Rail Vehicle Maintenance

Synopsis
This document sets out the arrangements by which continued conformity to standards, known as the Maintenance Plan, is achieved together with the requirements for the provision of documentation for the maintenance of rail vehicles.
Rail Industry Standard
RIS-2004-RST
Issue One
Date September 2016

Rail Vehicle Maintenance

Issue record

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Superseded or replaced documents

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GMRT2004 issue five ceases to be in force as of 03 December 2016.

Supply

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Part 1  Introduction

1.1  Purpose of this document

1.1.1  The Railways and Other Guided Transport Systems (Safety) Regulations 2006 (ROGS 2006) requires that Entities in Charge of Maintenance (EMC) “ensure, by means of a system of maintenance, that a vehicle for which it is in charge of maintenance is in a safe state of running.”

1.1.2  The role of the ECM can be performed by a railway undertaking (RU), or by another railway organisation. For freight wagons, the ECM is required to be certified in accordance with ‘COMMISSION REGULATION (EU) No 445/2011 on a system of certification of entities in charge of maintenance for freight wagons’.

1.1.3  Additionally, for new vehicles, the Locomotives and Passenger Rolling Stock Technical Specification of Interoperability (LOC&PAS TSI) and Rolling Stock (Freight Wagon) TSI (WAG TSI) require that maintenance documentation such as the maintenance description and justification file is provided with the vehicle documentation. The maintenance plan is then to be defined using this information.

1.1.4  RIS-2004-RST can assist RUs and the ECM discharge their responsibilities and legal duties to ensure vehicles are maintained in a safe operational state.

1.1.5  This document sets out industry practice to help RUs and the ECM discharge their legal responsibilities regarding the maintenance of rail vehicles.

1.1.6  RIS-2004-RST can be adopted by vehicle maintainers under their respective safety management system (SMS) or maintenance system.

1.1.7  RIS-2004-RST, which replaces GMRT2004, reproduces the text of GMRT2004, Issue Five in its entirety in Annex A.

1.2  Application of this document

1.2.1  Compliance requirements and dates have not been specified since these will be the subject of internal procedures or contract conditions.

1.2.2  The Standards Manual and RGS Code does not currently provide a formal process for deviating from RISs. However, a member of RSSB, having adopted a RIS and wishing to deviate from its requirements, may request a Standards Committee to provide observations and comments on their proposed alternative to the requirement in the RIS. Requests for observations and comments should be submitted to RSSB by e-mail to proposals.deviation@rssb.co.uk. When formulating a request, consideration should be given to the advice set out in the ‘Guidance to applicants and members of Standards Committee on deviation applications’, available from RSSB’s website.

1.3  Health and safety responsibilities

1.3.1  Users of documents published by RSSB are reminded of the need to consider their own responsibilities to ensure health and safety at work and their own duties under health and safety legislation. RSSB does not warrant that compliance with all or any documents published by RSSB is sufficient in itself to ensure safe systems of work or operation or to satisfy such responsibilities or duties.
1.4 Approval and authorisation of this document

1.4.1 The content of this document was approved by Rolling Stock Standards Committee on 17 June 2016.

1.4.2 This document will be authorised by RSSB on 29 July 2016.
Annex A  Content of GMRT2004 Rail Vehicle Maintenance, Issue Five
Rail Vehicle Maintenance

Synopsis
This document sets out the arrangements by which continued conformity to standards, known as the Maintenance Plan, is achieved together with the requirements for the provision of documentation for the maintenance of rail vehicles.

This document contains requirements that are amended under the Railway Group Standards Code (Issue Three) as a small scale change. Reference to the amended requirements is made in the 'Issue record'. All other parts of the document are unchanged from the previous issue.

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Amended or additional parts and / or sections of revised pages have been marked by a vertical black line in the adjacent margin.

