and Test Equipment.  Management of the Risk of Bridge Strikes from Road Vehicles and Waterborne Vessels.  Management of Tright Clearances and Track Position.  Management of Tight Clearances and Track Position.  Management of Tight Clearances and Track Position.  Management of Water Supply.  Management of Water Supply  Management Procedure - Display Screen Equipment .  Managing Complaints About Pigeons.  Managing Complaints About Pigeons.  Managing Structures Works.  Managing Structures Works.  Managing Track Position and Landfill Operations.  Managing the Raising / Removing of Track Speed Restrictions and Inspecting the Line After Track Engineering Work.  Managing the Raising / Removing of Track Speed Restrictions and Inspecting the Line After Track Engineering Work.  Managing the Raising / Removing of Track Speed Restrictions and Inspecting the Line After Track Engineering Work.  Managing the Raising / Removing of Track Speed Restrictions and Inspecting the Line After Track Engineering Work.  Managing the Rotential Effects of Operational Simulation.  Marking of Track for Stoneblowing Machines.	
Management of Safety Related Reports for Signalling Failures Appendix.  Management of Safety Related Reports for Telecoms Failures Appendix  Management of Signal Relay Reservicing.  Management of Signal Relay Reservicing.  Management of Signalling and Communication Systems.  Management of Signalling Defects.  Management of Signalling Maintenance Diagrams.  Management of Signalling More Supplies.  Management of Signalling Wrong Side Failures.  Management of Signalling Wrong Side Failures.  Management of SINCS Records for Telecoms Assets.  Management of Spoken Safety Communication.  Management of Store Safety Communication.  Management of the Risk of Bridge Strikes  Management of the Risk of Bridge Strikes from Road Vehicles and Waterborne Vessels.  Management of Third Party Works on Network Rail Infrastructure.  Management of Tight Clearances and Track Position.  Management of Track Geometry Recording and Remedial Actions.  Management of Warnings and Alarms Received from Trackside Pantograph Monitoring Equipment.  Management of Warnings and Alarms Received from Trackside Pantograph Monitoring Equipment  Management of Warnings and Alarms Received from Trackside Pantograph Monitoring Equipment  Management of Display Screen Equipment  Management of Organists About Pigeons.  Managing Discharges to Sewers and Controlled Waters  Managing Discharges to Sewers and Controlled Waters  Managing Bructures Works.  Managing the Potential Effects of Coal Mining Subsidence.  Managing the Risk Arising from Mineral Extraction and Landfill Operations.  Managing the Risk Arising from Mineral Extraction and Landfill Operations.  Marking of Track for Stoneblowing Machines.  Marking of Track for Stoneblowing Machines.	
Management of Safety Related Reports for Signalling Failures Appendix.  Management of Safety Related Reports for Telecoms Failures Appendix  Management of Sindri-term Network Change.  Management of Signal Relay Reservicing.  Management of Signalling and Communication Systems.  Management of Signalling Defects.  Management of Signalling Power Supplies.  Management of Signalling Vrong Side Failures  Management of Sincs Records for Telecoms Assets  Management of Sincs Records for Telecoms Assets  Management of Spoken Safety Communication.  Management of the Control and Calibration of Inspection, Measuring and Test Equipment.  Management of the Risk of Bridge Strikes from Road Vehicles and Waterborne Vessels.  Management of Third Party Works on Network Rail Infrastructure.  Management of Tight Clearances and Track Position.  Management of Tight Clearances and Track Position.  Management of Tight Clearances and Track Position.  Management of Water Supply.  Management of Water Supply.  Management of Water Supply  Management of Water Supply  Management of Water Supply  Management Procedure - Display Screen Equipment .  Managing Complaints About Pigeons.  Managing Claims Within Maintenance Organisation.  Managing Claims Within Maintenance Organisation.  Managing Structures Works .  Managing He Raising / Removing of Track Speed Restrictions and Inspecting the Line After Track Engineering Work.  Managing the Risk Arising from Mineral Extraction and Landfill Operations.  Managing the Principles of Operational Simulation.  Marking of Track for Tamping Machines.  Marking of Track for Tamping Machines.	
Management of Safety Related Reports for Telecoms Failures Appendix.  Management of Safety Related Reports for Telecoms Failures Appendix.  Management of Short-term Network Change	
Management of Safety Related Reports for Telecoms Failures Appendix.  Management of Safety Related Reports for Telecoms Failures Appendix  Management of Sinort-term Network Change.  Management of Sinort-term Network Change.  Management of Signalling and Communication Systems.  Management of Signalling and Communication Systems.  Management of Signalling Defects.  Management of Signalling Maintenance Diagrams  Management of Signalling Power Supplies.  Management of Signalling Power Supplies.  Management of Sinors Side Failures  Management of Spoken Safety Communication  Management of the Control and Calibration of Inspection, Measuring and Test Equipment  Management of the Risk of Bridge Strikes from Road Vehicles and Waterborne Vessels  Management of Third Party Works on Network Rail Infrastructure  Management of Third Party Works on Network Rail Infrastructure  Management of Tight Clearances and Track Position  Management of Tight Clearances and Track Position  Management of Water Supply  Management of Water Supply  Management of Water Supply  Management of Water Supply  Management Procedure - Display Screen Equipment  Managing Diright strike incidents - Good Practice Guide for Bridge Strike Nominees  Managing Claims Within Maintenance Organisation  Managing Claims Within Maintenance Organisation  Managing Report of Protective Works  Managing He Raising / Removing of Track Speed Restrictions and Inspecting the Line After Track Engineering Work.  Managing the Raising / Removing of Track Speed Restrictions and Inspecting the Line After Track Engineering Work.  Managing the Raising / Removing of Track Speed Restrictions and Inspecting the Line After Track Engineering Work.  Managing the Raising / Removing of Track Speed Restrictions and Inspecting the Line After Track Engineering Work.  Managing the Raising / Removing Machines.  Methanical Locking Handbook in Infrastructu	
Management of Safety Related Reports for Telecoms Failures Appendix.  Management of Safety Related Reports for Telecoms Failures Appendix.  Management of Short-term Network Change	
Management of Safety Related Reports for Telecoms Failures Appendix Management of Safety Related Reports for Telecoms Failures Appendix Management of Sional Relay Reservicing. Management of Signalling and Communication Systems Management of Signalling Defects. Management of Signalling Defects. Management of Signalling Defects. Management of Signalling Power Supplies Management of Signalling Wrong Side Failures Management of Signalling Wrong Side Failures Management of Sipose Safety Communication Management of Spoken Safety Communication Management of Spoken Safety Communication Management of the Control and Calibration of Inspection, Measuring and Test Equipment Management of the Risk of Bridge Strikes Management of the Risk of Bridge Strikes from Road Vehicles and Waterborne Vessels Management of Third Party Works on Network Rail Infrastructure. Management of Tipit Clearances and Track Position Management of Tipit Clearances and Track Position Management of Warnings and Alarms Received from Trackside Pantograph Monitoring Equipment Management of Warnings and Alarms Received from Trackside Pantograph Monitoring Equipment Management Procedure - Display Screen Equipment Management Procedure - Display Screen Equipment Managing bridge strike incidents - Good Practice Guide for Bridge Strike Nominees Managing Claims Within Maintenance Organisation Managing bridge strike incidents - Good Practice Guide for Bridge Strike Nominees Managing Discharges to Sewers and Controlled Waters Managing Track for Stoneblewing Machines Managing the Risk Arising for Mineral Extraction and Landfill Operations. Managing the Risk Arising for Mineral Extraction and Landfill Operations. Managing of Track for Tamping Machines Mechanical Locking Handbook Medium-term works planning in Infrastructure Maintenance Mentoring & Learning Support.	
Management of Salety Related Reports for Telecoms Failures Appendix Management of Salety Related Reports for Telecoms Failures Appendix Management of Short-term Network Change. Management of Signalling and Communication Systems Management of Signalling and Communication Systems Management of Signalling and Communication Systems Management of Signalling Maintenance Diagrams. Management of Signalling Maintenance Diagrams. Management of Signalling Wong Side Failures. Management of Signalling Yown Side Failures. Management of Sinolation Wong Side Failures. Management of Shoken Salety Communication. Management of Shoken Salety Communication. Management of Shoken Salety Communication of Inspection, Measuring and Test Equipment. Management of the Control and Calibration of Inspection, Measuring and Test Equipment. Management of the Risk of Bridge Strikes from Road Vehicles and Waterborne Vessels Management of Tiph Party Works on Network Rail Infrastructure Management of Tiph Clearances and Track Position. Management of Tiph Clearances and Track Position. Management of Track Geometry Recording and Remedial Actions. Management of Water Supply. Management of Water Supply. Management of Water Supply. Management of Water Supply. Management Procedure - Display Screen Equipment Managing bridge strike incidents - Good Practice Guide for Bridge Strike Nominees. Managing Complaints About Pigeons. Managing Complaints About Pigeons. Managing Complaints About Pigeons. Managing Structures Works Managing Is Reported the Controlled Waters Managing Is Reported the Processor and Controlled Waters Managing Is Reported the Processor and Controlled Waters Managing Is Reported the Processor and Controlled Waters Managing Track for Stoneblowing Machines. Marking of Track for Stoneblowing Machines. Marking of Track for Tamping Machines. Methadology for the Demonstration of Compatibility with 50Hz Double Rail Track Circuits. Methodology for the Demonstration of Compatibility with 50Hz Double Rail Track Circuits.	
Management of Safety Related Reports for Telecoms Failures Appendix Management of Safety Related Reports for Telecoms Failures Appendix Management of Signal Relay Reservicing.  Management of Signal Relay Reservicing.  Management of Signalling Defects.  Management of Signalling Defects.  Management of Signalling Defects.  Management of Signalling Power Supplies Management of Spoken Safety Communication Management of the Risk of Bridge Strikes Management of the Risk of Bridge Strikes Management of the Risk of Bridge Strikes from Road Vehicles and Waterborne Vessels Management of Third Party Works on Network Rail Infrastructure Management of Trihd Clearances and Track Position Management of Track Geometry Recording and Remedial Actions. Management of Track Geometry Recording and Remedial Actions. Management of Ware Supply  Management of Water Supply  Management of Water Supply  Management of Water Supply  Management of Water Supply  Management of Procedure - Display Screen Equipment  Managing the Strike incidents - Good Practice Guide for Bridge Strike Nominees  Managing Claims Within Maintenance Organisation  Managing Track Poetial Effects of Coal Mining Subsidence  Managing the Raising / Removing of Track Speed Restrictions and Inspecting the Line After Track Engineering Work.  Managing the Raising / Removing of Track Speed Restrictions and Inspecting the Line After Track Engineering Work.  Managing the Raising / Removing of Track Speed Restrictions and Inspecting the Line After Track Engineering Work.  Managing the Potential Effects of Coal Mining Subsidence  Managing the Raising / Removing of Track Speed Restrictions and Inspecting the Line After Track Engineering Work.  Managing the Potential Ef	
Management of Safety Related Reports for Telecoms Failures Appendix Management of Safety Related Reports for Telecoms Failures Appendix Management of Signal Relay Reservicing. Management of Signal Relay Reservicing. Management of Signalling and Communication Systems Management of Signalling Defects. Management of Signalling Defects. Management of Signalling Power Supplies Management of Relay Communication Management of the Risk of Bridge Strikes Management of the Risk of Bridge Strikes from Road Vehicles and Waterborne Vessels Management of Trid Party Works on Network Rail Infrastructure Management of Trid Party Works on Network Rail Infrastructure Management of Trid Party Works on Network Rail Infrastructure Management of Tright Clearances and Track Position Management of Tright Clearances and Track Position Management of Waterings and Alarms Received from Trackside Pantograph Monitoring Equipment Management of Water Supply Management Procedure - Display Screen Equipment Management Procedure - Display Scre	
Management of Safety Related Reports for Telecoms Failures Appendix Management of Safety Related Reports for Telecoms Failures Appendix Management of Signal Relay Reservicing.  Management of Signal Relay Reservicing.  Management of Signalling Defects.  Management of Signalling Defects.  Management of Signalling Defects.  Management of Signalling Power Supplies Management of Spoken Safety Communication Management of the Risk of Bridge Strikes Management of the Risk of Bridge Strikes Management of the Risk of Bridge Strikes from Road Vehicles and Waterborne Vessels Management of Third Party Works on Network Rail Infrastructure Management of Trihd Clearances and Track Position Management of Track Geometry Recording and Remedial Actions. Management of Track Geometry Recording and Remedial Actions. Management of Ware Supply  Management of Water Supply  Management of Water Supply  Management of Water Supply  Management of Water Supply  Management of Procedure - Display Screen Equipment  Managing the Strike incidents - Good Practice Guide for Bridge Strike Nominees  Managing Claims Within Maintenance Organisation  Managing Track Poetial Effects of Coal Mining Subsidence  Managing the Raising / Removing of Track Speed Restrictions and Inspecting the Line After Track Engineering Work.  Managing the Raising / Removing of Track Speed Restrictions and Inspecting the Line After Track Engineering Work.  Managing the Raising / Removing of Track Speed Restrictions and Inspecting the Line After Track Engineering Work.  Managing the Potential Effects of Coal Mining Subsidence  Managing the Raising / Removing of Track Speed Restrictions and Inspecting the Line After Track Engineering Work.  Managing the Potential Ef	

Methodology for the Demonstration of Compatibility with Telecoms Systems		
Methodology for the Demonstration of Compatibility with TI 21 Track Circuits		
Methodology for the Demonstration of Compatibility with TPWS Trackside Equipment	127	6
Methodology for the Demonstration of Compliance with Single Nati Need Track Circuits Of the Act Natiway	127	, 7
Methodology for the Demonstration of Electrical Compatibility with DC (AC-immune) Track Circuits	126	6
Methodology for the Demonstration of Electrical Compatibility with Double Rail Reed Track Circuits on the DC Railway	126	ô
Methodology for the Demonstration of Electrical Compatibility with Train Detection System in use on Non-Electrified Lines		
Methodology for the Determination of Interaction with Neighbouring Railways		
Miniature Stop Light Unit		
Model Clauses for Civil Engineering Works		
Modular Signalling Handbook	146	6
Monitoring of Spoken Safety Communications		
Monitoring Track Over or Adjeacent to Building and Civil Engineering Works	32	2
National Asset Protection and Optimisation Delivery Framework	28	3
National Asset Protection and Optimisation Delivery Framework		
National Operating Procedures Index	103	3
NDS Waste Management		
Network Capability Management Procedure		
Network Operations Non-Operations Staff Management Self Assurance Procedure		
Network Rail Asset Management Policy – Telecommunications Engineering		
Network Rail Assurance Framework		
Network Rail Assurance Panel Processes		
Network Rail National Emergency Plan		
Network Rail Requirements		
Network Rail Requirements Manual		
Network Rail Risk Policy		
Network Rail Security Manual		
New Starters Mentoring (Passport Scheme)		
Noise and Vibration Management from Maintenance Activities		
Non-intrusive Earth Leakage Test Adapter for Reed FDM Systems.		
