

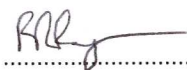
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Issue:	2
Date:	7 th March 2009
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Level 2

Specification for the Maintenance of Radio Electronic Token Block Telecoms Equipment

Endorsement and Authorisation

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Issue record

Issue	Date	Comments
1	June 2006	First Issue
2	March 2009	Renumbered, was NR/WI/TEL/30095. Appendix A, Service A, task 23 added requiring a test call be made. Appendix B Service A, planned maintenance revised from six weekly to three monthly. The requirement to check the fixing brackets & clean the channel boards added to Appendix C.

Compliance

This Network Rail standard is mandatory and shall be complied with by Network Rail and its contractors if applicable from 05/09/2009.

When this standard is implemented, it is permissible for all projects that have formally completed GRIP Stage 4 to continue to comply with the Issue of any relevant Network Rail Standards current when GRIP Stage 4 was reached and not to comply with requirements contained herein, unless the designated Standard Owner has stipulated otherwise in the accompanying Briefing Note.

Reference documentation

NR/SP/TEL/31001	Telecommunications Maintenance Testing & Failure Investigation
NR/L2/TEL/31002	Maintenance of Telecommunications Equipment.
GI/RT 7003	Lineside Operational Safety Signs

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1 Purpose

This instruction defines the telecoms maintenance requirements for Radio Electronic Token Block in use on Network Rail infrastructure.

The purpose of maintaining and testing these systems is to decrease the incidence of failures through deterioration and to identify potential failures before they become service affecting.

2 Scope

This instruction applies to all persons engaged in the maintenance of the Telecoms Elements of Radio Electronic Token Block equipment for Network Rail.

The Radio Electronic Token Block (RETB) system is a variant of Solid State Interlocking (SSI). It was devolved principally for single lines in rural areas of the UK to replace conventional token block working.

Each train operating over the single line is equipped with a Cab Display Unit (CDU) with a unique identity and a speech and data radio transmitter/receiver. At the start of the single line the driver calls the controlling signal box for authority to enter the section. If the line is clear the signaller at the signal box will (via an SSI interlocking) transmit a coded 'electronic token' data message that will be received by the train and shown as authority to proceed on the CDU. The driver will then call the signal box for confirmation to proceed. Once in the single line section the driver will advise the signaller that the train has cleared the loop track (a marker board is provided for assistance with this). At the end of the single line section the driver will call the signal box to offer back the 'electronic token'. A radio data 'handshake' procedure between the CDU and SSI then ensures that the token is safely removed from the CDU and restored to the SSI and the section released.

The signaller is equipped with a SSI controlled radio system which allocates the coded 'electronic tokens' to each section and prevents more than one token being issued for an occupied section.

The maintenance requirements for Power Plant and Batteries used to support RETB radio systems is detailed in the relevant instruction NR/L2/TEL/30081.

The maintenance requirements for Antenna Systems and Feeders used to support RETB radio systems is detailed in the relevant instruction NR/L2/TEL/30088.

The maintenance requirements for Voice recorders used to support RETB radio systems is detailed in the relevant instruction NR/L2/TEL/30082.

3 Definitions (in addition to those defined in NR/L2/TEL/31002).

ESSD

Electrostatic Sensitive Devices

AF

Audio Frequency

CCB

Channel Change Board