Superseded documents

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Supply

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Part 1  Purpose and Introduction

1.1  Purpose

1.1.1  This document sets out requirements for the provision of documentation for the maintenance of rail vehicles.

1.2  Introduction

1.2.1  Background

1.2.1.1  The High Speed Rolling Stock Technical Specification for Interoperability (HS RST TSI), the Conventional Rail Locomotives and Passenger Rolling Stock TSI (CR LOC & PAS TSI) and the Conventional Rail Freight Wagons TSI (CR WAG TSI) require a maintenance file, which comprises:

a)  Maintenance documentation*.

b)  Maintenance design justification file.

*  The terminology currently used within the CR LOC & PAS TSI regarding maintenance documentation is 'Maintenance Description File'. The CR LOC & PAS TSI sets out requirements for the maintenance design justification file and the maintenance documentation for rail vehicles in scope of the TSI.

1.2.1.2  All rail vehicles require to be maintained in accordance with a maintenance plan. This document sets out requirements for the maintenance plan, and in addition, guidance for a maintenance policy is provided in the non-mandatory Appendix A.

1.2.1.3  Parts 3 and Part 4 of this document apply to railway undertakings to maintain rail vehicles in compliance with the railway undertaking's safety management system.

1.2.1.4  In some cases a body called an 'entity in charge of maintenance' (ECM) will be responsible for some of the requirements set out as the responsibility of 'railway undertakings'. In all cases the requirement is the same and hence where this document states 'railway undertaking' it means 'railway undertaking or entity in charge of maintenance' where applicable.

1.2.2  Supporting documents

1.2.2.1  The following Rail Industry Guidance Notes and Rail Industry Standards support this Railway Group Standard:

GM/GN2571 Guidance on the Storage and Recommissioning of Traction and Rolling Stock

GM/GN2646 Guidance on Axle Bearing Maintenance

RIS-2701-RST Rail Industry Standard for NDT Processes on Rail Vehicles

RIS-2702-RST Rail Industry Standard for In-Service Examination and Reference Limits for Freight Wagons
1.3 Approval and authorisation of this document

1.3.1 The content of this document was approved by Rolling Stock Standards Committee on 17 February 2012.

1.3.2 This document was authorised by RSSB on 25 April 2012.
Part 2  Requirements for a Maintenance File

Note: The text reproduced in Part 2 is a direct copy of the mandatory requirements set out in the CR LOC&PAS TSI. The application of Part 2 is set out in 5.2.1.1.

2.1 Requirement to have a maintenance design justification file

2.1.1 The maintenance design justification file explains how maintenance activities are defined and designed in order to ensure that the rolling stock characteristics will be kept within acceptable limits of use during its lifetime. The file includes input data in order to determine the criteria for inspection and the periodicity of maintenance activities.

2.1.2 For a new rail vehicle, the railway undertaking shall satisfy themselves that the manufacturer has supplied a maintenance design justification file which contains:

a) Precedents, principles and methods used to design the maintenance of the railway vehicle.

b) Utilisation profile showing the limits of the normal use of the railway vehicle (for example, km/month, climatic limits, authorised types of loads).

c) Relevant data used to design the maintenance and origin of this data (previous experience).

d) Tests, investigations and calculations carried out to design the maintenance.

2.2 Requirement to have maintenance documentation

2.2.1 For a new rail vehicle the railway undertaking shall obtain from the manufacturer the maintenance documentation which describes how to conduct maintenance activities. Maintenance activities include all activities necessary such as inspections, monitoring, tests, measurements, replacements, adjustments and repairs.

2.2.2 Maintenance activities are split into:

a) Preventive maintenance, scheduled and controlled.

b) Corrective maintenance (repair).