Notification of Energisation of New AC and DC Electrified Lines	56	6
NR 56V Standardised S&C - Assembly and Maintenance	21	1
NR 60 Mark 2 Standardised S&C – Assembly and Maintenance		
Oak Keys For Bullhead Rail		
OCR Team Materials Process		
	18	1
Utice Telephone System Installations		
Office Telephone System Installations On-track Machines (OTMs) Driver and Operations Standards Manual	105	
On-track Machines (OTMs) Driver and Operations Standards Manual  Operating & Maintaining Escalator Trolleys at London Victoria	105 53	3
On-track Machines (OTMs) Driver and Operations Standards Manual  Operating & Maintaining Escalator Trolleys at London Victoria  Operation and Maintenance of Non-intrusive Earth Leakage Test Adapter for Reed FDM Systems Produced to Specification EDS 01/96 MOD State 3	105 53	3 7
On-track Machines (OTMs) Driver and Operations Standards Manual  Operating & Maintaining Escalator Trolleys at London Victoria  Operation and Maintenance of Non-intrusive Earth Leakage Test Adapter for Reed FDM Systems Produced to Specification EDS 01/96 MOD State 3  Operation and Management of the National Radio Network	105 53 127	3 7 1
On-track Machines (OTMs) Driver and Operations Standards Manual	105 53 127 173	3 7 1 3
On-track Machines (OTMs) Driver and Operations Standards Manual  Operating & Maintaining Escalator Trolleys at London Victoria  Operation and Maintenance of Non-intrusive Earth Leakage Test Adapter for Reed FDM Systems Produced to Specification EDS 01/96 MOD State 3  Operation and Management of the National Radio Network	105 127 17 113	3 7 1 3
On-track Machines (OTMs) Driver and Operations Standards Manual	105 127 17 113 8 6 6	3 7 1 3 1 7
On-track Machines (OTMs) Driver and Operations Standards Manual	105 127 17 113 8 6 67	3 7 1 3 1 7 0
On-track Machines (OTMs) Driver and Operations Standards Manual	1051271171136767	3 7 1 3 1 1 7 0 7
On-track Machines (OTMs) Driver and Operations Standards Manual	105 127 17 113 8' 6' 50 50	3 7 1 3 1 1 7 0 7 3
On-track Machines (OTMs) Driver and Operations Standards Manual	105 53 127 117 118 8' 66 67 50 50 50 130	3 7 1 3 1 1 7 0 7 3 0
On-track Machines (OTMs) Driver and Operations Standards Manual	1051271178766505050	3 7 1 3 1 1 7 0 7 3 0 1
On-track Machines (OTMs) Driver and Operations Standards Manual	105 50 127 17 113 8 6 6 50 50 130 18 18	3 7 1 3 1 1 7 0 7 3 0 1 5 9
On-track Machines (OTMs) Driver and Operations Standards Manual	105 50 127 177 113 87 66 67 50 50 133 187 188 98	3 7 1 3 1 1 7 0 7 3 0 1 5 9 9
On-track Machines (OTMs) Driver and Operations Standards Manual	105 55 127 177 113 115 66 67 50 130 130 148 148 99 52	3 7 1 3 1 1 7 0 7 3 0 1 5 9 9 2
On-track Machines (OTMs) Driver and Operations Standards Manual	105 50 127 177 110 110 67 66 67 130 188 188 189 99 160 160	37131170730159923
On-track Machines (OTMs) Driver and Operations Standards Manual	105 55 127 111 113 8° 6° 50 50 130 18° 18° 18° 18° 18° 18° 18° 18° 18° 18°	371311707301599232
On-track Machines (OTMs) Driver and Operations Standards Manual	105 55 127 177 118 87 66 67 56 68 188 188 199 118 116 116 116 116 116 116 116 116 116	3713117073015992321
On-track Machines (OTMs) Driver and Operations Standards Manual.  Operating & Maintaining Escalator Trolleys at London Victoria.  Operation and Maintenance of Non-intrusive Earth Leakage Test Adapter for Reed FDM Systems Produced to Specification EDS 01/96 MOD State 3  Operation and Management of the National Radio Network	105 55 127 127 127 127 127 127 127 127 127 127	371311707301599232107
On-track Machines (OTMs) Driver and Operations Standards Manual.  Operating & Maintaining Escalator Trolleys at London Victoria.  Operation and Maintenance of Non-intrusive Earth Leakage Test Adapter for Reed FDM Systems Produced to Specification EDS 01/96 MOD State 3  Operation and Management of the National Radio Network.  Operation and Use of Rail Vehicles and On-track Plant.  Overhead Condition Renewals (OCR) - Allocation Design.  Overhead Contact System Design Specification.  Overhead Electrified Lines – Passage of High Vehicles or Loads, or Those With Large Overhangs, over Accommodation and Occupation Level Crossings.  Overhead Line Equipment as Installed Data Records.  Overhead Line Equipment Campaign Changes.  Overhead Line Equipment Campaign Changes.  Overlead Line Work Instructions.  Overlay Miniature Stop Light Equipment Specification.  Overview of Electromagnetic Coupling Between Traction Systems and Telecommunications Cables  Paired Core Compound Filled Supervisory Cable.  Pearolitic Rails.  Peer Reviews of Project, Programme and Portfolio (P3M) Investment.  Periodic Inspection and Testing of Electrical Installations, Appliances and Equipment.  Personal Protective Equipment and Workwear  Personal Protective Equipment and Workwear  Personal Security  Pest Management  Pilling Adjacent to the Running Line.  Planned Assurance Inspections and Site Surveillance.	105 55 127 111 111 111 111 111 111 111 111 111	3713117073015992321079
On-track Machines (OTMs) Driver and Operations Standards Manual.  Operating & Maintaining Escalator Trolleys at London Victoria  Operation and Maintaining Escalator Trolleys at London Victoria  Operation and Maintaining Escalator Trolleys at London Victoria  Operation and Management of the National Radio Network  Operation and Use of Rail Vehicles and On-track Plant.  Overhead Condition Renewals (OCR) - Allocation Design.  Overhead Contact System Design Specification.  Overhead Electrified Lines – Passage of High Vehicles or Loads, or Those With Large Overhangs, over Accommodation and Occupation Level Crossings.  Overhead Line Equipment as Installed Data Records.  Overhead Line Equipment Campaign Changes.  Overhead Line Equipment Campaign Changes.  Overhead Line Work Instructions.  Overlead Line Work Instructions.  Overlead Miniature Stop Light Equipment Specification.  Overview of Electromagnetic Coupling Between Traction Systems and Telecommunications Cables.  Paired Core Compound Filled Supervisory Cable.  Pearlitic Rails.  Peer Reviews of Project, Programme and Portfolio (P3M) Investment.  Periodic Inspection and Testing of Electrical Installations, Appliances and Equipment.  Personal Protective Equipment and Workwear.  Personal Protective Equipment and Workwear.  Personal Security.  Pest Management.  Pilling Adjacent to the Running Line.  Planned Assurance Inspections and Site Surveillance.  Planned Assurance Inspections.	105	37131170730159923210793
On-track Machines (OTMs) Driver and Operations Standards Manual.  Operation & Maintaining Escalator Trolleys at London Victoria.  Operation and Maintenance of Non-intrusive Earth Leakage Test Adapter for Reed FDM Systems Produced to Specification EDS 01/96 MOD State 3.  Operation and Management of the National Radio Network.  Operation and Use of Rail Vehicles and On-track Plant.  Overhead Condition Renewals (OCR) - Allocation Design.  Overhead Contact System Design Specification.  Overhead Cintact System Design Specification.  Overhead Electrified Lines – Passage of High Vehicles or Loads, or Those With Large Overhangs, over Accommodation and Occupation Level Crossings.  Overhead Line Equipment as Installed Data Records.  Overhead Line Equipment Campaign Changes.  Overhead Line Equipment Specification.  Overley Miniature Stop Light Equipment Specification.  Overview of Electromagnetic Coupling Between Traction Systems and Telecommunications Cables.  Paired Core Compound Filled Supervisory Cable.  Pearlitic Rails.  Peer Reviews of Project, Programme and Portfolio (P3M) Investment.  Pereranent Speed Restrictions Fitted with TPWS  Personal Protective Equipment and Workwear.  Personal Protective Equipment and Workwear.  Personal Security  Pest Management  Piling Adjacent to the Running Line.  Planned General Safety Inspections and Site Surveillance.  Planned Preventative Maintenance of Radio Structures, Antennas and Feeders.	105 55 127 117 111 18 86 67 56 57 13 18 18 18 18 18 18 18 19 19 11 11 11 11 11 11 11 11 11 11 11	3 7 1 3 1 1 1 7 0 7 3 0 1 5 9 9 2 1 0 7 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9
On-track Machines (OTMs) Driver and Operations Standards Manual.  Operation & Maintaning Escalator Trolleys at London Victoria.  Operation and Maintenance of Non-intrusive Earth Leakage Test Adapter for Reed FDM Systems Produced to Specification EDS 01/96 MOD State 3.  Operation and Management of the National Radio Network.  Operation and Use of Rail Vehicles and On-track Plant.  Overhead Condition Renewals (OCR) - Allocation Design.  Overhead Condition Renewals (OCR) - Allocation Design.  Overhead Electrified Lines – Passage of High Vehicles or Loads, or Those With Large Overhangs, over Accommodation and Occupation Level Crossings  Overhead Eline Equipment as Installed Data Records.  Overhead Line Equipment Campaign Changes.  Overhead Line Equipment Campaign Changes.  Overhead Line Work Instructions.  Overlay Miniature Stop Light Equipment Specification.  Overview of Electromagnetic Coupling Between Traction Systems and Telecommunications Cables.  Paired Core Compound Filled Supervisory Cable.  Pearlitic Rails.  Peer Reviews of Project, Programme and Portfolio (P3M) Investment.  Perioalc Inspection and Testing of Electrical Installations, Appliances and Equipment.  Personal Protective Equipment and Workwear.  Personal Protective Equipment and Workwear.  Personal Protective Equipment and Workwear.  Personal Security  Pest Management  Piling Adjacent to the Running Line.  Planned Assurance Inspections and Site Surveillance.  Planned Preventative Maintenance of Radio Structures, Antennas and Feeders.  Planning & Programme Control Standard.  Planning and Control of Steam Locomotive Operation.	105	37131170730159923210793989
On-track Machines (OTMs) Driver and Operations Standards Manual.  Operation & Maintaining Escalator Trolleys at London Victoria.  Operation and Maintenance of Non-intrusive Earth Leakage Test Adapter for Reed FDM Systems Produced to Specification EDS 01/96 MOD State 3  Operation and Management of the National Radio Network.  Operation and Use of Rail Vehicles and On-track Plant.  Overhead Condition Renewals (OCR) - Allocation Design.  Overhead Contact System Design Specification.  Overhead Electrified Lines – Passage of High Vehicles or Loads, or Those With Large Overhangs, over Accommodation and Occupation Level Crossings.  Overhead Line Equipment as Installed Data Records.  Overhead Line Equipment Campaign Changes.  Overhead Line Work Instructions.  Overlaed Line Work Instructions.  Overlaed Line Use of Electromagnetic Coupling Between Traction Systems and Telecommunications Cables.  Paired Core Compound Filled Supervisory Cable.  Pearlitic Rails.  Peer Reviews of Project, Programme and Portfolio (P3M) Investment.  Periodic Inspection and Testing of Electrical Installations, Appliances and Equipment.  Personal Protective Equipment and Workwear  Personal Security.  Personal Security.  Pest Management  Pilling Adjacent to the Running Line.  Planned Assurance Inspections and Site Surveillance.  Planned General Safety Inspections  Planned Preventative Maintenance of Radio Structures, Antennas and Feeders.	105	37131170730159923210793989
On-track Machines (OTMs) Driver and Operations Standards Manual.  Operation & Maintaining Escalator Trolleys at London Victoria.  Operation and Maintenance of Non-intrusive Earth Leakage Test Adapter for Reed FDM Systems Produced to Specification EDS 01/96 MOD State 3.  Operation and Management of the National Radio Network.  Operation and Use of Rail Vehicles and On-track Plant.  Overhead Condition Renewals (OCR) - Allocation Design.  Overhead Condition Renewals (OCR) - Allocation Design.  Overhead Electrified Lines – Passage of High Vehicles or Loads, or Those With Large Overhangs, over Accommodation and Occupation Level Crossings.  Overhead Electrified Lines – Passage of High Vehicles or Loads, or Those With Large Overhangs, over Accommodation and Occupation Level Crossings.  Overhead Line Equipment as Installed Data Records.  Overhead Line Equipment Campaign Changes.  Overhead Line Work Instructions.  Overlay Miniature Stop Light Equipment Specification.  Overview of Electromagnetic Coupling Between Traction Systems and Telecommunications Cables.  Paired Core Compound Filled Supervisory Cable.  Peariltic Rails.  Peer Reviews of Project, Programme and Portfolio (P3M) Investment.  Perroacle Inspection and Testing of Electrical Installations, Appliances and Equipment.  Permanent Speed Restrictions Fitted with TPWS.  Personal Protective Equipment and Workwear.  Personal Security.  Pest Management  Pilling Adjacent to the Running Line.  Planned General Safety Inspections  Planned General Safety Inspections.  Planned Preventative Maintenance of Radio Structures, Antennas and Feeders.  Planning and Control of Steam Locomotive Operation.  Planning and Delivering Safe Work - Implementation Principles for Infrastructure Projects.  Planning and Delivering Safe Work - Implementation Principles for Infrastructure Projects.	105 55 127 111 113 87 66 65 56 65 130 188 188 189 90 177 177 178 189 190 100 1179 1179 1189	3713117073015992321079398955
On-track Machines (OTMs) Driver and Operations Standards Manual.  Operating & Maintaining Escalator Trolleys at London Victoria.  Operation and Maintenance of Non-intrusive Earth Leakage Test Adapter for Reed FDM Systems Produced to Specification EDS 01/96 MOD State 3	105 55 127 111 113 87 66 67 50 130 130 148 189 55 160 122 122 125 109 109 1120 1120 1120 1120 1120 1120 1	37131170730159923210793989552
On-track Machines (OTMs) Driver and Operations Standards Manual.  Operating & Maintaining Escalator Trolleys at London Victoria.  Operation and Maintenance of Non-intrusive Earth Leakage Test Adapter for Reed FDM Systems Produced to Specification EDS 01/96 MOD State 3	105	371311707301599232107939895529
On-track Machines (OTMs) Driver and Operations Standards Manual.  Operating & Maintaining Escalator Trolleys at London Victoria.  Operation and Maintenance of Non-intrusive Earth Leakage Test Adapter for Reed FDM Systems Produced to Specification EDS 01/96 MOD State 3	105 55 127 117 1113 86 66 67 50 130 130 188 188 189 199 100 100 110 110 110 110 110 110 11	3713117073015992321079398955295
On-track Machines (OTMs) Driver and Operations Standards Manual.  Operating & Maintaining Escalator Trolleys at London Victoria.  Operation and Maintenance of Non-intrusive Earth Leakage Test Adapter for Reed FDM Systems Produced to Specification EDS 01/96 MOD State 3	105 55 127 111 111 111 111 111 111 111 111 111	37131170730159923210793989552959
On-track Machines (OTMs) Driver and Operations Standards Manual Operating & Maintaining Escalator Trolleys at London Victoria. Operation and Maintanance of Non-intrusive Earth Leakage Test Adapter for Reed FDM Systems Produced to Specification EDS 01/96 MOD State 3	105 55 127 111 113 87 66 65 56 65 130 188 188 189 190 102 112 112 112 112 112 112 112 112 11	3713117073015992321079398955295959
On-track Machines (OTMs) Driver and Operations Standards Manual Operating & Maintaining Escalator Trolleys at London Victoria. Operating & Maintaining Escalator Trolleys at London Victoria. Operation and Management of the National Radio Network. Operation and Use of Rail Vehicles and On-track Plant. Overhead Condition Renewals (OCR) - Allocation Design. Overhead Contact System Design Specification. Overhead Contact System Design Specification. Overhead Electrified Lines - Passage of High Vehicles or Loads, or Those With Large Overhangs, over Accommodation and Occupation Level Crossings. Overhead Line Equipment as Installed Data Records. Overhead Line Equipment Campaign Changes. Overhead Line High Lines - Passage of High Vehicles or Loads, or Those With Large Overhangs, over Accommodation and Occupation Level Crossings. Overhead Line Work Instructions Overlay Miniature Stop Light Equipment Specification. Overview of Electromagnetic Coupling Between Traction Systems and Telecommunications Cables Paired Core Compound Filled Supervisory Cable. Pearlitic Rails. Peer Reviews of Project, Programme and Portfolio (P3M) Investment. Permanent Speed Restrictions Fitted with TPWS. Personal Protective Equipment and Workwear. Personal Protective Equipment and Workwear. Personal Protective Equipment and Workwear. Personal Protective Experiment and Workwear. Personal Protective Experiment and Step Surveillance. Planning Adjacent to the Running Line. Planning and Control of Steam Locomotive Operation. Planning and Delivering Safe Work Using Proscient in the East Midlands Planning and Delivering Safe Work Using Proscient in the East Midlands Planning and Belivering Safe Work Using Proscient in the East Midlands Planning of On-track Machines Planning of On-track Machines Planning of Overhead Line Condition Renewals. Planning of Overhead Line Condition Renewals.	105	37131170730159923210793989552959593
