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Level 1

Telecoms Design

Endorsement and Authorisation

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Issue record

Issue	Date	Comments
1	April 2006	Original
2	August 2008	Updated to reflect Phase 2A reorganisation
3	March 2010	Updated to reflect Engineering reorganisation

Reference documentation

NR/L1/TEL/30029, *Telecoms installation*

NR/L1/TEL/30093, *Telecoms maintenance*

NR/L2/AMG/013, *System review panels*

NR/L2/EBM/029, *Product introduction and change*

NR/L2/EBM/088, *Responsibility for maintenance of changed assets*

NR/L2/EBM/STP001, *Network Rail Standards Management – Process requirements*

NR/L2/INI/02009, *Engineering Management for Projects*

NR/L2/TEL/30098, *Testing and commissioning of telecommunications equipment and systems*

NR/SP/ASR/036, *Network Rail Assurance Framework*

NR/SP/ERG/24020, *Incorporating Ergonomics within Engineering Design Projects: Requirements*

BS EN 50126, *The Specification and Demonstration of Reliability, Availability, Maintainability and Safety (RAMS) in Railway Applications*

Construction (Design and Management) Regulations 2007

GE/RT8015, *Compatibility between railway infrastructure and trains*

Compliance

This Network Rail standard is mandatory and shall be complied with by Network Rail and its contractors if applicable from 6 March 2010.

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.

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on its own to ensure safe systems of work or operation. Users are reminded of their own duties under health and safety legislation.

Supply

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1 Purpose

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.

2 Scope

This Company Standard is mandatory on Network Rail and its contractors involved in the design of all:

1. Operational telecoms equipment/systems;
2. Retail telecoms equipment/systems;
3. Cable or transmission systems carrying operational or retail telecoms circuits.

The provision of Third Party Services and TIPS work are excluded from the scope of this Company Standard.

3 Definitions

Approval for Construction

To record approval of the Detailed Design.

When the Contractor's Responsible Engineer (CRE) has assessed the Detailed Design for compliance with the Reference System Design, the Detailed Design shall be submitted for review and approval by the Project Engineer (NR PE).

No physical work shall be commenced until the Detailed Design has been approved.

Approval in Principle

To record approval of the Reference System Design.

The Project Engineer shall assess the submission to confirm it is complete, robust and meets the aims of the scheme and the Engineering Remit. If acceptable it shall be passed for Approval in Principle by the Route Asset Manager (S&T).

No physical work, equipment/system purchases or service contracts shall be commenced until the Reference System Design has been approved.

Client

A role with specific responsibilities under the CDM Regulations including appointing a Planning Supervisor and approving the appointment of a Designer. For these works the Client will be Network Rail.

CDM Co-ordinator

An appointed position with specific responsibilities under the CDM Regulations to co-ordinate health and safety aspects of design work.

CDM Regulations.

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Construction (Design and Management) Regulations 2007

Designer

An appointed position with specific responsibilities under the CDM Regulations. These responsibilities are detailed in **6.2**

Design input

An input into a design phase on which the phase is dependant

Design output

The output from a design phase which may be a design input into the next phase or may be the detailed design.

Design organisation

The organisation responsible for the design of a system which meets the Engineering Remit. This organisation could be composed of Network Rail (NR) staff, contractor's staff or a mixture of both.

GRIP

The Guide to Railway Investment Projects, which describes how Network Rail manages and controls projects that enhance or renew the national rail network.

Quality Management System

A documented system to achieve consistency and improvement of working practices, which in turn will provide products and services that meet customer's requirements.

TIPS

Telecoms Installation Procurement System for minor telecom installation works at standard unit rates

Validation

The objective of validation is to demonstrate that the system under consideration, at any step of its development and after its installation, meets its requirements in all respects.

Verification

The objective of verification is to demonstrate that, for specific inputs, the deliverables of each phase meet in all respects the requirements of that phase.

4 Roles and responsibilities

Contractors Responsible Engineer (CRE)

The person within the design organisation with responsibility for the day-to-day management and co-ordination of the technical and engineering activities within a project. Other competent personnel within the design organisation may carry out some of the tasks assigned to the CRE, however the CRE shall be responsible for their delivery. When the responsibilities of this role are undertaken by Network Rail

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staff this must be formally documented so the person concerned understands that he/she is undertaking this role.

Project Engineer (NR PE)

The Project Engineer is a Network Rail engineer responsible for the day to day management and co-ordination of technical and engineering issues of the project in accordance with NR/L2/INI/02009 Engineering Management for Projects.

Project Manager (NR PM)

The person with the responsibility to manage the project to deliver the remit in accordance with NR/L2/INI/02009 Engineering Management for Projects

Route Asset Manager (S&T)

Sponsor for Telecoms renewal schemes.

5 Construction (Design and Management) Regulations 2007

All Telecoms design shall be carried out within the requirements of the CDM Regulations.

5.1

The Designer shall confirm that designs include consideration of risks to health and safety and their avoidance or reduction to the extent which is reasonably practicable, throughout the construction process including design, maintenance, operation, decommissioning and recovery/disposal.

5.2

The Designer shall confirm that

- designs avoid foreseeable risk to health and safety, as far as is reasonably practical
- designs combat risk at source
- priority is given to measures to protect persons at work or those who may be affected by them
- designs include adequate information regarding health and safety for persons to work or for those who may be affected by them
- they co-operate with the planning supervisor and fellow designers to allow them to fulfil their statutory obligations