2.2.3 The maintenance documentation shall include the following:

a) Component hierarchy and functional description. The hierarchy sets up the boundaries of the rolling stock by listing all the items belonging to the product structure of that rolling stock and using an appropriate number of discrete levels. The lowest level shall be a replaceable unit.

b) Schematic circuit diagrams, connection diagrams, wiring diagrams, pneumatic schematics and lubrication diagrams.

c) Parts list:

i) The parts list shall contain the technical descriptions of the spare parts (replaceable units) and their references, in order to allow identification and procurement of the correct spare parts.
ii) The list shall include all parts specified for changing on condition, or which may require replacement following electrical or mechanical malfunction, or which will foreseeably require replacement after accidental damage (for example, windscreens).

iii) Interoperability constituents shall be indicated and referenced to their corresponding declaration of conformity.

d) The limit values for components which shall not be exceeded in service shall be stated; the possibility to specify operational restrictions in degraded mode (limit value reached) can be considered.

e) European legal obligations. Where components or systems are subject to specific European legal obligations these obligations shall be listed.

f) The maintenance plan. The maintenance plan is the structured set of tasks that include the activities, procedures, means and the working time required to carry out the maintenance task.

g) The description of the maintenance activities. The maintenance activities include the following activities:

i) Disassembly / assembly instructions drawings necessary for correct assembly / disassembly of replaceable parts.

ii) Maintenance criteria.

iii) Checks and tests.

iv) Tools and materials required to undertake the task.

v) Consumables required to undertake the task.

vi) Personal protective safety provision and equipment.

vii) Necessary tests and procedures to be undertaken after each maintenance operation before re-entry into service of rolling stock.

h) Troubleshooting (fault diagnosis) manuals or facilities for all reasonably foreseeable situations. This includes functional and schematic diagrams of the systems or IT-based fault finding systems.
Part 3  Requirement to have a Maintenance Plan

3.1  General requirements for a maintenance plan

3.1.1 The maintenance plan shall detail all maintenance activities to be undertaken on the applicable type of rail vehicle.

3.1.2 The maintenance plan shall include all maintenance activities to ensure that the rail vehicle(s) continue to conform to the relevant mandatory design requirements contained within the technical file applicable at the time the rail vehicle(s) were last authorised for placing into service, and any applicable subsequent requirements.

Note: It is good practice for the justification of changes to the maintenance plan for existing trains to be documented in a similar way to the new rail vehicle maintenance design justification file.

3.1.3 The maintenance plan shall, as a minimum, include the following:

a) The maintenance requirements for the rail vehicle including the safety conditions to ensure the rail vehicle is safe to work on for each task.

b) The schedule for all maintenance requirements, defining the periodicity at which each item shall be actioned.

c) The inspection programme for regular inspection of the rail vehicle so that the rail vehicle is safe to continue in service.

d) Definitions of the appropriate actions to be taken to ensure that all systems and equipment on the rail vehicle will continue to operate safely over the full range of environmental conditions, particularly in snow, flood, freezing or abnormal heat relevant to the prescribed utilisation and operation of the rail vehicle.

e) Technical instructions that define actions required to be completed on a rail vehicle to ensure that it is able to be hauled safely when inoperative. Actions include the adjustment, isolation, removal or addition of some components, for example, wheel skates, or the imposition of a restrictive maximum speed to travel.

f) Not used.

3.1.4 Each rail vehicle shall be maintained so that the prescribed tolerances for all components, assemblies and systems that influence swept envelopes are not exceeded throughout the life of the rail vehicle.

3.1.5 Particular requirements for the content of a maintenance plan relating to specific elements of the plan are set out in 3.2.

3.1.6 Guidance on the storage and recommissioning of rail vehicles is given in GM/GN2571.
3.2 Specific requirements for the content of a maintenance plan

3.2.1 Wheelsets

3.2.1.1 The maintenance plan shall, as a minimum, set out the requirements for the following items of the wheelset and constituent parts:

a) Relative movement of wheels, axles, tyres and axle mounted equipment.

b) Cracks and fractures.

c) Dimensions affecting running safety:

   i) Minimum wheel diameter.

   ii) Tolerance between diameters of wheels on the same axle.

   iii) Tolerance between diameters of wheels on the same bogie or rail vehicle.

   iv) Minimum throat thickness.

   v) Back to back dimensions.

d) Flange and tread profile.

e) Wheel tread surface damage.

f) Wheel flat limits.