On-track Machines (OTMs) Driver and Operations Standards Manual Operating & Maintaining Escalator Trolleys at London Victoria. Operation and Maintenance of Non-intrusive Earth Leakage Test Adapter for Reed FDM Systems Produced to Specification EDS 01/96 MOD State 3 Operation and Use of Rail Vehicles and On-track Plant. Overhead Condition Renewals (OCR) - Aliocation Design Overhead Condition Renewals (OCR) - Aliocation Design Overhead Contact System Design Specification. Overhead Electrified Lines – Passage of High Vehicles or Loads, or Those With Large Overhangs, over Accommodation and Occupation Level Crossings. Overhead Line Equipment as Installed Data Records. Overhead Line Equipment as Installed Data Records. Overhead Line Equipment as Installed Data Records. Overhead Line Equipment Stop Light Equipment Specification. Overlay Miniature Stop Light Equipment Specification. Overlay Miniature Stop Light Equipment Specification. Overview of Electromagnetic Coupling Between Traction Systems and Telecommunications Cables. Parierd Core Compount Filled Supervisory Cable. Pearlitic Rails Peer Reviews of Project, Programme and Portfolio (P3M) Investment Periodic Inspection and Testing of Electrical Installations, Appliances and Equipment. Personal Protective Equipment and Workwear Personal Protective Equipment and Workwear Personal Security. Personal Protective Equipment and Workwear Personal Protective Equipment and Workwear Personal Protective Equipment Cardio Structures, Antennas and Feeders. Planning & Programme Controls Standard. Planning and Delivering Safe Work - Implementation Principles for Infrastructure Projects. Planning and Delivering Safe Work - Implementation Principles for Infrastructure Projects. Planning and Belivering Safe Work - Implementation Principles for Infrastructure Projects. Planning and Belivering Safe Work - Implementation Principles for Infrastructure Projects. Planning and Scheduling Manual Planning of Overhead Line Condition Renewals. Planning of Overhead Line Condition Renewals.	105 55 127 117 1113 88 66 67 50 130 130 148 155 165 165 165 165 165 179 179 179 179 179 179 179 179 179 179	371311707301599232107939895529595938
On-track Machines (OTMs) Driver and Operations Standards Manual. Operation and Maintening Escalator Trolleys at London Victoria. Operation and Maintenance of Non-intrusive Earth Leakage Test Adapter for Reed FDM Systems Produced to Specification EDS 01/96 MOD State 3 Operation and Maintenance of Non-intrusive Earth Leakage Test Adapter for Reed FDM Systems Produced to Specification EDS 01/96 MOD State 3 Operation and Use of Rail Vehicles and On-track Plant Overhead Condition Renewals (OCR) - Allocation Design. Overhead Condition Renewals (OCR) - Allocation Design. Overhead Electrified Lines - Passage of High Vehicles or Loads, or Those With Large Overhangs, over Accommodation and Occupation Level Crossings Overhead Line Equipment as Installed Data Records. Overhead Line Equipment Campaign Changes. Overhead Line Equipment Campaign Changes. Overhead Line Equipment Specification. Overlew Work Instructions. Overlay Miniature Stop Light Equipment Specification. Overlay of Electromagnetic Coupling Between Traction Systems and Telecommunications Cables Paired Core Compound Filled Supervisory Cable. Pearlitic Rails. Pear Reviews of Project, Programme and Portfolio (P3M) Investment. Periodic Inspection and Testing of Electrical Installations, Appliances and Equipment. Personal Protective Equipment and Workwear Personal Society Expendences and Site Surveillance. Plannad Assurance Inspections and Site Surveillance. Plannad Assurance Inspections and Site Surveillance. Plannad General Safety Inspections Planning and Control of Steam Locomotive Operation Planning and Delivering Safe Work Using Proscient in the East Midlands Planning and Delivering Safe Work Using Proscient in the East Midlands Planning and Control of Steam Locomotive Operation Planning and Delivering Safe Work Using Proscient in t	105 55 127 111 111 115 116 117 117 117 117 117 117 117 117 117	3713117073015992321079398955295959386
On-track Machines (OTMs) Driver and Operations Standards Manual Operating & Maintaining Escalator Trolleys at London Victoria. Operation and Maintenance of Non-intrusive Earth Leakage Test Adapter for Reed FDM Systems Produced to Specification EDS 01/96 MOD State 3 Operation and Use of Rail Vehicles and On-track Plant. Overhead Condition Renewals (OCR) - Aliocation Design Overhead Condition Renewals (OCR) - Aliocation Design Overhead Contact System Design Specification. Overhead Electrified Lines – Passage of High Vehicles or Loads, or Those With Large Overhangs, over Accommodation and Occupation Level Crossings. Overhead Line Equipment as Installed Data Records. Overhead Line Equipment as Installed Data Records. Overhead Line Equipment as Installed Data Records. Overhead Line Equipment Stop Light Equipment Specification. Overlay Miniature Stop Light Equipment Specification. Overlay Miniature Stop Light Equipment Specification. Overview of Electromagnetic Coupling Between Traction Systems and Telecommunications Cables. Parierd Core Compount Filled Supervisory Cable. Pearlitic Rails Peer Reviews of Project, Programme and Portfolio (P3M) Investment Periodic Inspection and Testing of Electrical Installations, Appliances and Equipment. Personal Protective Equipment and Workwear Personal Protective Equipment and Workwear Personal Security. Personal Protective Equipment and Workwear Personal Protective Equipment and Workwear Personal Protective Equipment Cardio Structures, Antennas and Feeders. Planning & Programme Controls Standard. Planning and Delivering Safe Work - Implementation Principles for Infrastructure Projects. Planning and Delivering Safe Work - Implementation Principles for Infrastructure Projects. Planning and Belivering Safe Work - Implementation Principles for Infrastructure Projects. Planning and Belivering Safe Work - Implementation Principles for Infrastructure Projects. Planning and Scheduling Manual Planning of Overhead Line Condition Renewals. Planning of Overhead Line Condition Renewals.	105 55 127 111 113 88 66 67 67 130 130 148 148 155 166 167 175 167 175 175 175 175 175 175 175 175 175 17	371311707301599232107939895529593863
On-track Machines (OTMs) Driver and Operations Standards Manual. Operation and Maintaning Escalator Trolleys at London Victoria. Operation and Maintanine and Non-intrusive Earth Leakage Test Adapter for Reed FDM Systems Produced to Specification EDS 01/96 MOD State 3 Operation and Management of the National Radio Network. Operation and Management of the National Radio Network. Operation and Management of the National Radio Network. Overhead Condition Renewals (OCR) - Allocation Design. Overhead Contact System Design Specification. Overhead Electrified Lines - Passage of High Vehicles or Loads, or Those With Large Overhangs, over Accommodation and Occupation Level Crossings Overhead Line Equipment Sinstalled Data Records. Overhead Line Equipment Campaign Changes. Overhead Line Equipment Campaign Changes. Overhead Line Equipment Specification. Overlaw Work Instructions. Overlay Miniature Stop Light Equipment Specification. Overlaw Green Coupling Between Traction Systems and Telecommunications Cables Paired Core Compound Filled Supervisory Cable. Pearlitic Ralis. Peer Reviews of Project, Programme and Portfolio (P3M) Investment. Permanent Speed Restrictions Fitted with TPWS. Personal Protective Equipment and Workwear. Personal Protective Equipment State Surveillance. Planned General Safety Inspections. Planned General Safety Inspections. Planned Preventative Maintenance of Radio Structures, Antennas and Feeders. Planning and Control of Steam Locomotive Operation. Planning and Delivering Safe Work Ling Proscient in the East Midlands. Planning and Delivering Safe Work Ling Proscient in the East Midlands. Planning and Delivering Safe work in Implementation Principles for Infrastructure Projects. Planning and Goldward Representation of Undertrack Crossings. Planning of Overhead Line Condition Renewals. Planning of Overhead Line Condition Renewals. Planning of Overhead Line Conditi	105	3713117073015992321079398955295959386357
On-track Machines (OTMs) Driver and Operations Standards Manual. Operation and Maintenance of Non-intrusive Earth Leakage Test Adapter for Reed FDM Systems Produced to Specification EDS 01/96 MOD State 3 Operation and Maintenance of Non-intrusive Earth Leakage Test Adapter for Reed FDM Systems Produced to Specification EDS 01/96 MOD State 3 Operation and Management of the National Radio Network. Operation and Use of Rail Vehicles and On-track Plant. Overhead Condition Renewals (OCR) - Allocation Design. Overhead Contact System Design Specification. Overhead Electified Lines - Passage of High Vehicles or Loads, or Those With Large Overhangs, over Accommodation and Occupation Level Crossings. Overhead Line Equipment as Installed Data Records. Overhead Line Equipment Campaign Changes. Overhead Line Equipment Campaign Changes. Overhead Line Equipment Specification. Overview of Electromagnetic Coupling Between Traction Systems and Telecommunications Cables. Paired Core Compound Filled Supervisory Cable. Pearlitic Rails. Peer Reviews of Project, Programme and Portfolio (P3M) Investment. Periodic Inspection and Testing of Electrical Installations, Appliances and Equipment. Periodic Inspection and Testing of Electrical Installations, Appliances and Equipment. Personal Protective Equipment and Workwear. Personal Security Pest Management Plannagement Plannagement Plannagement Plannagement Plannagement Control of Steam Locomotive Operation Planning and Obleviering Sate Work - Implementation Principles for Infrastructure Projects Planning and Control of Steam Locomotive Operation Planning of Engineering Sate Work - Implementation Principles for Infrastructure Maintenance Delivery Units Planning of Contrack Machines Planning of Conferent Design and Construction of U	105 55 127 117 1113 88 66 67 67 50 130 130 148 155 166 167 179 189 199 199 110 112 112 118 118 118 118 118 118 118 118	37131170730159923210793989552959593863575
On-track Machines (OTMs) Driver and Operations Standards Manual. Operation and Maintaning Escalator Trolleys at London Victoria. Operation and Maintanine and Non-intrusive Earth Leakage Test Adapter for Reed FDM Systems Produced to Specification EDS 01/96 MOD State 3 Operation and Management of the National Radio Network. Operation and Management of the National Radio Network. Operation and Management of the National Radio Network. Overhead Condition Renewals (OCR) - Allocation Design. Overhead Contact System Design Specification. Overhead Electrified Lines - Passage of High Vehicles or Loads, or Those With Large Overhangs, over Accommodation and Occupation Level Crossings Overhead Line Equipment Sinstalled Data Records. Overhead Line Equipment Campaign Changes. Overhead Line Equipment Campaign Changes. Overhead Line Equipment Specification. Overlaw Work Instructions. Overlay Miniature Stop Light Equipment Specification. Overlaw Green Coupling Between Traction Systems and Telecommunications Cables Paired Core Compound Filled Supervisory Cable. Pearlitic Ralis. Peer Reviews of Project, Programme and Portfolio (P3M) Investment. Permanent Speed Restrictions Fitted with TPWS. Personal Protective Equipment and Workwear. Personal Protective Equipment State Surveillance. Planned General Safety Inspections. Planned General Safety Inspections. Planned Preventative Maintenance of Radio Structures, Antennas and Feeders. Planning and Control of Steam Locomotive Operation. Planning and Delivering Safe Work Ling Proscient in the East Midlands. Planning and Delivering Safe Work Ling Proscient in the East Midlands. Planning and Delivering Safe work in Implementation Principles for Infrastructure Projects. Planning and Goldward Representation of Undertrack Crossings. Planning of Overhead Line Condition Renewals. Planning of Overhead Line Condition Renewals. Planning of Overhead Line Conditi	105	371311707301599232107939895529595938635751

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Records Management	76	6
Records Management of Health and Safety Files	75	5
Reed Type RT Track Circuits		
Refurbishment of Underfloor Wheel Lathes		
Re-gauging of Switch Units – Field Face to Field Face Method		
Reinstatement of Absolute Track Geometry (ATG) West Coast Main Line (WCML) Routes		
Reliability Centred Maintenance of Signalling Equipment	. 149	9
Renewals Workbank Management		
Reporting and Investigation Manual		
Reporting of Electric Track Equipment Defects	03	J
Reporting of Permanent Way Failures and Incidents		
Reporting of Track Unit Rates (part of the Network Rail Cost Analysis Framework)		
Requirement for Powered Point Operating Equipment	. 129	9
Requirement Specification for "Signals On" Controls for SSI Schemes	. 128	8
Requirement Specification for a Barrier Operation Relay for L.C. Barriers		
Requirement Specification for a SSI Technician's Terminal	. 128	9
Requirement Specification for an IECC System Monitor Terminal	. 131	1
Requirement Specification for Performance of Long Range Colour Light Signals	. 128	8
Requirement Specification for Performance of Position Light Signals		
Requirement Specification for TDM Systems		
Requirements for an Asset Maintenance Process		
Requirements for Colour Light Junction Signalling		
Requirements for Level Crossings		
Requirements for Maintenance of Trackwork in Depots by Depot Facility Operators	. 184	4
Requirements for Processes for Cold-expanding Fishbolt Holes by the Split Sleeve Method	184	4
Requirements for TASS Infrastructure – Installation, Test and Maintenance		
requirements to 1700 life the life of the life and Walliteriance	. 120	0
Requirements for TASS Infrastructure – System Description		
Requirements for TASS Infrastructure – System Design		
Requirements for the Operation of the Dynamic Track Stabiliser on or Adjacent to Structures	. 183	3
Requirements for the Provision and Management of TASS Infrastructure Data		
Requirements for the Provision of SPAD Alarms at Signalling Control Centres		
Requirements for the Weekly Operating Notice, Periodical Operating Notice and Local Operating Instructions (incl. Sectional Appendix)		
Resistive Type Live Line Indicators	53	3
Responsive Maintenance	37	7
Restrictions on Entry into Substations Equipped with GEC Type KC 33kV Switchgear		
Retro-reflective Temporary Speed Equipment.		
Review and Commit Planned Work		
Risk Analysis of Signalling Relays		
Risk Assessment and Briefing of Timetable Change	. 107	7
Risk Based Campaign for the Installation of Tubular Stretcher Bars		
Risk Based Maintenance – Implementation Guidance	15	7
Risk Control Manual		
risk Control Manual	00	0
Road Vehicle Incursions: Risk Assessment of Public and Non-Public Bridge and Neighbouring Sites	33	3
ROSE Project - Implementation Guide	. 157	7
Route Business (Non-Operations) Briefing Process		
Route Crime Risk Management		
Routine Inspection and Maintenance of Diesel and Electrically Driven Compressed air Installations		
Touring inspection and waintenance of piece and Electrically Driven Compressed all installations	02	_
S&C System Specification for the Design of Switches and Crossings		
S&C Track Design Good Practice Guide	. 203	3
Safe Working Practices When Working on or Near Signalling Equipment	. 157	7
Safe Working Practices When Working on or Near Signalling Power Distribution Equipment Above 175 Volts	157	7
Safety of People Working on or Near the Line		
Safety Procedure Manuals		
Safety Validation of Organisational Change	. 120	0
Saw and Disc Cutting and Drilling of Rail	. 183	3
Scanning of Documentation	7	7
Scour Assessment of Bridges, Culverts and Retaining Walls		
Screening Conductor for the Immunisation of Telecommunications Cables	. 168	9
Sentinel Scheme Rules	. 123	3
Serviceable Concrete Sleepers for use in Running Lines and Sidings	. 190	0
Serviceable Rail for use in Running Lines and Sidings		
Serviceable Switches and Crossings		
Sharing Framework for Information		
Short-term Works Planning in Infrastructure Maintenance		
Shunting Vehicles for use with Underfloor Wheel Lathe Facilities		
Signal Box Telephone Concentrator System Design and Application Requirements	. 168	8
Signal Engineering Involvement in Civil Engineering Work		
Signal Engineering Involvement in Ovil Engineering Work		
Signal Maintenance Specifications		
Signal Overrun Risk Assessment - Gap Analysis	. 164	4
Signal Post Telephone Concentrator Systems	. 168	8
Signal Sighting Assessment Process		
Signaller's Operating Guide for the use of the IECC Signalling Workstation		
Signalling and Telecommunications Telecoms Clearance for Fixed Transmitters		
Signalling Asset Policy	. 132	2
Signalling Cable Equivalent Sizes	. 136	6
Signalling Centre Desks		
Signalling Design Handbook		
Signalling Equipment Affected by Emergency and Temporary Speed Restrictions		
Signalling Equipment Support Specification		
Signalling Equipment Workshop Engineering Notice (SIGWEN021) Signalling Relays		
Signalling Functional Power Loads Data Management		
Signalling Infrastructure Condition Assessment (SICA) Handbook		
Signalling Installation		
Signalling Maintenance Task Intervals		

#### **By Document Title**

Signalling Maintenance Vehicle Stock Check and Replenishment	
Signalling of Modular Switch and Crossing Renewals	
Signalling Power Circuit Principles	
Signalling Power Distribution Diagrams	
Signalling Pre-Commissioning Verification Requirements.	
