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Issue	I
Date	December 2002

Risk Based Maintenance - DC Track Circuit (formerly RT/E/WI/00100)

This temporary front sheet facilitates change to the new Network Rail Standards referencing nomenclature.

The Ref above will be formally allocated to this standard when it is next changed in the meantime the contents, date and issue number of this Network Rail Standard are **UNCHANGED and with immediate effect it should be referred to as “(new ref) formerly (old ref)”.**

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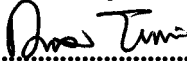
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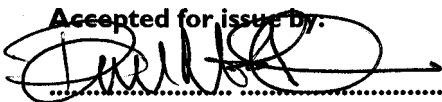
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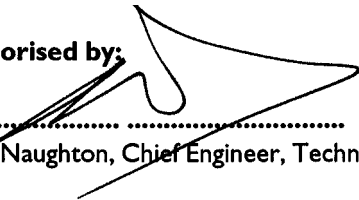
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ISSUE RECORD

ISSUE	DATE	COMMENTS
1	Sep 2002	First Issue

IMPLEMENTATION

This Work Instruction is mandatory where the implementation of Risk Based Maintenance for DC Track Circuits has been authorised in accordance with RT/E/S/10662, 'Process for the Introduction of New or Revised Maintenance Regimes for Signalling Assets'.

RT/E/C/10099, 'Risk Based Maintenance – Implementation', provides guidance on how to meet the implementation requirements of RT/E/S/10662.

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1. PURPOSE

To detail the maintenance tasks for DC track circuits for the DC track circuit risk based maintenance regime.

2. SCOPE

The tasks detailed within this specification are applicable to the following configurations:

- Low voltage dc track circuits.
- Medium voltage dc track circuits.

The maintenance specification DOES NOT include tasks associated with the following maintenance :

- Location case testing and inspection
- Power supplies or batteries

The maintenance tasks shall be applied where implementation of Risk Based Maintenance has been authorised in accordance with RT/E/S/10662, 'Process for the Introduction of New or Revised Maintenance Regimes for Signalling Assets'.

The frequency of application of the tasks defined in this specification is defined in the RT/E/S/10661, 'Signalling Maintenance Task Intervals'.

3. REQUIREMENTS

3.1 Safe System of Work

Before undertaking any work a safe system of work shall be set up in accordance with the Rule Book.

3.2 Infrastructure Defects

Any infrastructure defects identified shall be recorded on the Feedback Form (Appendix C). Defects not rectified during maintenance shall be reported to the appropriate manager at the earliest opportunity.

3.3 Residual Voltage Test

The residual voltage test (detailed in Appendix A) is undertaken as part of Works Testing. However some early installations will not have been tested. Wherever a residual voltage test has not been undertaken it shall be undertaken as soon as practicable. Subsequent testing shall be undertaken in accordance with the testing and commissioning requirements defined in RT/E/S/11752 and RT/E/S/11221.

3.4 Bonding

Where deficiencies / defects are identified with the bonding and there are doubts as to the correct configuration the bonding diagram shall be consulted.

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withdrawn. The development of a new standard and procedures should be to the Page 4 of 17
replacement standard.

3.5 Order of Maintenance Activities

The tasks specified within this specification can be carried out in either order, (i.e. starting at either the relay or feed end). HOWEVER, if the relay end is visited first and test failures / remedial action are identified during the trackside and / or feed end maintenance it will be necessary to return to the relay end following completion of the rest of the maintenance to undertake a drop shunt test.

3.6 Tools

The following calibrated tools are required to perform the maintenance activities:

- a meter that can read AC and DC current and voltage,
- torque wrench,
- shunt box,
- current clamp meter (for double tail cable testing).

Additional tools may be required to undertake remedial work.

3.7 Track Circuit Record Cards

Track Circuit Record Cards shall be completed during each visit. The Relay End card (see Appendix B) is kept in the relay end location case.

All measurements taken, both before and after any investigations and / or adjustments, shall be noted on the record card along with any corrective actions undertaken.

3.8 Feedback Forms

A Feedback Form (see Appendix C) shall be completed on all maintenance visits.

Measurements and actions shall be recorded as specified in the individual maintenance tasks.

Any remedial action required and / or undertaken for any task shall also be recorded on the Feedback Form.

3.9 Cut Section and Centre Fed Track Circuits

Each cut section must be treated as an individual track circuit and record cards kept accordingly.

Each half of a centre fed track circuit operates as an independent track circuit and shall be treated as such, with record cards kept accordingly.

3.10 Full Test

On installation and after alterations, e.g. relaying, ballast cleaning or insulation changing has taken place, apparatus has been changed, leads or jumpers have been renewed / repaired or settings have been changed a Full Test must be carried out in accordance with Appendix D of this specification

If an insulated joint is renewed it must be electrically tested at the time of installation, see section 4.2.11. Where the joint is pre-fabricated it should also be tested prior to installation.

3.11 Electrical Measurements

All voltage and current readings shall be undertaken using a calibrated and approved meter on the appropriate setting for the test concerned.

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