3.2.1.2 Requirements for the maintenance of wheelsets are set out in Part 4 of GM/RT2466.

3.2.1.3 The industry agreed processes for non-destructive testing (NDT) are set out in RIS-2701-RST which is permitted to be used in conjunction with wheelset maintenance.

3.2.2 Axle bearings

3.2.2.1 The maintenance plan shall contain maintenance and overhaul instructions for axle bearings.

3.2.2.2 The maintenance plan shall, as a minimum, set out the requirements for:

a) Floats, clearances.

b) Grease (if applicable).

3.2.2.3 Further guidance for axle bearing maintenance is given in GM/GN2646.

3.2.3 Brakes

3.2.3.1 The maintenance plan shall detail that the components of rail vehicle brake systems are given maintenance attention, at a periodicity appropriate for both the functional characteristics of the components and utilisation of the rail vehicle.

3.2.3.2 The maintenance attention and periodicity shall be designed to ensure that the brake systems function correctly and safely during the intervals between maintenance, and to achieve the specified braking performance.
3.2.3.3 The brake systems shall be subject to functional brake tests to prove that they are operating correctly at a periodicity appropriate for both the functional characteristics of the systems and utilisation of the rail vehicle. It is permissible for the functional brake tests to be static.

3.2.3.4 The functional brake tests shall be designed to prove that the systems respond to all graduated brake application demands, up to and including a full service and emergency application (and enhanced emergency brake system where fitted). Where the braking levels are continuously variable rather than graduated, check that the brake cylinder pressure increases in proportion to the controller movement.

3.2.3.5 Appropriate functional brake tests shall also be undertaken whenever components of the brake system are replaced and reconnected on the rail vehicle, following component repair, renewal or disconnection.

3.2.3.6 If a fault in a rail vehicle brake system or component is revealed by either the maintenance or functional brake tests, details of appropriate action to be taken that will ensure the safety of the rail vehicle brake system shall be given.

3.2.3.7 Where the rail vehicle has a driving position, the functional brake tests shall involve the use of each driver’s brake controller. Where there is no driving position, there shall be details of an arrangement to enable brake demand signals to be relayed to the rail vehicle via the brake system couplings used for that purpose.

3.2.3.8 The maintenance plan shall, as a minimum, set out the requirements for (where fitted):

a) Brake disc integrity, condition and dimensions.

b) Brake pad and brake block integrity and dimensions.

c) Brake rigging (pins, bushes and associated equipment).

d) Integrity of operating devices, reservoirs, hoses, cocks, pipework, safety loops and associated equipment.

3.2.4 Rail vehicle structure

3.2.4.1 Rail vehicles shall be maintained so that the structural design integrity of the body and running gear, as well as that of the connections between the body and running gear, is sustained over the life of the rail vehicle.

3.2.4.2 Each rail vehicle shall be maintained so that the prescribed tolerances for all components, assemblies and systems that influence swept envelopes are not exceeded throughout the life of the rail vehicle.

3.2.5 Speed indicating equipment

3.2.5.1 The maintenance plan shall detail a method for testing of speed indicating equipment. Except as set out in 3.2.5.2, the acceptable tolerance for the speed indicating equipment is ±2 mile/h when compared with a calibrated instrument during the static test. If the readings are found to be outside this tolerance, the speed indicating equipment shall be corrected before the rail vehicle re-enters service.
3.2.5.2 Where the design characteristics of the speed indicating equipment on rail vehicles does not allow the accuracy set out in 3.2.5.1 to be achieved, the railway undertaking shall undertake a risk analysis to assess the maximum permissible tolerance that will not affect safety of operation of the rail vehicles concerned. It is permissible for the tolerance derived from the risk analysis to replace the tolerance set out in 3.2.5.1.

