

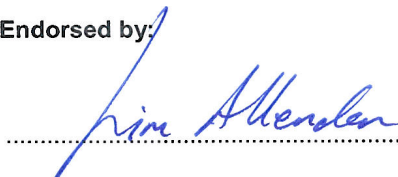
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| Date:            | 02 June 2012    |
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## Level 1

# Network Rail's Plant and Traction and Rolling Stock (T&RS) Policy

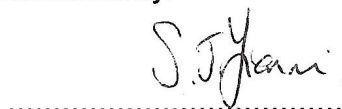
### Endorsement and Authorisation

Endorsed by:



James Allenden, Steering Group Chair

Authorised by:



Steve Yianni, Director, Engineering

Accepted for issue by:



Mick McManus, National Standards Manager

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## Issue record

| Issue | Date          | Comments                                                          |
|-------|---------------|-------------------------------------------------------------------|
| 1     | December 2010 | Original Issue                                                    |
| 2     | June 2011     | Small changes to correct errors                                   |
| 3     | June 2012     | Small change to Engineering Change Processes, references updated. |

## Compliance

This Network Rail standard is mandatory and shall be complied with by Network Rail and its contractors if applicable from 02 June 2012.

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

## Reference documentation

Key Policy and high level standards for other Network Rail functions are referenced in this Plant and T&RS Policy to provide clarity of the relationships in place between the requirements of this Policy and the relevant Network Rail function. These are referenced in the body of this policy.

| Doc. Number         | Title                                                                                           |
|---------------------|-------------------------------------------------------------------------------------------------|
| 2008/110/EC         | The Revised Railway Safety Directive                                                            |
| GM/RT2466           | Railway Wheelsets                                                                               |
| GO/RT3350           | Communication of Urgent Operating Advice                                                        |
| GE/RT8250           | Reporting High Risk Defects                                                                     |
| NR/SP/ASR/036       | Network Rail Assurance Framework                                                                |
| NR/L1/CPR/102       | Sourcing and Supplier Governance                                                                |
| NR/L1/CPR/103       | Supplier Assurance Framework                                                                    |
| NR/L2/CPR/201       | Supplier Qualification                                                                          |
| NR/L1/CTM/001       | Competence Management                                                                           |
| NR/L2/CTM/025       | Competence & Training in On-track Plant Operation                                               |
| NR/L2/CTM/205       | Competence and Training for the Maintenance of Traction and Rolling Stock and On-track Machines |
| NR/L2/EBM/STP001/01 | Principles of standards management                                                              |
| NR/L2/EBM/STP001/02 | How to manage a standards change project                                                        |
| NR/L2/RSE/070       | Engineering Verification                                                                        |
| NR/L2/INF/2203      | Controlled Publications – Issue and Receipt                                                     |

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| Doc. Number      | Title                                                                                        |
|------------------|----------------------------------------------------------------------------------------------|
| NR/L2/INV/002    | Accident and Incident Reporting and Investigation                                            |
| NR/L2/OCS/250    | Network Rail National Emergency Plan                                                         |
| NR/L2/OPS/035    | Dissemination of urgent operating advice                                                     |
| NR/L2/RSE/100/04 | New or changed vehicles on Network Rail infrastructure                                       |
| NR/L2/RSE/100/05 | Product introduction and change                                                              |
| NR/L2/RSK/00001  | Integrated Risk Management Process                                                           |
| RIS-1530-PLT     | Rail Industry Standard for Engineering Acceptance of On-Track Plant and Associated Equipment |
| RIS-1701-PLT     | Rail Industry Standard for Portable and Transportable Plant Used for Infrastructure Work     |
| NDS/AMT/MS/005   | Engineering Change                                                                           |

To provide further clarity of the requirements associated with this policy, the lower level Plant and T&RS standards applicable to Plant and T&RS assets, including Chief Engineer Specifications and Chief Engineer Manuals, are listed in Appendix B of this policy. The requirements of these documents are mandated through this Policy and are grouped to reflect the order of requirements as they appear in this Policy.

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## 1 Purpose

This policy identifies the minimum engineering requirements for all technical and engineering activities related to Plant and Traction and Rolling Stock (T&RS) assets where Network Rail has an engineering responsibility. The policy fulfils three key objectives:

- Provide clarity on how to achieve the requirements for the safe acquisition, introduction, operation and use of Plant and/or T&RS assets from an engineering perspective throughout their intended life.
- Description of the arrangements in place to allow Network Rail to fulfil the responsibilities of an Entity in Charge of Maintenance (ECM).
- Give a Railway Undertaking the confidence and assurance through a clearly controlled structure which demonstrates that Network Rail's Plant and/or T&RS assets are safe to operate and use.