Signalling Principles Handbook	
Signalling Product Specifiactions	140
Signalling Relays (SIGTAN020)	158
Signalling Requirements for the Application Design & Management of Points	136
Signalling Responsibilities for S&C Maintenance	
Signalling Risk Assessment Handbook	
Signalling Scheme Plan Number Controls	95
Signalling Scope of Work for Switch and Crossing Renewal Projects	
Signalling Works Test Specifications and Historical Test Value Data	159
Signalling Works Testing Handbook	142
Signals Passed at Danger and Signal Reversions	108
SIGTAN008 Sangamo/Schlumberger Time Switches Used at Level Crossings	
SIGTAN010 Circuit Controllers Used with BR843 Level Crossing Lifting Barriers	160
SIGTAN012 Cables and Wiring Used for Signalling Systems	158
SIGTAN014 Mechanical Handbook	
SIGTAN015 Relay Plugboard Problems	
SIGTAN019 Westinghouse Signal Machines	160
SIGTAN023 Signal Post Replacement Switches.	160
SIGTAN024 Signalling Control Panels	160
SIGTAN025 Electric Lever Locks and Circuit Controllers	160
SIGTAN026 Track Circuit Equipment	160
SIGTAN030 Earth Testing of Bus-bars	
SIGTAN032 Alignment of Colour Light Signals	
SIGTAN036 Test and Measurement Meters	
SIGTAN039 Signals (General)	
SIGTAN040 Train Protection Systems SIGTAN041 Battery Cells	
SIGTAN041 battery ceris	
SIGTAN045 Power Supplies	
SIGTAN046 Treadles	
SIGTAN047 Points (General)	
SIGTAN048 TPWS Trackside Equipment	
SIGTAN050 Western Region Type Barrier Machine Hydraulic Ram-ram Pin Failure	161
SIGTAN051 GEC FDM Reed Equipment	161
SIGTAN052 TPWS in Radio Electronic Token Block (RETB) - Faulting Guidance	162
CIOMENIOSO OFO OCUM Paint Marking	400
SIGWEN003 GEC-GS HW Point Machine	
SIGWEN003 GEC-GS HW Point Machine	162
SIGWEN003 GEC-GS HW Point Machine	162 162
SIGWEN003 GEC-GS HW Point Machine	162 162 162
SIGWEN003 GEC-GS HW Point Machine SIGWEN006 Smiths Industries Clamp Lock Power Pack SIGWEN007 BR843 Level Crossing Lifting Barriers SIGWEN008 Westinghouse Signal Machines SIGWEN011 BR817 Hydraulic Clamp Lock Power Packs	162 162 162
SIGWEN003 GEC-GS HW Point Machine	162 162 162 162 162
SIGWEN003 GEC-GS HW Point Machine SIGWEN006 Smiths Industries Clamp Lock Power Pack. SIGWEN007 BR843 Level Crossing Lifting Barriers SIGWEN008 Westinghouse Signal Machines SIGWEN011 BR817 Hydraulic Clamp Lock Power Packs SIGWEN014 Labelling of Signalling Equipment. SIGWEN018 GEC FDM Reed Equipment. Silicone–Rubber Covered Primary Live Line Insulated Poles	162 162 162 162 162 162
SIGWEN003 GEC-GS HW Point Machine	162 162 162 162 162 54 133
SIGWEN003 GEC-GS HW Point Machine	162 162 162 162 162 162 54 133
SIGWEN003 GEC-GS HW Point Machine SIGWEN006 Smiths Industries Clamp Lock Power Pack SIGWEN007 BR843 Level Crossing Lifting Barriers SIGWEN008 Westinghouse Signal Machines SIGWEN011 BR817 Hydraulic Clamp Lock Power Packs SIGWEN014 Labelling of Signalling Equipment SIGWEN018 GEC FDM Reed Equipment. SIGWEN018 GEC FDM Reed Equipment. Silicone–Rubber Covered Primary Live Line Insulated Poles Silver Migration SINCS (Signalling) For Network Rail Fault Management. Single to Three Phase Converter Installations.	162 162 162 162 162 54 133 149
SIGWEN003 GEC-GS HW Point Machine SIGWEN006 Smiths Industries Clamp Lock Power Pack. SIGWEN007 BR843 Level Crossing Lifting Barriers SIGWEN008 Westinghouse Signal Machines SIGWEN011 BR817 Hydraulic Clamp Lock Power Packs SIGWEN014 Labelling of Signalling Equipment SIGWEN018 GEC FDM Reed Equipment SIGWEN018 GEC FDM Reed Equipment Silicone–Rubber Covered Primary Live Line Insulated Poles Silver Migration SINCS (Signalling) For Network Rail Fault Management Single to Three Phase Converter Installations Siting Requirements for Lineside Apparatus Housings	16216216216216216216314962159
SIGWEN003 GEC-GS HW Point Machine SIGWEN006 Smiths Industries Clamp Lock Power Pack. SIGWEN007 BR843 Level Crossing Lifting Barriers SIGWEN008 Westinghouse Signal Machines SIGWEN011 BR817 Hydraulic Clamp Lock Power Packs SIGWEN014 Labelling of Signalling Equipment SIGWEN018 GEC FDM Reed Equipment SIGWEN018 GEC FDM Reed Equipment Silicone–Rubber Covered Primary Live Line Insulated Poles Silver Migration SINCS (Signalling) For Network Rail Fault Management Single to Three Phase Converter Installations Siting Requirements for Lineside Apparatus Housings Sittingbourne - Sheerness: Control and use of VHLC Local Control Panels	1621621621621625413314962159
SIGWEN003 GEC-GS HW Point Machine SIGWEN006 Smiths Industries Clamp Lock Power Pack. SIGWEN007 BR843 Level Crossing Lifting Barriers SIGWEN008 Westinghouse Signal Machines SIGWEN011 BR817 Hydraulic Clamp Lock Power Packs SIGWEN014 Labelling of Signalling Equipment. SIGWEN018 GEC FDM Reed Equipment. SIGWEN018 GEC FDM Reed Equipment. Silicone–Rubber Covered Primary Live Line Insulated Poles Silver Migration. SINCS (Signalling) For Network Rail Fault Management Single to Three Phase Converter Installations. Siting Requirements for Lineside Apparatus Housings Sittingbourne - Sheerness: Control and use of VHLC Local Control Panels. Skills Assessment Scheme.	16216216216216213314962159159
SIGWEN003 GEC-GS HW Point Machine SIGWEN006 Smiths Industries Clamp Lock Power Pack. SIGWEN007 BR843 Level Crossing Lifting Barriers SIGWEN008 Westinghouse Signal Machines SIGWEN011 BR817 Hydraulic Clamp Lock Power Packs SIGWEN014 Labelling of Signalling Equipment. SIGWEN018 GEC FDM Reed Equipment. SIGWEN018 GEC FDM Reed Equipment. Silicone–Rubber Covered Primary Live Line Insulated Poles. Silver Migration. SINCS (Signalling) For Network Rail Fault Management. Single to Three Phase Converter Installations. Siting Requirements for Lineside Apparatus Housings. SittingBourne - Sheerness: Control and use of VHLC Local Control Panels. Skills Assessment Scheme Sourcing and Purchasing Policy	16216216216216216213314962159159
SIGWEN003 GEC-GS HW Point Machine SIGWEN006 Smiths Industries Clamp Lock Power Pack. SIGWEN007 BR843 Level Crossing Lifting Barriers SIGWEN008 Westinghouse Signal Machines SIGWEN011 BR817 Hydraulic Clamp Lock Power Packs SIGWEN014 Labelling of Signalling Equipment. SIGWEN018 GEC FDM Reed Equipment. SIGWEN018 GEC FDM Reed Equipment. Silicone–Rubber Covered Primary Live Line Insulated Poles Silver Migration. SINCS (Signalling) For Network Rail Fault Management Single to Three Phase Converter Installations. Siting Requirements for Lineside Apparatus Housings Sittingbourne - Sheerness: Control and use of VHLC Local Control Panels. Skills Assessment Scheme.	162 162 162 162 162 162 149 62 159 159 45 46
SIGWEN003 GEC-GS HW Point Machine SIGWEN006 Smiths Industries Clamp Lock Power Pack SIGWEN007 BR843 Level Crossing Lifting Barriers SIGWEN008 Westinghouse Signal Machines SIGWEN011 BR817 Hydraulic Clamp Lock Power Packs SIGWEN014 Labelling of Signalling Equipment SIGWEN018 GEC FDM Reed Equipment SIGWEN018 GEC FDM Reed Equipment Silicone–Rubber Covered Primary Live Line Insulated Poles Silver Migration SINCS (Signalling) For Network Rail Fault Management Single to Three Phase Converter Installations Siting Requirements for Lineside Apparatus Housings Sittingbourne - Sheerness: Control and use of VHLC Local Control Panels. Skills Assessment Scheme Sourcing and Purchasing Policy Sourcing and Supplier Governance Policy Special Inspection of AOCL/AOCL+B and ABCL Level Crossings Including Power Supplies Special Inspection of Architectural Features Attached to Station Building Assets.	162 162 162 162 162 163 149 159 159 46 46 101
SIGWEN003 GEC-GS HW Point Machine.  SIGWEN006 Smiths Industries Clamp Lock Power Pack.  SIGWEN007 BR843 Level Crossing Lifting Barriers.  SIGWEN008 Westinghouse Signal Machines.  SIGWEN011 BR817 Hydraulic Clamp Lock Power Packs.  SIGWEN014 Labelling of Signalling Equipment.  SIGWEN018 GEC FDM Reed Equipment.  Silicone—Rubber Covered Primary Live Line Insulated Poles.  Silver Migration.  SINCS (Signalling) For Network Rail Fault Management.  Single to Three Phase Converter Installations  Siting Requirements for Lineside Apparatus Housings.  Sitting Requirements for Lineside Apparatus Housings.  Sittingbourne - Sheerness: Control and use of VHLC Local Control Panels.  Skills Assessment Scheme.  Sourcing and Purchasing Policy.  Sourcing and Supplier Governance Policy.  Special Inspection of AOCL/AOCL+B and ABCL Level Crossings Including Power Supplies  Special Inspection of Bonding at Bridges, Tunnels and Other Overline Structures.	162162162162162162133149621594546464770
SIGWEN003 GEC-GS HW Point Machine SIGWEN006 Smiths Industries Clamp Lock Power Pack.  SIGWEN007 BR843 Level Crossing Lifting Barriers SIGWEN018 Westinghouse Signal Machines SIGWEN011 BR817 Hydraulic Clamp Lock Power Packs SIGWEN014 Labelling of Signalling Equipment SIGWEN018 GEC FDM Reed Equipment SIIcone-Rubber Covered Primary Live Line Insulated Poles Silver Migration SINCS (Signalling) For Network Rail Fault Management Single to Three Phase Converter Installations. SIting Requirements for Lineside Apparatus Housings. Sitting Requirements for Lineside Apparatus Housings. Sittingbourne - Sheerness: Control and use of VHLC Local Control Panels Skills Assessment Scheme Sourcing and Purchasing Policy Sourcing and Supplier Governance Policy Special Inspection of AOCL/AOCL+B and ABCL Level Crossings Including Power Supplies. Special Inspection of Architectural Features Attached to Station Building Assets Specialist Risk Assessment - COSHH for Functions other than Maintenance, Operations and Customer Services and the National Delivery Service (NDS)	162 162 162 162 162 162 133 149 159 45 46 101 70 125
SIGWEN003 GEC-GS HW Point Machine SIGWEN006 Smiths Industries Clamp Lock Power Pack SIGWEN007 BR843 Level Crossing Lifting Barriers SIGWEN018 Westinghouse Signal Machines SIGWEN011 BR817 Hydraulic Clamp Lock Power Packs SIGWEN011 BR817 Hydraulic Clamp Lock Power Packs SIGWEN014 Labelling of Signalling Equipment SIGWEN018 GEC FDM Reed Equipment SIGWEN018 GEC FDM Reed Equipment SIGWEN018 GEC FDM Reed Equipment Silicone-Rubber Covered Primary Live Line Insulated Poles Silver Migration Silver Migration Silver Migration Single to Three Phase Converter Installations Siting Requirements for Lineside Apparatus Housings Siting Requirements for Lineside Apparatus Housings Siting Requirements for Lineside Apparatus Housings Siting Seessment Scheme Sourcing and Purchasing Policy Sourcing and Purchasing Policy Sourcing and Supplier Governance Policy Special Inspection of AOCL/AOCL+B and ABCL Level Crossings Including Power Supplies. Special Inspection of Architectural Features Attached to Station Building Assets. Special Inspection of Bonding at Bridges, Tunnels and Other Overline Structures. Specialist Risk Assessment - COSHH for Functions other than Maintenance, Operations and Customer Services and the National Delivery Service (NDS) Specialist Risk Assessment - COSHH for Infrastructure Maintenance.	162 162 162 162 162 162 133 149 159 159 46 46 101 37 70 125
SIGWEN003 GEC-GS HW Point Machine.  SIGWEN006 Smiths Industries Clamp Lock Power Pack  SIGWEN007 BR843 Level Crossing Lifting Barriers  SIGWEN008 Westinghouse Signal Machines.  SIGWEN018 Westinghouse Signal Machines.  SIGWEN011 BR817 Hydraulic Clamp Lock Power Packs  SIGWEN014 Labelling of Signalling Equipment.  SIGWEN018 GEC FDM Reed Equipment.  Silicone–Rubber Covered Primary Live Line Insulated Poles.  Silver Migration.  SINCS (Signalling) For Network Rail Fault Management.  Single to Three Phase Converter Installations.  Siting Requirements for Lineside Apparatus Housings  Sitting Requirements for Lineside Apparatus Housings  Sittingbourne - Sheerness: Control and use of VHLC Local Control Panels.  Skills Assessment Scheme.  Sourcing and Purchasing Policy.  Special Inspection of AoCL/AOCL+B and ABCL Level Crossings Including Power Supplies.  Special Inspection of Architectural Features Attached to Station Building Assets.  Special Inspection of Bonding at Bridges, Tunnels and Other Overline Structures.  Specialist Risk Assessment - COSHH for Infrastructure Maintenance.	162 162 162 162 162 162 163 149 159 159 159 45 46 101 37 70 125 125
SIGWEN003 GEC-GS HW Point Machine.  SIGWEN006 Smiths Industries Clamp Lock Power Pack  SIGWEN007 BR843 Level Crossing Lifting Barriers  SIGWEN008 Westinghouse Signal Machines.  SIGWEN018 Westinghouse Signal Machines.  SIGWEN011 BR817 Hydraulic Clamp Lock Power Packs  SIGWEN014 Labelling of Signalling Equipment.  SIGWEN018 GEC FDM Reed Equipment.  Silicone—Rubber Covered Primary Live Line Insulated Poles.  Silver Migration.  SINCS (Signalling) For Network Rail Fault Management.  Silognalling) For Network Rail Fault Management.  Single to Three Phase Converter Installations.  Sitting Requirements for Lineside Apparatus Housings.  Sitting Requirements for Lineside Apparatus Housings.  Sitting Sasessment Scheme.  Sourcing and Purchasing Policy.  Sourcing and Purchasing Policy.  Sourcing and Supplier Governance Policy.  Special Inspection of AOCL/AOCL+B and ABCL Level Crossings Including Power Supplies.  Special Inspection of Bonding at Bridges, Tunnels and Other Overline Structures.  Specialist Risk Assessment - COSHH for Functions other than Maintenance, Operations and Customer Services and the National Delivery Service (NDS).  Specialist Risk Assessment - COSHH for Infrastructure Maintenance.  Specialist Risk Assessment - COSHH for Infrastructure Maintenance.  Specialist Risk Assessment - COSHH for Infrastructure Maintenance.  Specialist Risk Assessment - Hand Arm Vibration.	162 162 162 162 162 162 133 149 159 159 159 45 46 40 101 37 70 125 125 125
SIGWEN003 GEC-GS HW Point Machine.  SIGWEN006 Smiths Industries Clamp Lock Power Pack  SIGWEN007 BR843 Level Crossing Lifting Barriers  SIGWEN008 Westinghouse Signal Machines.  SIGWEN018 Westinghouse Signal Machines.  SIGWEN011 BR817 Hydraulic Clamp Lock Power Packs  SIGWEN014 Labelling of Signalling Equipment.  SIGWEN018 GEC FDM Reed Equipment.  Silicone–Rubber Covered Primary Live Line Insulated Poles.  Silver Migration.  SINCS (Signalling) For Network Rail Fault Management.  Single to Three Phase Converter Installations.  Siting Requirements for Lineside Apparatus Housings  Sitting Requirements for Lineside Apparatus Housings  Sittingbourne - Sheerness: Control and use of VHLC Local Control Panels.  Skills Assessment Scheme.  Sourcing and Purchasing Policy.  Special Inspection of AoCL/AOCL+B and ABCL Level Crossings Including Power Supplies.  Special Inspection of Architectural Features Attached to Station Building Assets.  Special Inspection of Bonding at Bridges, Tunnels and Other Overline Structures.  Specialist Risk Assessment - COSHH for Infrastructure Maintenance.	162162162162162162133149621591594646401013770125125125