3.2.5.3 The speedometer test shall cover the whole range of the speed indicating equipment. The test, as far as is practicable, shall cover:

a) The accuracy of readings at no more than 10 mile/h increments throughout the speed range, with a minimum of five equally spaced readings.

b) Intermittent or jerky operations.

c) Clarity and cleanliness of indicators and correct operation of associated lighting.

d) The integrity of connections and components that cannot be included in the equipment test.

3.2.5.4 As a minimum, speedometer and speed control system testing shall be undertaken in the following circumstances:

a) When a wheelset has been replaced. *

b) When a wheelset has been re-profiled. *

c) When the speed indicating equipment, speed control system or their components have been disturbed, adjusted, repaired or replaced.

d) When there has been a report of a malfunction of the speed indicating equipment or speed control system.

e) When there has been a report questioning the accuracy of the speed indicating equipment or speed control system.

f) Allegation of exceeding the speed limit.

* This refers only to wheelsets that affect the speed indicating equipment or speed control system.

3.2.6 Trainborne signalling and communications equipment

3.2.6.1 All signalling and communications equipment on the rail vehicle shall be managed to ensure that its integrity and performance remains compliant with its specification, approval and application criteria.

3.2.6.2 Those performance criteria which are not included in Railway Group Standards shall be specifically set out in the maintenance plan.

3.2.6.3 The maintenance requirements for each item of trainborne signalling and communication equipment shall be developed by a systematic process. The process shall be capable of demonstrating that they are suitable and sufficient to control the risks which would arise from failure of any item of trainborne signalling and communication equipment.

3.2.6.4 The maintenance requirements for trainborne signalling and communication equipment shall be documented. They shall form part of the rail vehicle maintenance plan for the rail vehicle in which the equipment is mounted.
3.2.6.5 The procedures to ensure configuration control of both software and hardware shall also be documented in the maintenance plan.

3.2.6.6 The maintenance plan shall include the procedure for the management of all failures of trainborne signalling and communications equipment as set out in GE/RT8106.

3.2.7 Headlights

3.2.7.1 The maintenance plan shall set out a method for testing the alignment of the headlights. This shall be at a periodicity to ensure that the alignment of the headlights is sustained over the life of the rail vehicle.

3.2.8 Other equipment

3.2.8.1 Consideration shall be given to the following during the production of the maintenance plan. The list is not exhaustive or necessarily representative of all types of rail vehicles:

a) Buffers:
   i) Heights.
   ii) Integrity and condition.
   iii) Greasing.

b) Drawgear:
   i) Dimensions.
   ii) Rubber condition.
   iii) Integrity and condition.
   iv) Operation.

c) Primary and secondary suspension:
   i) Spring integrity, rules for changing.
   ii) Linkage wear, dimensional limits.
   iii) Suspension settlement.
   iv) Damper integrity.

d) Suspension tube bearings:
   i) Condition, integrity and security of components and installation.
   ii) Bearing float.

e) Traction and auxiliary generators, alternators, other electrical machines and electrical equipment cases:
   i) Integrity and security.
   ii) Earthing condition and integrity.
   iii) Presence, condition and cleaning of all safety labelling.
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f) Cleaning:
   i) Ventilation ducts.
   ii) Bogies and underframe equipment.
   iii) Front end and windcreens.
   iv) OLE warning lines.

g) Final drives / transmissions:
   i) Security to body or bogie frame.
   ii) Condition checks of safety critical items (for example, Cardan shafts).
   iii) Lubrication.
   iv) Safety loops.
   v) Presence and security of balance weights, where fitted.

h) Internal combustion engines:
   i) Security and condition of mountings.
   ii) Checks for leakage of fluids.
   iii) Integrity of shaft couplings.
   iv) Engine safety systems (for example, overspeed, crankcase explosion).

i) Power systems (including associated protection systems):
   i) Integrity and security.
   ii) Earthing condition and integrity.
   iii) Presence, condition and cleaning of all safety labelling.