The existence of this Policy and the supporting standards does not preclude third parties (acting as contractors to Network Rail) from using their own documentation processes provided that:

- They are equivalent (or better) and provide a continuing level of asset protection acceptable to Network Rail.
- They have been accepted in advance, in writing by the Professional Head [Plant and T&RS].
- They are clearly identified in the relevant contract.

## 2 Scope

This engineering policy is applicable to functions in Network Rail responsible for the engineering management of Plant and T&RS assets, from here on referred to as the "Asset Management Team". For clarity, engineering management activities include:

- Hire (which includes lease or loan)
- Procurement
- Operation
- Maintenance (which includes overhaul)
- Modification (which includes experiments)
- Use (which includes loading and unloading)
- Storage
- Disposal

Plant and T&RS assets are defined by the following categories:

1. Traction and Rolling Stock (T&RS)
2. On Track Machines (OTM);
3. On Track Plant (OTP);
4. Portable and Transportable plant;
5. Fixed Plant;
6. Depot Plant.

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The Asset Management Team include the Network Rail organisational functions specifically responsible for managing Plant and T&RS assets (owned, hired or leased) and functions or projects responsible for the introduction and use of new or modified Plant and T&RS assets and technologies.

Where the Plant and T&RS assets are operated on behalf of Network Rail and engineering responsibility is provided through a third party, the Asset Management Team is required to assure themselves that the supplier is compliant with the requirements of this Policy.

### 3 Legislation and Standards

#### 3.1 Legislation

The Professional Head [Plant and T&RS] has arrangements in place to identify the engineering requirements of legislation, Railway Group Standards, Railway Industry Standards and industrial standards applicable to Plant and T&RS assets. These requirements are incorporated into Network Rail's standards as necessary, using the processes described in *NR/L2/EBM/STP001/01 – Principles of standards management*.

The Plant and T&RS Standards Steering Group undertake the review of each relevant standard as part of a defined programme. The assessment/reviews determine the need for either standard creation, amendment or withdrawal. The Plant and T&RS standards programme will include a 2 yearly assessment/review of each standard, except where special circumstances apply and the alternative review period and reason for it are clearly described in the programme.

#### 3.2 Standards

The Professional Head [Plant and T&RS] shall be responsible for providing clarity on standards and technical requirements for Plant and T&RS assets in Network Rail.

Assessment of clarity and understanding of these standards will be achieved through periodic review of standards compliance and asset performance monitoring at the Plant and T&RS Technical meeting.

*NOTE Technical briefing of standards is carried out in accordance with the requirements of "NR/L2/EBM/STP001/02 –How to manage a standards change project" to the relevant Asset Management Teams responsible for Plant and T&RS assets.*

*The Asset Management Teams who need an awareness or technical briefing will be agreed by the RMVP Standards Steering Group and detailed on the Briefing Note when they approve a standard for publication.*

Some Plant and T&RS engineering requirements are included in Chief Engineer's Specifications and have not yet been converted into Network Rail Standards.

Where these Chief Engineer's Specifications are referenced in this Policy, as listed in Appendix B, then they will be complied with.

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## 4 Safety Critical Products and Services

### 4.1 Plant and T&RS Products and Services

The following Plant and T&RS products and services are deemed to be safety critical:

| Generic Plant and T&RS Products                             | Services                                                       |
|-------------------------------------------------------------|----------------------------------------------------------------|
| Audible Warning Devices                                     | Breakdown and recovery services                                |
| Bogies                                                      | Calibration                                                    |
| Brake components/systems                                    | Engineering Design and technical services                      |
| Buffers, couplings and drawgear                             | Experiments and testing                                        |
| Communication equipment                                     | Inspection services                                            |
| Diesel power equipment                                      | Maintenance, overhaul and repair of Safety Critical components |
| Doors, Door Systems & Gangways                              | Modification and refurbishment of Safety Critical components   |
| Electrical traction equipment                               | Non-destructive testing of Safety Critical components          |
| Exhaust systems                                             | Software development services                                  |
| Fuel systems                                                |                                                                |
| Fire systems                                                | <b>Plant Specific Products</b>                                 |
| Hydraulic & Pneumatic equipment                             | Impact Wrenches                                                |
| Mechanical transmissions                                    | Maintenance Tools, Jacks & Supplies                            |
| RV safety equipment                                         | Manual Rail Trolleys                                           |
| Suspension components                                       | Obstructionless Track Jacks                                    |
| Tanks and fittings                                          | Rod Drying Ovens                                               |
| Wheelsets (including wheels, axles, bearings & brake discs) | Welding Generators                                             |
| Windows, Windscreens and Wipers                             |                                                                |

### 4.2 Wheelsets and bearings

Wheelsets and associated components are single-point-failure, safety-critical items, and control of their manufacture and assembly is essential to reduce the risk of failure.