SIGWEN003 GEC-GS HW Point Machine SIGWEN006 Smiths Industries Clamp Lock Power Pack. SIGWEN007 BR843 Level Crossing Lifting Barriers SIGWEN008 Westinghouse Signal Machines. SIGWEN018 Westinghouse Signal Machines. SIGWEN011 BR817 Hydraulic Clamp Lock Power Packs SIGWEN014 Labelling of Signalling Equipment. SIGWEN018 GEC FDM Reed Equipment. SIGWEN018 GEC FDM Reed Equipment. Silicone—Rubber Covered Primary Live Line Insulated Poles Silver Migration. SIINCS (Signalling) For Network Rail Fault Management. Single to Three Phase Converter Installations Siting Requirements for Lineside Apparatus Housings Sitting Requirements for Lineside Apparatus Housings Sittingbourne - Sheerness: Control and use of VHLC Local Control Panels. Skills Assessment Scheme. Sourcing and Purchasing Policy Sourcing and Supplier Governance Policy. Special Inspection of AOCL/AOCL+B and ABCL Level Crossings Including Power Supplies Special Inspection of Architectural Features Attached to Station Building Assets. Special Inspection of Bonding at Bridges, Tunnels and Other Overline Structures. Specialist Risk Assessment - COSHH for Functions other than Maintenance, Operations and Customer Services and the National Delivery Service (NDS). Specialist Risk Assessment - COSHH for Infrastructure Maintenance. Specialist Risk Assessment - Hand Arm Vibration Specialist Risk Assessment - How and Expectant Mothers.	162 162 162 162 162 163 149 159 159 45 46 101 125 125 125 125 121
SIGWEN003 GEC-GS HW Point Machine SIGWEN008 Smiths Industries Clamp Lock Power Pack SIGWEN007 BR843 Level Crossing Lifting Barriers SIGWEN008 Westinghouse Signal Machines. SIGWEN018 R817 Hydraulic Clamp Lock Power Packs SIGWEN014 Labelling of Signalling Equipment. SIGWEN018 GEC FDM Reed Equipment. SIGWEN018 GEC FDM Reed Equipment. SIIGOR—Rubber Covered Primary Live Line Insulated Poles. Siliver Migration. SINCS (Signalling) For Network Rail Fault Management. Siling to Three Phase Converter Installations. Sitting Requirements for Lineside Apparatus Housings. Sitting Requirements for Lineside Apparatus Housings. Sitting Neguirements for Lineside Apparatus Housings. Special Inspection of AOCL/AOCL+B and ABCL Level Crossings Including Power Supplies. Special Inspection of AoClidoCL+B and ABCL Level Crossings Including Power Supplies. Special Inspection of AoClidoCL+B and ABCL Level Crossings Including Power Supplies. Special Inspection of AoClidoCL+B and ABCL Level Crossings Including Power Supplies. Special Inspection of AoClidoCL+B and ABCL Level Crossings Including Power Supplies. Special Inspection of AoClidoCL+B and ABCL Level Crossings Including Power Supplies. Special Inspection of AoClidoCL+B and ABCL Level Crossings Including Power Supplies. Special Inspection of AoClidoCL+B and ABCL Level Crossings Including Power	162 162 162 162 162 162 154 139 159 159 159 46 101 37 46 125 125 125 125 125 124 124 123
SIGWEN003 GEC-GS HW Point Machine SIGWEN006 Smiths Industries Clamp Lock Power Pack SIGWEN007 BR843 Level Crossing Lifting Barriers SIGWEN018 Westinghouse Signal Machines SIGWEN018 BR817 Hydraulic Clamp Lock Power Packs SIGWEN011 BR817 Hydraulic Clamp Lock Power Packs SIGWEN014 Labelling of Signalling Equipment SIGWEN018 GEC FDM Reed Equipment SIGWEN018 GEC FDM Reed Equipment SIICONE-RUBBER Converted Primary Live Line Insulated Poles Silver Migration SIINCS (Signalling) For Network Rail Fault Management. Single to Three Phase Converter Installations Siting Requirements for Lineside Apparatus Housings Sitting Requirements for Lineside Apparatus Housings Sittingbourne - Sheerness: Control and use of VHLC Local Control Panels. Sikills Assessment Scheme Sourcing and Purchasing Policy. Sourcing and Supplier Governance Policy. Special Inspection of AncL/AOCL-HB and ABCL Level Crossings Including Power Supplies Special Inspection of Anchitectural Features Attached to Station Building Assets. Special Inspection of Gonding at Bridges, Tunnels and Other Overline Structures. Specialist Risk Assessment - COSHH for Functions other than Maintenance, Operations and Customer Services and the National Delivery Service (NDS) Specialist Risk Assessment - COSHH for Infrastructure Maintenance. Specialist Risk Assessment - COSHH For NDCS Specialist Risk Assessment - Hand Arm Vibration. Specialist Risk Assessment - Hand Arm Vibration. Specialist Risk Assessment - Hew and Expectant Mothers. Specialist Risk Assessment - How and Expectant Mothers. Specialist Risk Assessment - Workplace Noise Specialist Risk Assessment - Vorkplace Noise Specialist Risk Assessment - COSHH. Specification for 11, 22, 33 kV Aux. Transformer up to and Including 500kVA for DC Traction Substations. Specification for 25-0-25kV Traction Autotransformers	162 162 162 162 162 162 163 149 159 159 159 45 46 101 37 70 125 125 121 124 121 124 121 124 121 126 160
SIGWEN003 GEC-GS HW Point Machine SIGWEN006 Smiths Industries Clamp Lock Power Pack SIGWEN007 BR843 Level Crossing Lifting Barriers SIGWEN008 Westinghouse Signal Machines. SIGWEN018 R817 Hydraulic Clamp Lock Power Packs SIGWEN014 Labelling of Signalling Equipment. SIGWEN014 Cabelling of Signalling Equipment. SIGWEN018 GEC FDM Reed Equipment. SIIGWEN018 GEC FDM Reed Equipment. SIICECE FDM Reed Equipment. SIICECE FDM Reed Equipment. SIICECE FDM Reed Equipment. SIICECE FDM Reed Equipment. SIGWEN018 GEC FDM Reed Equipment. SIGWEN018 GEC FDM Reed Equipment. SIGWEN018 GEC FDM	162162162162162162133149159159159125125125125121124121124121123
SIGWEN003 SEC-GS HW Point Machine.  SIGWEN008 Smiths Industries Clamp Lock Power Pack  SIGWEN008 Westinghouse Signal Machines.  SIGWEN018 Westinghouse Signal Machines.  SIGWEN018 BR817 Hydraulic Clamp Lock Power Packs  SIGWEN018 BR917 Hydraulic Clamp Lock Power Packs  SIGWEN018 GEC FDM Reed Equipment.  SIGWEN018 GEC FDM Reed Equipment.  SIGWEN018 GEC FDM Reed Equipment.  SIICON-RUBBER SIGWEN018 SIGWEN01	1621621621621621621331496215945129125125125121124121124121124124124124124124124
SIGWEN003 SEC-GS HW Point Machine. SIGWEN008 Smiths Industries Clamp Lock Power Pack SIGWEN008 Smiths Industries Clamp Lock Power Pack SIGWEN018 Westinghouse Signal Machines. SIGWEN018 Westinghouse Signal Machines. SIGWEN018 BR817 Hydraulic Clamp Lock Power Packs SIGWEN018 BR817 Hydraulic Clamp Lock Power Packs SIGWEN018 Labelling of Signalling Equipment. SIGWEN018 Labelling of Signalling Equipment. SIIGONE-Rubber Covered Primary Live Line Insulated Poles. SIIVEN Migration. SIIVEN SIGNALING	162 162 162 162 162 163 149 159 159 45 46 101 125 125 125 125 125 121 123 47 60 48
SIGWEN003 GEC-GS HW Point Machine SIGWEN006 Smiths Industries Clamp Lock Power Pack SIGWEN007 BR843 Level Crossing Lifting Barriers SIGWEN008 Westinghouse Signal Machines SIGWEN018 Westinghouse Signal Machines SIGWEN018 BR817 Hydraulic Clamp Lock Power Packs SIGWEN018 BR817 Hydraulic Clamp Lock Power Packs SIGWEN018 Labelling of Signalling Equipment SIGWEN018 GEC FDM Read Equipment SIICON-ENDED FOR VERNOR SIGNAL FOR SIGNAL FO	162162162162162162133149159159159125125125125125125125125125125125125125125125125125124121124124124124124124124124125
SIGWEN003 EC-C5 HW Point Machine SIGWEN006 Smiths Industries Clamp Lock Power Pack SIGWEN007 BR843 Level Crossing Lifting Barriers SIGWEN08 Westinghouse Signal Machines SIGWEN018 BR817 Hydraulic Clamp Lock Power Packs SIGWEN018 BR817 Hydraulic Clamp Lock Power Packs SIGWEN018 BR817 Hydraulic Clamp Lock Power Packs SIGWEN018 Labelling of Signalling Equipment SIlicone-Rubber Covered Primary Live Line Insulated Poles Silver Migration SINCS (Signalling) For Network Rail Fault Management Single to Three Phase Converter Installations Silver Requirements for Lineside Apparatus Housings Sitting Requirements for Lineside Apparatus Housings Sitting Requirements for Lineside Apparatus Housings Sitting Devense Steme Sourcing and Purchasing Policy Sourcing and Purchasing Policy Sourcing and Purchasing Policy Special Inspection of AOCL/AOCL+B and ABCL Level Crossings Including Power Supplies Special Inspection of Bonding at Bridges, Tunnels and Other Overline Structures Special Inspection of Bonding at Bridges, Tunnels and Other Overline Structures Specialist Risk Assessment - COSHH for Functions other than Maintenance, Operations and Customer Services and the National Delivery Service (NDS) Specialist Risk Assessment - COSHH for Functions other than Maintenance, Operations and Customer Services and the National Delivery Service (NDS) Specialist Risk Assessment - Hand Arm Vibration Specialist Risk Assessment - Hand Arm Vibration Specialist Risk Assessment - Hand Arm Vibration Specialist Risk Assessment - Workplace Noise Specialist Risk Ass	162 162 162 162 162 163 149 159 159 159 45 46 101 37 70 125 121 124 121 124 121 124 121 124 121 124 121 124 121 124 121 124 121 124 121 124 121 124 121 124 121 124 125 121 121 124 121 124 121 1
SIGWEN005 Smiths Industries Clamp Lock Power Pack SIGWEN005 Smiths Industries Clamp Lock Power Pack SIGWEN005 Smiths Industries Clamp Lock Power Pack SIGWEN001 BR843 Level Crossing Lifting Barriers SIGWEN001 BR8417 Hydraulic Clamp Lock Power Packs SIGWEN011 BR817 Hydraulic Clamp Lock Power Packs SIGWEN014 Labelling of Signalling Equipment SIGWEN016 BEC FDM Red Equipment SIGWEN018 BEC FDM Red Equipment SIGUEN018	162162162162162163149159159159125125125121124121124121124121124121124121124121124121124121124124124121124
SIGWEN003 EC-C5 HW Point Machine SIGWEN006 Smiths Industries Clamp Lock Power Pack SIGWEN007 BR843 Level Crossing Lifting Barriers SIGWEN08 Westinghouse Signal Machines SIGWEN018 BR817 Hydraulic Clamp Lock Power Packs SIGWEN018 BR817 Hydraulic Clamp Lock Power Packs SIGWEN018 BR817 Hydraulic Clamp Lock Power Packs SIGWEN018 Labelling of Signalling Equipment SIlicone-Rubber Covered Primary Live Line Insulated Poles Silver Migration SINCS (Signalling) For Network Rail Fault Management Single to Three Phase Converter Installations Silver Requirements for Lineside Apparatus Housings Sitting Requirements for Lineside Apparatus Housings Sitting Requirements for Lineside Apparatus Housings Sitting Devense Steme Sourcing and Purchasing Policy Sourcing and Purchasing Policy Sourcing and Purchasing Policy Special Inspection of AOCL/AOCL+B and ABCL Level Crossings Including Power Supplies Special Inspection of Bonding at Bridges, Tunnels and Other Overline Structures Special Inspection of Bonding at Bridges, Tunnels and Other Overline Structures Specialist Risk Assessment - COSHH for Functions other than Maintenance, Operations and Customer Services and the National Delivery Service (NDS) Specialist Risk Assessment - COSHH for Functions other than Maintenance, Operations and Customer Services and the National Delivery Service (NDS) Specialist Risk Assessment - Hand Arm Vibration Specialist Risk Assessment - Hand Arm Vibration Specialist Risk Assessment - Hand Arm Vibration Specialist Risk Assessment - Workplace Noise Specialist Risk Ass	16216216216216216213314962159159451251251251211241211234646494855
SIGWEN005 GEC-GS HW Point Machine SIGWEN005 Smiths Industries Clamp Lock Power Pack SIGWEN006 Smiths Industries Clamp Lock Power Pack SIGWEN007 BR843 Level Crossing Lifting Barriers SIGWEN008 Westinghouse Signal Machines SIGWEN014 Labelling of Signalling Equipment SIGWEN014 Labelling of Signalling Equipment SIGWEN016 SEC FDM Reed Equipment SIICON-RUBBER SEC FOR REED SEC FOR SEC FO	162162162162162162133149159159159125125125125125125125125125125125127124121123123123123
SIGWEN003 GEC-GS HW Point Machine SIGWEN008 Smiths Industries Clamp Lock Power Pack SIGWEN008 Bmiths Industries Clamp Lock Power Pack SIGWEN008 Westinghouse Signal Machines SIGWEN011 BR817 Hydraulic Clamp Lock Power Packs SIGWEN011 BR817 Hydraulic Clamp Lock Power Packs SIGWEN014 Labelling of Signalilling Equipment SIGWEN016 GEC FDM Reed Equipment SIGWEN016 GEC FDM Reed Equipment SIGWEN016 GEC FDM Reed Equipment SIGWEN018 GEC FDM Reed SIGWEN018 GEC FDM Reed	16216216216216216216216915915915945461013770125121124121124121124121124121124127604761481776148
SIGWEN003 Rimbs Industries Clamp Lock Power Pack SIGWEN005 Rimbs Industries Clamp Lock Power Pack SIGWEN005 Rimbs Industries Clamp Lock Power Pack SIGWEN006 Westinghouse Signal Machines SIGWEN011 BR817 Hydraulic Clamp Lock Power Packs SIGWEN014 Labelling of Signalling Equipment. SIGWEN014 Labelling of Signalling Equipment. SIGWEN016 SIGE FDM Reed Equipment SIGUEN016 SIGE FDM Reed SIGE SIGE SIGE SIGE SIGE SIGE SIGE SIGE	1621621621621621621331491591591591251251251211241211234760494817770
SIGWEN003 EC-GS HW Point Machine SIGWEN005 Rimbs Industries Clamp Lock Power Pack SIGWEN007 BR843 Level Crossing Lifting Barriers SIGWEN008 Westinghouse Signal Machines SIGWEN011 BR817 Hydraulic Clamp Lock Power Packs SIGWEN011 BR817 Hydraulic Clamp Lock Power Packs SIGWEN014 Labelling of Signalling Equipment SIGWEN015 BCE CFDM Reed Equipment SIGWEN016 SCE CFDM Reed Scenarios SIGWEN016 SCENARIOS SIGMEN016 S	1621621621621621621331491591591591251251211241211241211234646464717048177170481771704817717049
SIGWEN003 EC-CS HW Point Machine SIGWEN005 Rinks Industries Clamp Lock Power Pack SIGWEN007 BR843 Level Crossing Lifting Barriers SIGWEN007 Westinghouse Signal Machines SIGWEN017 BR817 Hydraulic Clamp Lock Power Packs SIGWEN018 Westinghouse Signal Machines SIGWEN018 Clamp of Signaling Equipment. SIGWEN018 GEC PDM Reed Equipment. SIGWEN018 GEC PDM Reed Equipment. SIGWEN018 GEC PDM Reed Equipment. SIGWEN018 Clamp of Signaling Equipment Power Packs SIGWEN018 Clamp of Signaling Equipment. SIGWEN018 GEC PDM Reed Equipment. SIRICE Requirements for Lineside Apparatus Housings SIRING Requirements for Lineside Apparatus Housings Sittingbourne - Sheemess: Control and use of VHLC Local Control Panels Sittingbourne - Sheemess: Control and use of VHLC Local Control Panels Sittingbourne - Sheemess: Control and use of VHLC Local Control Panels Sittingbourne - Sheemess: Control and use of VHLC Local Control Panels Sitingbourne - Sheemess: Control and use of VHLC Local Control Panels Sitingbourne - Sheemess: Control and use of VHLC Local Control Panels Sitingbourne - Sheemess: Control and use of VHLC Local Control Panels Sitingbourne - Sheemess: Control and use of VHLC Local Control Panels Sitingbourne - Sheemess: Control and use of VHLC Local Control Panels Sitingbourne - Sheemess: Control and use of VHLC Local Control Panels Sitingbourne - Sheemess: Control and use of VHLC Local Control Panels Sitingbourne - Sheemess: Control and use of VHLC Local Control Panels Sitingbourne - Sheemess: Control and use of VHLC Local Control Panels Sitingbourne - Sheemess: Control and use of VHLC Local Control Panels Sitingbourne - Sheemess: Control and use of VHLC Local Control Panels Sitingbourne - Sheemess: Control and use of VHLC Local Control Panels Sitingbourne - Sheemess: Control and Sheemess Special Inspection of ACAL Color And BCL Level Crossings Including Power Supplies Specialist Risk Assessment - COSHH for Functions other than Maintenance. Specialist Risk Assessment - COSHH for Function Sheemess Specialist Risk Assessment - New and	162162162162162162133149159159451251251251211241211234747494855474948554749
