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Date:	05 Sep 2009
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Level 2

Design and Installation Requirements for Public Announcement, Voice Alarm and Long Line Public Announcement Systems

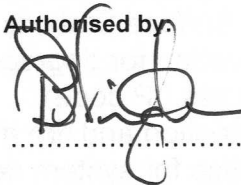
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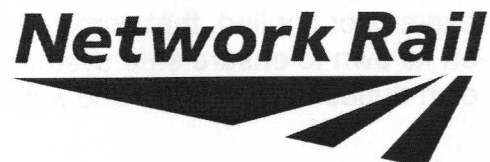
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Issue record

Issue	Date	Comments
1	01/12/2007	First Issue
2	05/09/2009	Second Issue

Compliance

This Network Rail standard is mandatory and shall be complied with by Network Rail and its contractors if applicable from 05 Dec 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/L2/AMG/029	Product Introduction & Change
NR/L2/TEL/30025	Standby Power Supply Requirements for Operational Telecommunications Equipment
TD GEN096	Telecoms Requirements for General and Emergency Use at Sub Surface Stations
BS EN60529:1992	Specification for degrees of protection provided by enclosures (IP code)
BS 5839-1:2002 + A2:2008	Fire detection and fire alarm systems for buildings. Code of practice for system design, installation, commissioning and maintenance
BS 5839-8:2008	Fire detection and fire alarm systems for buildings. Code of practice for the design, installation, commissioning and maintenance of voice alarm systems
EN54-4	Fire detection and fire alarm systems. Power supply equipment
EN60849	Sound systems for emergency purposes
GI/RT7016	Interface between Station Platforms, Track and Trains
DDA	Disability Discrimination Act 1995
DfT Code of Practice	Accessible Train and Station Design for Disabled People : A Code of Practice, July 2008
BS EN50159-2	Railway Applications, Safety related communications in open transmission systems

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Ref:	NR/L2/TEL/30134
Issue:	2
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Compliance date:	05 Dec 2009

Contents

1 Purpose	5
2 Scope	5
3 Definitions	5
4 Sponsor Activities	7
5 Pre-Design Requirements	7
6 Design Requirements	9
7 Additional Design Requirements for Voice Alarm Systems	13
8 Acoustic Requirements	14
9 Verifying the Acoustic Requirements	16
10 Installation Requirements	16
Appendix A	19

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Compliance date:	05 Dec 2009

1 Purpose

This standard details the technical design and installation requirements for public announcement (PA), voice alarm (VA) and long line public announcement systems (LLPA) on Network Rail infrastructure.

2 Scope

This standard applies to all new PA, VA & LLPA designs and installations carried out either as a like for like renewal or as part of an enhancement project on Network Rail Infrastructure. This standard does not detail the type of station that requires a PA, VA or LLPA system or when these systems are required.

This standard applies only to new works installations and does not apply to activities undertaken as a result of maintenance.

This standard does not cover the health and safety requirements for the carrying out of the installation and reference shall be made to the appropriate standards in this respect.

This standard does not cover the CDM requirements for the design of PA, VA and LLPA systems.

3 Definitions

AFFL

Above Finished Floor Level

CIS

Customer Information System

CIF

Common Interface File

CDM

Construction (Design and Management) Regulations 2007

GRIP

Guidance to Railway Investment Projects - process used in Network Rail to manage the development and delivery of infrastructure projects

LLPA System

Long Line Public Address System

IP

Internet Protocol

NTP

Network Terminating Point

OLE

Overhead Line Equipment

Ref:	NR/L2/TEL/30134
Issue:	2
Date:	05 Sep 2009
Compliance date:	05 Dec 2009

PA System

Public Address System

Project Manager (PM)

Person appointed by Network Rail who is responsible for the overall project management and co-ordination of all project activities on behalf of Network Rail for a specific project

Project Manager's Remit

A formal contract from the Sponsor describing the objectives for each project stage and detailing services to be provided by the Project Manager

SFO

Station Facility Operator

Sponsor

A Network Rail person who acts as the single point of contact between the Client as defined in GRIP and the Project Manager (or Development Manager)

SPL

Sound Pressure Level

STI

Speech Transmission Index

STI-PA

Speech Transmission Index for Public Announcement Systems

TOC

Train Operating Company

VA System

Voice Alarm System

WAN

Wide Area Network

ZHLS

Zero Halogen Low Smoke

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4 Sponsor Activities

Dependent on the types of stations where the PA, VA or LLPA systems will be installed, the Sponsor shall undertake a review to determine a number of options with the aim of delivering an appropriate system solution. The options are referenced to the Sponsor within the body of this standard.

The options shall to be considered by the Sponsor during both option development and detailed design development stages for the scheme.

Note, the options are summarised in Appendix A, Table A.1. Some of these options will be dependent on the level of funding available to the Sponsor for the renewal or enhancement.

5 Pre-Design Requirements

5.1 Designer Activities

The designer shall carry out the following surveys prior to the detailed design:

- a) Site Survey
- b) Current System Survey
- c) Acoustic Survey (Where specified as required by the Sponsor)

5.1.1 Site Survey

Site surveys shall be undertaken and their scope shall be agreed between the Sponsor and PM from the following list (but not limited to):

1. Power Requirements
2. Current Power Supply Output Power Capacity
3. Accommodation
4. Cable Routes
5. Microphone Locations
6. Train Stops/Type of trains
7. Passenger Flow
8. Access/egress
9. Line Speed
10. Structures
11. External Neighbours and possible noise pollution
12. Vandalism and security
13. Physical Environment
14. Space and Power during implementation
15. Dilapidation
16. Transmission availability (where applicable)
17. Line plant availability and suitability (where applicable)
18. Listed Buildings
19. Asbestos
20. Maintainability
21. Interface to other systems
22. Confirm external clock signal
23. Identify Service Provider presence