Strict controls for the engineering management of wheelsets and bearings are described in Plant and T&RS standards and include;

- Specification
- Procurement

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- Manufacture and assembly
- Maintenance and overhaul
- Inspection and examination (including non-destructive testing) requirements
- Intervention criteria for repair and overhaul
- Storage and handling arrangements

## 5 Maintenance Control (Contracted and Direct)

Network Rail is the Entity in Charge of Maintenance (ECM) for the T&RS and OTM assets under the control of the Asset Management Teams, and registered as such on the National Vehicles Register unless otherwise agreed in writing by the Professional Head [Plant and T&RS].

The maintenance management of Plant and T&RS assets shall be controlled by the Asset Management Team responsible for the maintenance of these assets through either:

- contractual arrangements with approved suppliers of maintenance services
- direct management by Network Rail staff

Where the control of maintenance is contracted to a supplier, Network Rail retains the responsibility for being the Entity in Charge of Maintenance, and clear maintenance control requirements shall be provided as part of the procurement specification and updated during the life of the contract.

## 6 Maintenance Management

### 6.1 Maintaining to the plan

The maintenance of Plant and T&RS assets shall be managed through the application of approved maintenance plans that are defined for each asset type. Maintenance Plans shall include the following information;

- Frequency regime (the when) for maintenance activities to be carried out
- Specification of the maintenance activity required (the what), including;
  - Cleaning
  - Refuelling
  - Inspection and testing
  - Examination
  - Renewal
  - Action to be taken to rectify failed or worn components or systems
  - Short, medium and long term vehicle storage
  - Post accident or incident inspections and checks
- Description, and where appropriate clarification with pictures, of how to carry out the maintenance activity (the how)
  - Staff competence requirements

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- Materials requirements
- Asset information – documentation, drawings, safety datasheets, Illustrated Lists of Parts (ILOPS).
- Workplace conditions, tools, test equipment, safety conditions to be applied and product safety awareness considerations when carrying out the maintenance activity (the how).

The Professional Head [Plant and T&RS] shall be responsible for specifying the 'what' of Maintenance Plans and shall have arrangements in place to manage this, which includes incorporating technical input from the Plant and T&RS Technology teams and the Asset Management Team responsible for maintenance of the assets concerned.

The Asset Management Team shall be responsible for translating the 'what', specifying the 'when' and the 'how' and incorporating these into the Maintenance Plan, including achieving appropriate certification. The maintenance plan shall be certificated by a Conformance Certification Body or Notified Body (whichever is applicable for the change being introduced). It is the responsibility of the AMT to regularly review the Maintenance Plan and update it when considered appropriate.

*NOTE: The certification of the maintenance plan would not apply to P&TP (which is dealt with under product acceptance), or to depot or fixed plant (which is dealt with under due diligence checks of the product against contract/specification).*

The Asset Management team shall have in place procedures to:-

- Produce programmes showing when maintenance is due
- Undertake maintenance at the defined periodicities
- Record the operational duty profiles (e.g. mileage / hours run / speed / tare/laden journeys) of the Plant or T&RS to demonstrate that these are still within the defined limits.
- Identify, generate and disseminate details of operational or maintenance incidents with the potential to affect the safety or integrity of the plant or T&RS.
- Assess and confirm the suitability of maintenance facilities required for the vehicle type and maintenance activities concerned.

Further details on the requirements for maintaining to the plan for T&RS, OTM and OTP assets are described in *NR/L2/RMVP/0090 - Management of Maintenance for T&RS, On-Track Machines and On-Track Plant*.

## 6.2 Control of maintenance documentation

The Asset Management Team shall assign any maintenance documentation and asset information for Plant and T&RS assets to the Plant and T&RS Asset Information Centre for control of issue.

The Plant and T&RS Asset Information Centre shall control the issue of the Maintenance Plans, User Documentation, Engineering Specifications (and related documents), and all drawings.

They shall be issued in accordance with *NR/L2/INF/2203 – Controlled Publications – Issue and Receipt* to the Asset Management team responsible for the Plant and T&RS assets concerned.