SIGWEN003 EC-GS HW Point Machine SIGWEN005 Rimbs Industries Clamp Lock Power Pack SIGWEN007 BR843 Level Crossing Lifting Barriers SIGWEN008 Westinghouse Signal Machines SIGWEN011 BR817 Hydraulic Clamp Lock Power Packs SIGWEN011 BR817 Hydraulic Clamp Lock Power Packs SIGWEN014 Labelling of Signalling Equipment SIGWEN015 BCE CFDM Reed Equipment SIGWEN016 SCE CFDM Reed Scenarios SIGWEN016 SCENARIOS SIGMEN016 S	16216216216216216213314915915915912512512512512512512512512112347604817761481776148177170

Specification for Impedance Protection Relay for 650/750V DC Track Feeder Circuit Breakers	47
Specification for Installation of Cable Routes Forming Part of The Traction Distribution System	
Specification for Network Rail Telecoms Systems Architecture, Technical Design and Test Assurance	
Specification for new and Upgraded Lifts	
Specification for Optical Fibre Network Design	. 176
Specification for Outdoor Ancillary Cubicles for 25kV AC Isolation Transformers	
Specification For Point Interface Location	. 153
Specification for Protection and Control Devices for Electrical Systems	60 60
Specification for Railway Pumping Installations	
Specification for Remote Control Equipment for Electrical Distribution Systems	
Specification for Secure Configuration and Management of Network Rail Telecom Internet Protocol (IP) Networks, Systems and Devices	
Specification for Signal Sighting Assessment	
Specification for Signalling Power Supplies	
Specification for Station, Footpath, Bridleway, and User Worked Level Crossings	. 144
Specification for Step-down 3-phase Transformers and Earthing Resistors for Power Distribution in DC Traction Systems	
Specification for the Assessment and Certification of Protective Coatings and Sealants	
Specification for the Inspection and Minor Maintenance of Lineside S&T Cable Routes	
Specification for the Installation and Operation of Buffer Sections and Permanently Earthed Sections in AC Overhead Line Equipment	
Specification for the Maintenance of Cable Distribution Frames and Location Cases	
Specification for the Maintenance of CCTV Cameras	
Specification for the Maintenance of CCTV Monitoring Equipment.	
Specification for the Maintenance of CCTV Video Recorders	
Specification for the Maintenance of CIS Computers	. 174
Specification for the Maintenance of Clocks	
Specification for the Maintenance of Customer Information System Monitors	
Specification for the Maintenance of DOO(P) CCTV, Guard-Assisted CCTV and DOO Mirror Systems	
Specification for the Maintenance of Driver-to-Signalbox Radio Systems (CSR and SMA)	
Specification for the Maintenance of Electro-mechanical Concentrators	
Specification for the Maintenance of Electronic PABX Concentrators	
Specification for the Maintenance of GSM-R Radio BTS, BSC, TCU, Repeater & IVRS Equipment	175
Specification for the Maintenance of Help Points	
Specification for the Maintenance of LCD/LED Displays	
Specification for the Maintenance of Lineside Plug Points and Tunnel Emergency Communication Systems (Pinch Wires)	. 173
Specification for the Maintenance of Lineside Telephones and Tail Cables	
Specification for the Maintenance of National Radio Network (NRN) and Overlay Radio Network (ORN)	
Specification for the Maintenance of Network Control Processor Systems	
Specification for the Maintenance of Public Address Pos	
Specification for the Maintenance of Radio Electronic Token Block Telecoms Equipment	
Specification for the Maintenance of Recorded Announcement Equipment	
Specification for the Maintenance of Telecommunication Earths and Screening Systems	
Specification for the Maintenance of Telecoms Copper Cables	
Specification for the Maintenance of Telecoms Digital Transmission Systems	
Specification for the Maintenance of Telecoms Optical Fibre Cables	
Specification for the Maintenance of UHF Spot Scheme and Marine Radio Systems	
Specification for the Maintenance of Whiteley PETS	
Specification for the Management of Safety Related Infrastructure Records	
Specification for the Preparation and Implementation of Train Describer System Parameter Tables	. 130
Specification for the use of Protective Coating Systems	34
Specification for the Welding of Transformer Tanks and Conservators During Manufacture	
Specification for Transformer/rectifier Equipments for DC Traction Substations	
Specification for Tyne and Wear Metro (Sunderland Extension) – OLE Maintenance Specification of Batteries and Battery Charging Equipment for Electrification Applications	
Specification of Indoor Switchgear for 11, 22, 33kV Distribution Systems for DC Traction Substations	
Specification of Low Voltage Electrical Installations on Railway Premises (Including Plugs, Sockets, Trailing Leads and Appliances)	
Specification of Maintenance Frequency and Defect Prioritisation of Overhead Line Electrification Equipment	
Specification of Security Palisade Fencing for Electrical Distribution Installations for AC and DC Electrified Lines	49
Specification of Voltage Testing of High Voltage Electrical Distribution Equipment (Including Cables) on AC and DC Electrified Lines	
Specification: Concrete Sleepers and Bearers	
Sponsor's Handbook	
SSI Applications Manual Contents	
SSI Hardware Problems	
SSI Long Line Link Telecommunications	
SSI Program and Data Problems	. 158
SSI Technicians Manual	
Standard for Replacement Components to be Used on Electrification Equipment	
Standard Maintenance Procedure: Ordering of Switch and Crossing Components	
Standards and Controls Management Manual	
Standby Power Supply Requirements for Telecommunications Equipment	
Steel Keys for Bullhead Rail	
Steel Sleepers	. 186
Stock Rail Bolt Torque Application	
Storage, Installation & Testing of TSR & ESR AWS Magnets	
Structural Assessments	
STS Concentrator Auto Line Card	
Supplementary Audible Warning Device (SAWD) for Footpath and Bridleway Level Crossing Systems Protected by a Whistle Board	
Supplementary Audible Warning Device (SAWD) Route Business Process	
Supplementary Audible Warning Devices (AWDs) at Footpath and Bridleway Level Crossings Protected by a Whistle Board	
Supplementary Point Drives and Detection	. 159

Supplier Qualification	
Supplier Qualification – Core Requirements	
Supplier Quality Assurance (SQA)	
Supply and Maintenance of Personal Protective Equipment	92
Supply Chain Operations, T&RS and OTM Engineering and Management Manual	
Supply of Optical Fibre Patchcord and Pigtail Assemblies	176
Surveillance of Signal Engineering Activities	
Switch & Crossing Assemblies	
Synchronous Digital Hierarchy Multiplexing Equipment	
Target Earth Calculation Methodology for Signalling Power Systems	
Technical Audit Procedure for Plant and Traction and Rolling Stock	
Technical Briefing Document	188
Technical Competency Requirements for Design of Overhead Line Equipment	
Technical Requirements for Legacy Train Radio Communication	
Technical Requirements for Security CCTV Systems on Network Rail Infrastructure	175
Telecom Cable and Route Installation	
Telecom Maintenance Testing & Fault Investigation Process	
Telecommunications Optical Fibre Cable	
Telecoms Asset Management	
Telecoms Assurance and Compliance	
Telecoms Back Up Power Selection Guidance	
Telecoms Design	
Telecoms Installation	
Telecoms Lineside Copper Cable Enclosures	
Telecoms Maintenance Work Instructions Handbook	
Telecoms Network Terminating Points	
Telecoms Testing and Commissioning Procedure	170
Temporary Insulating Covers for Network Rail Signalling Location Cases	
Temporary Vehicular Level Crossings and Temporary Increased use of Existing Level Crossings	109
Test and Inspection Plan	
Testing and Commissioning of New or Modified Overhead Contact Systems	60
Testing and Commissioning of Telecommunications Equipment and Systems	
Testing for Drugs and Alcohol	
Testing Requirements – Operational Voice Recorders	
Testing Requirements – Public Emergency Telephone Systems	
Testing Requirements - Security CCTV	
Testing Requirements – Signal Box Concentrator	
Testing Telephones at Level Crossings	168
The Application of the Observational Approach to the Design of Remedial Works to Earthworks	37
The Assessment of Underbridge Capacity	37
The Collection and Recording of E&P Condition Data	81
The Definition and Review of Maintenance Compliance Indicators	
The Design of Car Parks for Railway Stations and Depots	35
The Installation and Maintenance of Stretcher Bars	191
	52
The Installation and Upgrading of Escalators and Passenger Conveyors  The Installation of Electric Point Heating	69
The Installation and Upgrading of Escalators and Passenger Conveyors	69
The Installation and Upgrading of Escalators and Passenger Conveyors  The Installation of Electric Point Heating	69 68
The Installation and Upgrading of Escalators and Passenger Conveyors  The Installation of Electric Point Heating  The Installation of Switching Station Slab Foundation Bases	69 68 104
The Installation and Upgrading of Escalators and Passenger Conveyors  The Installation of Electric Point Heating  The Installation of Switching Station Slab Foundation Bases  The Loading Manual for Infrastructure Traffic	69 68 104
The Installation and Upgrading of Escalators and Passenger Conveyors  The Installation of Electric Point Heating  The Installation of Switching Station Slab Foundation Bases  The Loading Manual for Infrastructure Traffic  The Maintenance of Processor Controlled Concentrators.	69 68 104 178 109
The Installation and Upgrading of Escalators and Passenger Conveyors The Installation of Electric Point Heating. The Installation of Switching Station Slab Foundation Bases The Loading Manual for Infrastructure Traffic. The Maintenance of Processor Controlled Concentrators. The Management of Heat Related Emergency Restrictions of Speed Resulting from High Air Temperatures The Management of Rail Defect Removal Timescales.	
The Installation and Upgrading of Escalators and Passenger Conveyors The Installation of Electric Point Heating. The Installation of Switching Station Slab Foundation Bases The Loading Manual for Infrastructure Traffic. The Maintenance of Processor Controlled Concentrators. The Management of Heat Related Emergency Restrictions of Speed Resulting from High Air Temperatures The Management of Rail Defect Removal Timescales. The Management of Reports of Safety-Related Events on Civil Engineering Infrastructure.	
The Installation and Upgrading of Escalators and Passenger Conveyors The Installation of Electric Point Heating The Installation of Switching Station Slab Foundation Bases The Loading Manual for Infrastructure Traffic. The Maintenance of Processor Controlled Concentrators The Management of Heat Related Emergency Restrictions of Speed Resulting from High Air Temperatures The Management of Rajil Defect Removal Timescales. The Management of Reports of Safety-Related Events on Civil Engineering Infrastructure. The Management of Structures	
The Installation and Upgrading of Escalators and Passenger Conveyors The Installation of Electric Point Heating	
The Installation and Upgrading of Escalators and Passenger Conveyors The Installation of Electric Point Heating The Installation of Switching Station Slab Foundation Bases The Loading Manual for Infrastructure Traffic. The Maintenance of Processor Controlled Concentrators The Management of Heat Related Emergency Restrictions of Speed Resulting from High Air Temperatures The Management of Rajil Defect Removal Timescales. The Management of Reports of Safety-Related Events on Civil Engineering Infrastructure. The Management of Structures	
The Installation and Upgrading of Escalators and Passenger Conveyors The Installation of Electric Point Heating. The Installation of Switching Station Slab Foundation Bases The Loading Manual for Infrastructure Traffic. The Maintenance of Processor Controlled Concentrators The Management of Heat Related Emergency Restrictions of Speed Resulting from High Air Temperatures The Management of Rail Defect Removal Timescales. The Management of Reports of Safety-Related Events on Civil Engineering Infrastructure The Management of Structures The Management of the Movement of Abnormal Road Loads The Provision of Track Category and Traffic Data - Procedure The Provision of Welfare Facilities	
The Installation and Upgrading of Escalators and Passenger Conveyors The Installation of Electric Point Heating The Installation of Switching Station Slab Foundation Bases The Loading Manual for Infrastructure Traffic. The Maintenance of Processor Controlled Concentrators The Management of Heat Related Emergency Restrictions of Speed Resulting from High Air Temperatures The Management of Rail Defect Removal Timescales. The Management of Reports of Safety-Related Events on Civil Engineering Infrastructure. The Management of Structures The Management of the Movement of Abnormal Road Loads. The Provision of Track Category and Traffic Data - Procedure	
The Installation and Upgrading of Escalators and Passenger Conveyors The Installation of Electric Point Heating. The Installation of Switching Station Slab Foundation Bases The Loading Manual for Infrastructure Traffic. The Maintenance of Processor Controlled Concentrators. The Management of Heat Related Emergency Restrictions of Speed Resulting from High Air Temperatures The Management of Rail Defect Removal Timescales. The Management of Reports of Safety-Related Events on Civil Engineering Infrastructure. The Management of Structures The Management of the Movement of Abnormal Road Loads. The Provision of Track Category and Traffic Data - Procedure. The Provision of Welfare Facilities The Removal and Reporting of OLE Defects by the OCR Team.	