j) Pantographs:
   i) Integrity and security.
   ii) Dimensions and condition of pantograph head including the carbon strip.
   iii) Overheight protection.
   iv) Earthing condition and integrity.
   v) Presence, condition and cleaning of all safety labelling.

k) Shoegear:
   i) Integrity and security.
   ii) Dimensions and condition of shoegear.
   iii) Connections, condition and integrity.
iv) Presence, condition and cleaning of all safety labelling.

l) Steam locomotives:
   i) Boiler fittings and associated pipework.
   ii) Valve gear and motion.

m) Hydraulic and pneumatic systems for rail vehicles:
   i) Condition and integrity of hoses, pipework, valves, etc.
   ii) Tilt system for condition and integrity of actuators and connections.

n) Equipment for limiting interference with infrastructure systems (for example, interference current monitoring unit (ICMU), earth fault detection equipment, etc).
   i) Tests.

o) Fire protection systems:
   i) Integrity and condition.
   ii) Currency of certification.

p) Lighting Systems.

q) Emergency Facilities:
   i) Emergency lighting capacity.
   ii) Detonators.
   iii) Other emergency and safety equipment provided.

r) Tilt systems and anti-tilt systems.
Part 4  Additional Inspection Requirements for Freight Wagons

4.1  Agreed common criteria for in-service examination of freight wagons

4.1.1  Common criteria for performing an in-service examination of the visible components of freight wagons have been agreed by the rail industry. The agreed common criteria for performing an in-service examination of the visible components of freight wagons are set out in RIS-2702-RST.

4.1.2  The maintenance plan for all freight wagons shall mandate the use of common criteria for the in-service examination of the freight wagon.

4.2  Application of new freight wagon vehicle designs to the common criteria for in-service examination

4.2.1  New freight wagon vehicle designs shall be assessed for their applicability to the common criteria.

4.2.2  Where a freight wagon’s vehicle design makes it impractical to examine the freight wagon visually to the limits quoted in the common criteria, the maintenance plan shall compensate to ensure that the freight wagon is safe during the intervals between maintenance.
Part 5  Application of this document

5.1  Application - infrastructure managers

5.1.1 There are no requirements applicable to infrastructure managers.

5.2  Application - railway undertakings

5.2.1 Scope

5.2.1.1 The requirements of Part 2 apply to all new rail vehicles and also vehicles which undergo an upgrade or renewal that falls within the scope of the TSI.

5.2.1.2 The requirements of Part 3 and Part 4 apply to all existing rail vehicles.

5.2.2 Exclusions from scope

5.2.2.1 The requirements in this document are not applicable to the following types of rail vehicles:

a) On-track plant.

b) Non-GB registered wagons.

5.2.3 General compliance date for railway undertakings

5.2.3.1 This Railway Group Standard comes into force and is to be complied with from 01 September 2012.

5.2.3.2 After the compliance dates, or the date by which compliance is achieved if earlier, railway undertakings are to maintain compliance with the requirements set out in this Railway Group Standard. Where it is considered not reasonably practicable to comply with the requirements, permission to comply with a specified alternative should be sought in accordance with the Railway Group Standards Code.

5.2.4 Exceptions to general compliance date

5.2.4.1 There are no exceptions to the general compliance date specified in 5.2.3 for railway undertakings.

5.3 Health and safety responsibilities

5.3.1 Users of documents published by RSSB are reminded of the need to consider their own responsibilities to ensure health and safety at work and their own duties under health and safety legislation. RSSB does not warrant that compliance with all or any documents published by RSSB is sufficient in itself to ensure safe systems of work or operation or to satisfy such responsibilities or duties.
Appendix A  Guidance on Composition of a Maintenance Policy

The content of this appendix is not mandatory and is provided for guidance only

A.1  Maintenance policy

A.1.1  It is recommended that railway undertakings produce a maintenance policy to document their management processes to control the maintenance of rail vehicles. The maintenance plan set out in Part 3 should form one part of the maintenance policy.