The Installation and Upgrading of Escalators and Passenger Conveyors The Installation of Electric Point Heating. The Installation of Switching Station Slab Foundation Bases The Loading Manual for Infrastructure Traffic. The Maintenance of Processor Controlled Concentrators. The Management of Heat Related Emergency Restrictions of Speed Resulting from High Air Temperatures The Management of Rail Defect Removal Timescales. The Management of Reports of Safety-Related Events on Civil Engineering Infrastructure. The Management of Structures The Management of the Movement of Abnormal Road Loads. The Provision of Track Category and Traffic Data - Procedure. The Provision of Welfare Facilities The Removal and Reporting of OLE Defects by the OCR Team. The Reporting, Investigation and Recording of Safety and Sustainable Development Events and Close Calls within Infrastructure Projects	
The Installation and Upgrading of Escalators and Passenger Conveyors The Installation of Electric Point Heating The Installation of Switching Station Slab Foundation Bases The Loading Manual for Infrastructure Traffic The Maintenance of Processor Controlled Concentrators The Management of Heat Related Emergency Restrictions of Speed Resulting from High Air Temperatures The Management of Rail Defect Removal Timescales. The Management of Reports of Safety-Related Events on Civil Engineering Infrastructure The Management of Structures The Management of the Movement of Abnormal Road Loads. The Provision of Track Category and Traffic Data - Procedure The Provision of Welfare Facilities The Removal and Reporting of OLE Defects by the OCR Team. The Reporting, Investigation and Recording of Safety and Sustainable Development Events and Close Calls within Infrastructure Projects The Siting of Pantograph Monitoring Equipment.	
The Installation and Upgrading of Escalators and Passenger Conveyors The Installation of Electric Point Heating	
The Installation and Upgrading of Escalators and Passenger Conveyors The Installation of Electric Point Heating The Installation of Switching Station Slab Foundation Bases The Loading Manual for Infrastructure Traffic The Maintenance of Processor Controlled Concentrators The Management of Heat Related Emergency Restrictions of Speed Resulting from High Air Temperatures The Management of Raji Defect Removal Timescales. The Management of Reports of Safety-Related Events on Civil Engineering Infrastructure. The Management of Structures. The Management of the Movement of Abnormal Road Loads. The Provision of Track Category and Traffic Data - Procedure The Provision of Welfare Facilities. The Removal and Reporting of OLE Defects by the OCR Team. The Reporting, Investigation and Recording of Safety and Sustainable Development Events and Close Calls within Infrastructure Projects The Specification and Design of Plain Line Track Renewals The Structural Assessment of Underbridges.	
The Installation and Upgrading of Escalators and Passenger Conveyors The Installation of Electric Point Heating. The Installation of Switching Station Slab Foundation Bases The Loading Manual for Infrastructure Traffic. The Maintenance of Processor Controlled Concentrators. The Management of Processor Controlled Concentrators. The Management of Rail Defect Removal Timescales. The Management of Rail Defect Removal Timescales. The Management of Reports of Safety-Related Events on Civil Engineering Infrastructure. The Management of Structures The Management of the Movement of Abnormal Road Loads. The Provision of Track Category and Traffic Data - Procedure The Provision of Welfare Facilities The Removal and Reporting of OLE Defects by the OCR Team. The Reporting, Investigation and Recording of Safety and Sustainable Development Events and Close Calls within Infrastructure Projects The Sitrictural Assessment of Underbridges The Structural Assessment of Underbridges The Survey and Design of Telecoms Cable and Route. The Transmission of Safety Related Information. The Use of Protective Treatments and Sealants	
The Installation and Upgrading of Escalators and Passenger Conveyors The Installation of Electric Point Heating The Installation of Switching Station Slab Foundation Bases The Loading Manual for Infrastructure Traffic The Maintenance of Processor Controlled Concentrators. The Management of Heat Related Emergency Restrictions of Speed Resulting from High Air Temperatures The Management of Rail Defect Removal Timescales The Management of Reports of Safety-Related Events on Civil Engineering Infrastructure. The Management of Structures The Management of the Movement of Abnormal Road Loads The Provision of Track Category and Traffic Data - Procedure The Provision of Welfare Facilities The Removal and Reporting of OLE Defects by the OCR Team The Reporting, Investigation and Recording of Safety and Sustainable Development Events and Close Calls within Infrastructure Projects The Stiting of Pantograph Monitoring Equipment The Specification and Design of Plain Line Track Renewals The Structural Assessment of Underbridges. The Survey and Design of Telecoms Cable and Route The Transmission of Safety Related Information	
The Installation and Upgrading of Escalators and Passenger Conveyors The Installation of Electric Point Heating. The Installation of Switching Station Slab Foundation Bases The Loading Manual for Infrastructure Traffic. The Maintenance of Processor Controlled Concentrators. The Management of Processor Controlled Concentrators. The Management of Rail Defect Removal Timescales. The Management of Rail Defect Removal Timescales. The Management of Reports of Safety-Related Events on Civil Engineering Infrastructure. The Management of Structures The Management of the Movement of Abnormal Road Loads. The Provision of Track Category and Traffic Data - Procedure The Provision of Welfare Facilities The Removal and Reporting of OLE Defects by the OCR Team. The Reporting, Investigation and Recording of Safety and Sustainable Development Events and Close Calls within Infrastructure Projects The Sitrictural Assessment of Underbridges The Structural Assessment of Underbridges The Survey and Design of Telecoms Cable and Route. The Transmission of Safety Related Information. The Use of Protective Treatments and Sealants	
The Installation and Upgrading of Escalators and Passenger Conveyors	
The Installation and Upgrading of Escalators and Passenger Conveyors The Installation of Electric Point Heating The Installation of Switching Station Slab Foundation Bases The Loading Manual for Infrastructure Traffic. The Maintenance of Processor Controlled Concentrators. The Management of Processor Controlled Concentrators The Management of Heat Related Emergency Restrictions of Speed Resulting from High Air Temperatures The Management of Reports of Safety-Related Events on Civil Engineering Infrastructure. The Management of Structures. The Management of Structures. The Management of the Movement of Abnormal Road Loads. The Provision of Track Category and Traffic Data - Procedure. The Provision of Welfare Facilities The Removal and Reporting of OLE Defects by the OCR Team. The Reporting, Investigation and Recording of Safety and Sustainable Development Events and Close Calls within Infrastructure Projects The Stiting of Pantograph Monitoring Equipment. The Specification and Design of Plain Line Track Renewals The Structural Assessment of Underbridges The Survey and Design of Telecoms Cable and Route. The Transmission of Safety Related Information. The Use of Protective Treatments and Sealants. Topographic, Engineering, Land and Measured Building Surveying – Overhead Line Electrification Topographic, Engineering, Land and Measured Building Surveying – Strategy and General.	
The Installation and Upgrading of Escalators and Passenger Conveyors The Installation of Electric Point Heating The Installation of Switching Station Slab Foundation Bases The Loading Manual for Infrastructure Traffic	
The Installation and Upgrading of Escalators and Passenger Conveyors The Installation of Switching Station Slab Foundation Bases The Loading Manual for Infrastructure Traffic The Maintenance of Processor Controlled Concentrators. The Management of Heat Related Emergency Restrictions of Speed Resulting from High Air Temperatures. The Management of Rail Defect Removal Timescales The Management of Reports of Safety-Related Events on Civil Engineering Infrastructure The Management of Structures. The Management of Structures. The Management of Track Category and Traffic Data - Procedure. The Provision of Track Category and Traffic Data - Procedure. The Provision of Welfare Facilities The Removal and Reporting of OLE Defects by the OCR Team. The Reporting, Investigation and Recording of Safety and Sustainable Development Events and Close Calls within Infrastructure Projects The Siting of Pantograph Monitoring Equipment The Specification and Design of Plain Line Track Renewals The Structural Assessment of Underbridges. The Structural Assessment of Underbridges. The Survey and Design of Telecoms Cable and Route. The Transmission of Safety Related Information. The Use of Protective Treatments and Sealants. Topographic, Engineering, Land and Measured building surveying – Overhead Line Electrification. Topographic, Engineering, Land and Measured building surveying – Strategy and General. TPWS – Selection of Signals and Other Locations for Provision of Track Sub-system TPWS – Track Sub-system Equipment.	
The Installation and Upgrading of Escalators and Passenger Conveyors The Installation of Switching Station Slab Foundation Bases The Loading Manual for Infrastructure Traffic The Maintenance of Processor Controlled Concentrators. The Management of Heat Related Emergency Restrictions of Speed Resulting from High Air Temperatures The Management of Rail Defect Removal Timescales. The Management of Rail Defect Removal Timescales. The Management of Reports of Safety-Related Events on Civil Engineering Infrastructure. The Management of the Movement of Abnormal Road Loads. The Provision of Track Category and Traffic Data - Procedure The Provision of Welfare Facilities The Removal and Reporting of OLE Defects by the OCR Team The Reporting, Investigation and Recording of Safety and Sustainable Development Events and Close Calls within Infrastructure Projects The Siting of Pantograph Monitoring Equipment. The Specification and Design of Plain Line Track Renewals The Structural Assessment of Underbridges The Survey and Design of Telecoms Cable and Route. The Transmission of Safety Related Information The Use of Protective Treatments and Sealants Topographic, Engineering, Land and Measured Building surveying — Overhead Line Electrification. Topographic, Engineering, Land and Measured Building Surveying — Strategy and General. TPWS — Selection of Signals and Other Locations for Provision of Track Sub-system TPWS — Track Sub-system Equipment.  TPWS — Track Sub-system Installation Requirements.	
The Installation and Upgrading of Escalators and Passenger Conveyors. The Installation of Electric Point Heating	
The Installation and Upgrading of Escalators and Passenger Conveyors The Installation of Selectric Point Heating The Installation of Selectric Point Heating The Installation of Selectric Point Heating The Management of Infrastructure Traffic The Maintenance of Processor Controlled Concentrators The Management of Heat Related Emergency Restrictions of Speed Resulting from High Air Temperatures The Management of Rail Defect Removal Timescales. The Management of Roports of Safety-Related Events on Civil Engineering Infrastructure The Management of Structures The Management of Structures The Management of the Movement of Abnormal Road Loads The Provision of Vielfare Facilities The Provision of Vielfare Facilities The Removal and Reporting of OLE Defects by the OCR Team The Reporting, Investigation and Recording of Safety and Sustainable Development Events and Close Calls within Infrastructure Projects The Structural Assessment of Underbridges. The Structural As	
The Installation and Upgrading of Escalators and Passenger Conveyors The Installation of Electric Point Heating The Installation of Switching Station Slab Foundation Bases The Loading Manual for Infrastructure Traffic. The Maintenance of Processor Controlled Concentrators. The Management of Heat Related Emergency Restrictions of Speed Resulting from High Air Temperatures. The Management of Rail Defect Removal Timescales. The Management of Rail Defect Removal Timescales. The Management of Structures. The Management of the Movement of Abnormal Road Loads. The Provision of Track Category and Traffic Data - Procedure. The Provision of Track Category and Traffic Data - Procedure. The Provision of Welfare Facilities The Removal and Reporting of OLE Defects by the OCR Team. The Reporting, Investigation and Recording of Safety and Sustainable Development Events and Close Calls within Infrastructure Projects. The Siting of Pantograph Monitoring Equipment. The Specification and Design of Plain Line Track Renewals The Structural Assessment of Underbridges. The Structural Assessment of Underbridges. The Survey and Design of Telecoms Cable and Route. The Transmission of Safety Related Information. The Use of Protective Treatments and Sealants. Topographic, Engineering, Land and Measured building surveying – Overhead Line Electrification. Topographic, Engineering, Land and Measured Building Surveying – Strategy and General. TPWS – Selection of Signals and Other Locations for Provision of Track Sub-system TPWS – Track Sub-system Equipment TPWS – Track Sub-system Equipment TPWS – Track Sub-system Installation Requirements TPWS – Track Sub-system Installation Requirements TPWS – Transmitter Loop Requirements and Positioning TPWS of Powered Overspeed Sensor (SPOSS) Battery Procurement Specification.	
The Installation and Upgrading of Escalators and Passenger Conveyors.  The Installation of Electric Point Heating.  The Installation of Switching Station Slab Foundation Bases  The Loading Manual for Infrastructure Traffic.  The Maintenance of Processor Controlled Concentrators.  The Management of Heat Related Emergency Restrictions of Speed Resulting from High Air Temperatures.  The Management of Rail Defect Removal Timescales.  The Management of Reports of Safety-Related Events on Civil Engineering Infrastructure.  The Management of Structures.  The Management of Structures.  The Management of Structures.  The Provision of Track Category and Traffic Data - Procedure.  The Provision of Welfare Facilities.  The Provision of Welfare Facilities.  The Removal and Reporting of OLE Defects by the OCR Team.  The Reporting, Investigation and Recording of Safety and Sustainable Development Events and Close Calls within Infrastructure Projects.  The Sitting of Pantograph Monitoring Equipment.  The Specification and Design of Plain Line Track Renewals.  The Survey and Design of Telecoms Cable and Route.  The Transmission of Safety Related Information.  The Use of Protective Treatments and Sealants.  Topographic, Engineering, Land and Measured building surveying – Overhead Line Electrification.  Topographic, Engineering, Land and Measured Building Surveying – Strategy and General.  TPWS — Track Sub-system Equipment.  TPWS — Track Sub-system Installation Requirements.  TPWS — Track Sub-system Installation Requirements.  TPWS — Transmitter Loop Requirements and Positioning.  TPWS — Transmitter Loop Requirements and Positioning.  TPWS Signalling Interface Design Requirements.  TPWS Signalling Interface Design Requirements.	
The Installation and Upgrading of Escalators and Passenger Conveyors. The Installation of Selectric Point Heating The Installation of Switching Station Slab Foundation Bases The Loading Manual for Infrastructure Traffic. The Maintenance of Processor Controlled Concentrators The Management of Heat Related Emergency Restrictions of Speed Resulting from High Air Temperatures. The Management of Reports of Safety-Related Events on Civil Engineering Infrastructure. The Management of Structures. The Management of Structures. The Management of Structures. The Management of Structures. The Provision of Track Category and Traffic Data - Procedure. The Provision of Welfare Facilities. The Removal and Reporting of OLE Defects by the OCR Team. The Removal and Reporting of OLE Defects by the OCR Team. The Reporting, Investigation and Recording of Safety and Sustainable Development Events and Close Calls within Infrastructure Projects. The Stiting of Pantograph Monitoring Equipment. The Specification and Design of Plain Line Track Renewals. The Structural Assessment of Underbridges. The Survey and Design of Fleicoms Cable and Route. The Transmission of Safety Related Information. The Use of Protective Treatments and Sealants. Topographic, Engineering, Land and Measured Building Surveying – Overhead Line Electrification Topographic, Engineering, Land and Measured Building Surveying – Strategy and General. TPWS – Selection of Signals and Other Locations for Provision of Track Sub-system Equipment. TPWS – Transmitter Loop Requirements and Positioning. TPWS of Powered Overspeed Sensor (SPOSS) Battery Procurement Specification. Track Ballast Returned by Automatic Ballast Cleaners.	