A.2  Technical requirements

A.2.1  Description

A.2.1.1  The railway undertaking should have a controlled maintenance policy which encompasses all the rail vehicles they operate whether the vehicles are:

a) Owned by the railway undertaking.
   Or
b) Leased or hired by the railway undertaking.
   Or
c) Supplied by a third party, such as other railway undertakings.

A.2.1.2  Where appropriate, the railway undertaking should obtain the support of the rail vehicle owner in the production of its maintenance policy.

A.2.1.3  It is permissible for railway undertakings to arrange for the maintenance of rail vehicles they operate to be carried out under their own direct control or under the direct control of another organisation.

A.2.1.4  Where the maintenance of a rail vehicle is carried out by the rail vehicle owner or a third party, the owner may produce a maintenance plan in accordance with this document.

A.2.1.5  Changes to any maintenance plan which could affect conformance to the mandatory requirements of the rail vehicles concerned should be assessed by a competent person.

A.2.1.6  Where some maintenance is carried out by an organisation other than the railway undertaking, the railway undertaking should ensure that its maintenance policy is compatible with the management arrangements of the organisation carrying out the maintenance work.

A.2.2  Guidance for policies

A.2.2.1  The maintenance policy should describe in general terms how the railway undertaking manages the maintenance of the rail vehicles which it operates and the roles and responsibilities of its own and any other organisations involved.

The maintenance policy should include:

a)  The defined roles and responsibilities of all the principal organisations concerned with the management of maintenance of the rail vehicles.

b)  The competence of those personnel responsible for setting the maintenance policy.
c) Identification of the relevant responsibilities of those managers charged with executing the maintenance policy.

d) The involvement of any third parties carrying out any work associated with the maintenance activities covered by the maintenance policy and how they are to be qualified and controlled.

e) Reference to the classes of the rail vehicles covered by the maintenance policy.

f) Identification of the maintenance plan for each class of rail vehicles to be operated.

g) A statement of intent that the maintenance policy will be implemented on all relevant rail vehicles.

h) A statement of how the maintenance facilities are to be assessed and accredited.

i) A statement of how staff competency requirements are to be assessed and accredited.

j) The means by which the maintenance of rail vehicles is to be controlled to ensure that declared periodicity for attention is not exceeded.

k) The method of ensuring that the records of the maintenance of the rail vehicles are established, maintained and retrievable. Records should cover the following:

i) Requirements as set out in specific Railway Group Standards.

ii) Evidence that the defined maintenance facilities requirements and staff competencies have been complied with.

iii) Evidence that the maintenance plan has been complied with.

l) The normal periodicity at which the maintenance policy should be reviewed and specific circumstances which trigger a review, for example, when:

i) There is a significant change to the maintenance facilities or staff competencies at the location where the maintenance is carried out.

ii) New types of rail vehicle(s) are to be operated (including short term lease).

iii) There is a change in the organisation carrying out the work.

iv) There is a change of location where the work is to be carried out.

m) The normal periodicity of the maintenance plan review and any specific circumstances which triggers a review of the maintenance plan for example:

i) Analysis from safety performance monitoring shows unacceptable risks.

ii) Occurrence of a significant incident which affects safety.

iii) Notification by other organisations of a potential risk due to incidents with rail vehicles of the same type.
Rail Vehicle Maintenance

iv) The planning of significant changes to a rail vehicle’s designs, operational patterns, staff, or maintenance facilities covered by the maintenance plan.

v) Instruction by regulatory bodies.

n) A system for ensuring that regular internal (and where appropriate external) audits are undertaken to check the implementation and continuing effectiveness of the:
   i) Maintenance policy.
   ii) Maintenance plan.
   iii) Any appropriate corrective actions are taken.

o) The process to ensure that any replacement part(s) used for the maintenance of safety critical systems of rail vehicles under the railway undertakings control do not jeopardise the safety in operation of their rail vehicles.