The Installation and Upgrading of Escalators and Passenger Conveyors The Installation of Electric Point Heating. The Installation of Switching Station Slab Foundation Bases The Loading Manual for Infrastructure Traffic The Maintenance of Processor Controlled Concentrators. The Management of Heat Related Emergency Restrictions of Speed Resulting from High Air Temperatures The Management of Rail Defect Removal Timescales The Management of Roports of Safety-Related Events on Civil Engineering Infrastructure. The Management of Structures. The Management of Structures. The Management of the Movement of Abnormal Road Loads. The Provision of Track Category and Traffic Data - Procedure. The Provision of Track Category and Traffic Data - Procedure. The Provision of Welfare Facilities The Removal and Reporting of OLE Defects by the OCR Team. The Reporting, Investigation and Recording of Safety and Sustainable Development Events and Close Calls within Infrastructure Projects The Siting of Pantograph Monitoring Equipment. The Specification and Design of Plain Line Track Renewals The Structural Assessment of Underbridges. The Survey and Design of Telecoms Cable and Route The Transmission of Safety Related Information. The Use of Protective Treatments and Sealants Topographic, Engineering, Land and Measured Building Surveying – Overhead Line Electrification. Topographic, Engineering, Land and Measured Building Surveying – Strategy and General. TPWS – Selection of Signals and Other Locations for Provision of Track Sub-system Equipment TPWS – Transmitter Loop Requirements and Positioning. TPWS – Transmitter Loop Requirements and Positioning. TPWS Signalling Interface Design Requirements Track Bellnest Returned by Automatic Ballast Cleaners Track Bellnest Returned by Automatic Ballast Cleaners Track Bellnestgation, Design and Installation.	
The Installation and Upgrading of Escalators and Passenger Conveyors. The Installation of Electric Point Heating	
The Installation and Upgrading of Escalators and Passenger Conveyors. The Installation of Electric Point Heating	
The Installation and Upgrading of Escalators and Passenger Conveyors The Installation of Switching Station Slab Foundation Bases The Loading Manual for Infrastructure Traffic. The Maintenance of Processor Controlled Concentrators The Maintenance of Processor Controlled Concentrators The Management of Heat Related Emergency Restrictions of Speed Resulting from High Air Temperatures The Management of Rall Defect Removal Timescales. The Management of Structures The Management of Track Category and Traffic Data - Procedure The Provision of Track Category and Traffic Data - Procedure The Provision of Welfare Facilities The Removal and Reporting of OLE Defects by the OCR Team. The Reporting, Investigation and Recording of Safety and Sustainable Development Events and Close Calls within Infrastructure Projects The Siting of Pantograph Monitoring Equipment. The Specification and Design of Plain Line Track Renewals The Structural Assessment of Underbridges. The Survey and Design of Telecoms Cable and Route. The Transmission of Safety Related Information. The Use of Protective Treatments and Sealants. Topographic, Engineering, Land and Measured building surveying – Overhead Line Electrification. Topographic, Engineering, Land and Measured Building Surveying – Strategy and General. TPWS – Selection of Signals and Other Locations for Provision of Track Sub-system Equipment TPWS – Track Sub-system Installation Requirements. TPWS – Track Sub-system Installation Requirements is by RETB Signalling TPWS in Areas Where the Control of Train Movements is by RETB Signalling TPWS – Signalling Interface Design Requirements. Track Ballast Returned by Automatic Ballast Cleaners Track Ballast Returned by General Processor (SPOSS) Battery Procurement Specification. Track Ballast Returned by General Installation Track Circuit Assister Interference Detectors	
The Installation and Upgrading of Escalators and Passenger Conveyors The Installation of Switching Station Slab Foundation Bases The Loading Manual for Infrastructure Traffic. The Maintenance of Processor Controlled Concentrators The Maintenance of Processor Controlled Concentrators The Maintenance of Processor Controlled Concentrators The Management of Heat Related Emergency Restrictions of Speed Resulting from High Air Temperatures The Management of Reports of Safety-Related Events on Civil Engineering Infrastructure The Management of Structures The Management of Newment of Abnormal Road Loads The Provision of Track Category and Traffic Data - Procedure The Provision of Welfare Facilities The Removal and Reporting of OLE Defects by the OCR Team. The Reporting, Investigation and Recording of Safety and Sustainable Development Events and Close Calls within Infrastructure Projects The Siting of Pantograph Monitoring Equipment The Specification and Design of Plain Line Track Renewals The Structural Assessment of Underbridges The Survey and Design of Telecoms Cable and Route. The Transmission of Safety Related Information The Use of Protective Treatments and Sealants Topographic, Engineering, Land and Measured Building surveying – Overhead Line Electrification. Topographic, Engineering, Land and Measured Building surveying – Strategy and General. TPWS – Selection of Signals and Other Locations for Provision of Track Sub-system TPWS – Track Sub-system Equipment TPWS – Track Sub-system Installation Requirements. TPWS – Transmitter Loop Requirements and Positioning TPWS and Track Sub-system Installation Requirements. TPAS – Transmitter Loop Requirements and Positioning TPWS – Transmitter Loop Requirements and Positioning TPWS – Transmitter Loop Requirements and Positioning TPWS – Transmitter Loop Requirements. Track Balnekstering Sand Track Balnekstering Sand Track Circuit Assister Interference Detectors Track Bod Investigation, Design and Installation Track Circuit Assister Interference Detectors	
The Installation and Upgrading of Escalators and Passenger Conveyors The Installation of Electric Point Heating. The Installation of Switching Station Slab Foundation Bases The Loading Manual for Infrastructure Traffic. The Maintenance of Processor Controlled Concentrators. The Management of Heat Related Emergency Restrictions of Speed Resulting from High Air Temperatures The Management of Heat Related Emergency Restrictions of Speed Resulting from High Air Temperatures The Management of Reports of Safety-Related Events on Civil Engineering Infrastructure The Management of Structures The Management of Structures The Management of Structures The Management of Structures The Management of Track Category and Traffic Data - Procedure The Provision of Track Category and Traffic Data - Procedure The Provision of Velfare Facilities The Removal and Reporting of OLE Defects by the OCR Team The Reporting, Investigation and Recording of Safety and Sustainable Development Events and Close Calls within Infrastructure Projects The Siting of Pantograph Monitoring Equipment The Specification and Design of Plain Line Track Renewals The Structural Assessment of Underbridges. The Survey and Design of Telecoms Cable and Route. The Transmission of Safety Related Information The Use of Protective Treatments and Sealants Topographic, Engineering, Land and Measured Building Surveying – Overhead Line Electrification. Topographic, Engineering, Land and Measured Building Surveying – Strategy and General. TPWS – Track Sub-system Equipment TPWS – Track Sub-system Installation Requirements. TPWS – Track Sub-system Installation Requirements. TPWS – Track Sub-system Installation Requirements. TPWS – Track Sub-system Design and Installation TPWS – Selection of Signals and Other Locations for Provision of Track Sub-system TPWS – Track Sub-system Design and Installation Track Ballast Returned by Automatic Ballast Cleaners Track Bernard Design and Installation Track Signalling Interface Design Requirements. Track Circuit Nestigation Design and In	
The Installation and Upgrading of Escalators and Passenger Conveyors. The Installation of Switching Station Slab Foundation Bases. The Loading Manual for Infrastructure Traffic. The Maintenance of Processor Controlled Concentrators. The Maintenance of Processor Controlled Concentrators. The Management of Heat Related Emergency Restrictions of Speed Resulting from High Air Temperatures. The Management of Rail Defect Removal Timescales. The Management of Reports of Safety-Related Events on Civil Engineering Infrastructure. The Management of Welverner of Amount of Structures. The Management of the Wovement of Abnormal Road Loads. The Provision of Track Category and Traffic Data - Procedure The Provision of Welfare Facilities The Provision of Welfare Facilities The Provision of Welfare Facilities The Removal and Reporting of OLE Defects by the OCR Team. The Reporting, Investigation and Recording of Safety and Sustainable Development Events and Close Calls within Infrastructure Projects The Siting of Pantograph Monitoring Equipment. The Specification and Design of Plain Line Track Renewals The Structural Assessment of Underbridges. The Survey and Design of Telecoms Cable and Route The Transmission of Safety Related Information. The Use of Protective Treatments and Sealants. Topographic, Engineering, Land and Measured building surveying – Overhead Line Electrification. Topographic, Engineering, Land and Measured Building Surveying – Strategy and General. TPWS – Track Sub-system Installation Requirements. Track Bed Investigation, Design and Installation. Track Ballast Returned by Automatic Ballast Cleaners Track Bed Investigation, Design and Installation. Track Bod Investigation, Design and Installation. Track Circuit Operating Device (T-COD) Identification of Locations for use	
The Installation and Upgrading of Escalators and Passenger Conveyors. The Installation of Switching Station Slab Foundation Bases. The Loading Manual for Infrastructure Traffic. The Maintenance of Processor Controlled Concentrators. The Maintenance of Processor Controlled Concentrators. The Management of Heat Related Emergency Restrictions of Speed Resulting from High Air Temperatures. The Management of Befort Removal Timescales. The Management of Reports of Safety-Related Events on Civil Engineering Infrastructure. The Management of Reports of Safety-Related Events on Civil Engineering Infrastructure. The Management of Irructures. The Management of High Movement of Abnormal Road Loads. The Provision of Verification of Welfare Facilities. The Provision of Verification of Welfare Facilities. The Provision of Welfare Facilities. The Reporting, Investigation and Recording of Safety and Sustainable Development Events and Close Calls within Infrastructure Projects. The Sting of Pantograph Monitoring Equipment. The Specification and Design of Plain Line Track Renewals. The Structural Assessment of Underbridges. The Structural Assessment of Underbridges. The Structural Assessment of Underbridges. The Transmission of Safety Related Information. The Use of Protective Treatments and Sealants. Topographic, Engineering, Land and Measured building Surveying – Overhead Line Electrification. Topographic, Engineering, Land and Measured building Surveying – Strategy and General. TPWS – Track Sub-system Equipment. TPWS – Track Sub-system Installation Requirements. TPWS – Track Sub-system Design and Installation. Track Ballast Returned by Automatic Ballast Cleaners Track Bell envestigation, Design and Installation. Track Ballast Returned by Sub-system Sub-system Sub-system Procurement Specification. Track Bunketing Sand Track Cir	
The Installation and Upgrading of Escalators and Passenger Conveyors. The Installation of Electric Point Heating, The Installation of Switching Station Slab Foundation Bases The Loading Manual for Infrastructure Traffic. The Maintenance of Processor Controlled Concentrators. The Maintenance of Processor Controlled Concentrators. The Management of Heat Related Emergency Restrictions of Speed Resulting from High Air Temperatures The Management of Reports of Safety-Related Events on Civil Engineering Infrastructure. The Management of Reports of Safety-Related Events on Civil Engineering Infrastructure. The Management of Howement of Abnormal Road Loads. The Management of the Movement of Abnormal Road Loads. The Provision of Track Category and Traffic Data - Procedure. The Provision of Welfare Facilities. The Reporting, Investigation and Recording of Safety and Sustainable Development Events and Close Calls within Infrastructure Projects. The Rising of Pantograph Monitoring Equipment. The Specification and Design of Plain Line Track Renewals The Structural Assessment of Underbridges The Survey and Design of Telecoms Cable and Route. The Transmission of Safety Related Information. The Use of Protective Treatments and Sealants. The Use of Protective Treatments and Sealants. The Specification of Design and Ameasured Building surveying – Overhead Line Electrification. Topographic, Engineering, Land and Measured Building Surveying – Strategy and General. TPWS – Selection of Signals and Other Locations for Provision of Track Sub-system Telephore Sub-system Telephore Sub-system Requirements TPWS – Track Sub-system Equipment TPWS – Track Sub-system Equipment Requirements is by RETB Signalling. TPWS – Transmitter Loop Requirements and Positioning. TPWS – Transmitter Loop Requirements and Positioning. TPWS – Transmiter Loop Requirements and Positioning. TPWS – Transmiter Loop Requirements and Positioning. TPWS – Transmiter Loop Requirements and Positioning. Track Balanst Returned by Automatic Ballast Cleaners Track Bel Invest	

Track Geometry: Management of Recording and of Intervention and Immediate Actions Limits	188
Track Lubricants	201
Track Maintenance Handbook	
Track Maintenance Renewal or Alteration - Used Ballast and Excavation Waste Handling	72
Track Quality Requirements at Wheel Impact Load Detection System Locations	202
Track Standard Drawings (RE/PW Series)	
Track Visitor Permits	
Track Warning Systems	
Tracklink 2/HSD2000 Platform Identification Beacon System (PIBS) For Selective Door Operation (SDO)	141
Trackside Pantograph Monitoring Equipment	
Traction Power Isolation Documentation	
Train Actuated Disconnector (TAD)	
Train Borne Monitoring of Traction Power Contact Systems	60
Train Detection	120
Train Protection and Warning System (TPWS) – Failure Indication Unit	
Trainer Approval	
Training and Competence in Telecommunication Engineering	/11
Training and competence in releconfinding Lingingering	41
Training Competence and Assessment in Accident and Incident Investigation	40
Training, Competence and Assessment in Accident and incident investigation	40
Traumatic Incident Management	
Tunnel Emergency Communication Wire Product Specification	
Unit Twin Copper Telecommunications Cable	169
Use of Ballast Gluing to Increase the Lateral Resistance of Track	
Use of Lookout Operated Warning System (LOWS) Equipment	
Use of Work Activity Risk Assessment in a Safe System of Work (P&E).	
VDU Based Signalling Control System	
Vehicle Lifting Jacks	
Vital Signalling Timer	
VT1 Type Relays Inspection	
Warning and Other Signs for AC and DC Electrified Lines	
Warning Signs for A.C. & D.C. Switching Stations	
Waste Management Manual	
Waterproofing Systems for Underline Bridge Decks	
Waterproofing Underline Bridge Decks	34
Wather – Managing the Operational Risks	
Weekly Operating Notice - Format and Content	
Welding Process - Repair of Wheelburns and Squats	
Welding Process - Repair of Writelaburis and Squais	200
Welding Process – Use of Welding Umbrella and Support Clamp	
Westinghouse Signals FS2600 Track Circuits	
Westinghouse Signals Style 63 Point Machine (Sigwen 002)	
Weelinghouse Signals Style 63 Point Machine (Sigwen 002)	120
Winching Overhead Line Conductors	
Wiring of Copper Telecoms Terminations	
Wood Sleepers, Bearers and Longitudinal Timbers	
Work Activity Risk Assessments	
Work Activity Risk Management	
Work Instruction for Carrying out Testing on all Electrified Lines	
Work Instruction for Defect Reporting	
Work Instruction for Jointing, Terminating and Testing Optical Fibre Cables	
Work Instruction for Network Rail/Euro Tunnel Electrical Interface at Folkestone Operating and Maintenance Procedures	
Work Instruction for Production of Mean and Peak Current Profiles for 25kV AC Electrification	
Work Instruction for the Maintenance of Public Address Voice Alarm (PAVA) Equipment	
Work Instruction for the Maintenance of Telecommunication Power Plant, Batteries, Inverters and Uninterruptible Power Supplies	
Work Instruction for the Maintenance of Voice Recorders	
Work Instruction for the Manual Installation of Telecommunications Cables	
Work Instruction for the Operation of 11kV Supplies at Slade Green Depot, Ashford IECC and Victoria Station	
Work Instructions for Ultrasonic Rail Testing	
Working Instructions for DC Electrified Lines in the Liverpool Area	
Working Instructions for DC Electrified Lines on the Northern City Line	
Working of Passenger Trains Over Non-Passenger Lines	
Working on or About 25kV AC Electrified Lines	
Working on or Adjacent to Conductor Rail	
Working on or Near 650V Signalling Power Supplies	
Working Safely at Height	
Working Safely at Height Manual	
Working safely in the vicinity of buried services	
Working with Information Classifications - Security	
Works Planning Using PossMan	
Worksafe Review Procedure	
WUINSale Review Filoceulie	450

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