A.2.2.2 Additionally where the rail vehicle maintenance is not under the railway undertaking’s direct control, the maintenance policy should include:

a) The process used to ensure that the rail vehicles are safe to operate each time they are offered for operation and the identification of those personnel responsible for this.

b) The process to ensure that all appropriate information relating to the operation of their rail vehicles is made available to the railway undertaking to assist them in developing and implementing their maintenance policies and plans.

c) The process to ensure that where the rail vehicle owner or third party maintainer identifies an unacceptable risk requiring a change to the maintenance policy or plan. The process should include where the rail vehicle owner or third party maintainer immediately notifies the railway undertakings using its rail vehicles.

d) The process to ensure that the rail vehicles the railway undertaking operates are maintained by organisations qualified to do so and that the personnel employed by that organisation are competent to perform their allocated tasks.
Definitions

Axle bearings
For the purposes of this document, axle bearings are those bearings, either roller or plain, which are mounted on the axle and carry the mass of the rail vehicle.

Incident
An unplanned, uncontrolled event which under different circumstances could have resulted in an accident.

Maintenance
The process by which a rail vehicle is kept in a safe, serviceable, reliable and clean condition throughout its service life.

On-track machine
Any rail-mounted machine, whose primary function is for the renewal, maintenance, inspection or measurement of the infrastructure, meeting the requirements of GM/RT2400 and permitted by the Rule Book to be moved, either self-propelled or in train formation, outside a possession.

On-track plant
Vehicles with rail wheels capable of running on railway track, limited by their engineering acceptance to running within a possession only.

Rail vehicle
Any traction and rolling stock (for example, locomotive, coaching stock or wagon), or on-track machine.

Service life
The time or distance over which a rail vehicle continues to meet mandatory requirements.

Speed control system
Vehicle based system related to the automatic control of vehicle speed or the automatic indication of permitted vehicle speed.

Speed indicating equipment
Vehicle based system to display actual vehicle speed.

Speed range
From zero to the maximum permissible vehicle speed plus 5 mile/h.
Rail Vehicle Maintenance

References

The Catalogue of Railway Group Standards and the Railway Group Standards DVD give the current issue number and status of documents published by RSSB. This information is also available from www.rgsonline.co.uk.

RGSC 01 Railway Group Standards Code
RGSC 02 The Standards Manual

Documents referenced in the text

Railway Group Standards
GE/RT8000 Rule Book
GE/RT8106 Management of Safety Related Control, Command and Signalling (CCS) System Failures
GM/RT2466 Railway Wheelsets
GM/RT2400 Engineering Design of On-Track Machines

RSSB documents
GM/GN2646 Guidance on Axle Bearing Maintenance
GM/GN2571 Guidance on the Storage and Recommissioning of Traction and Rolling Stock
RIS-2701-RST Rail Industry Standard for NDT Processes on Rail Vehicles
RIS-2702-RST Rail Industry Standard for In-Service Examination and Reference Limits for Freight Wagons (formerly Freight Technical Committee Business Standard 002.)

Other references
Definitions

Relevant definitions are given in Annex A, and are not reproduced here.
References

The Catalogue of Railway Group Standards give the current issue number and status of documents published by RSSB. This information is also available from www.rgsonline.co.uk.

RGSC 01  Railway Group Standards Code
RGSC 02  Standards Manual

Documents referenced in the text

Technical Specifications for Interoperability


WAG TSI  Rolling Stock (Freight Wagon) TSI - Commission Regulation (EU) 321/2013 repealed the CR WAG TSI on 01 January 2014 (L104/1).

Railway Group Standards

GMRT2004  Rail Vehicle Maintenance
(Ceases to be in force on 03 December 2016)

Other References

ROGS 2006  Railways and Other Guided Transport Systems (Safety) Regulations 2006 (as amended)