

Facilities for Emergency Voice Communications with **Control** Rooms

Signatures removed from electronic version

Synopsis

This document mandates the facilities to be provided for the **communication** of safety related voice messages to and from **control** rooms, including signalboxes, in connection with emergencies affecting the operation of the railway.

Submitted by

Anne E Blakeney
Standards Project Manager

Authorised by

Brian Alston
Controller, Railway Group Standards

This document is the property of Railway Safety. It shall not be reproduced in whole or in part without the written permission of the Controller, Railway Group Standards, Railway Safety.

Published by:
Railway Safety
Evergreen House
160 Euston Road
London NW1 2DX

© Copyright 2002 Railway Safety

Uncontrolled When Printed

This page has been left blank intentionally

Facilities for Emergency Voice Communications with Control Rooms

Contents

Section	Description	Page
Part A		
A1	Issue record	2
A2	Implementation of this document	2
A3	Scope of Railway Group Standards	2
A4	Responsibilities	3
A5	Health and safety responsibilities	3
A6	Technical content	3
A7	Supply	3
Part B		
B1	Purpose	5
B2	Application of this document	5
B3	Definitions	6
B4	System requirements	7
B5	User support	11
B6	Maintenance	11
B7	Responsibilities	11
References		13

Facilities for Emergency Voice Communications with Control Rooms

Part A

A1 Issue record

Issue	Date	Comments
One	April 2002	Original Document

This document will be updated when necessary by distribution of a complete replacement.

A2 Implementation of this document

The publication date of this document is 6 April 2002.

This document comes into force on 1 June 2002.

The dates by which compliance with the requirements of this document is to be achieved are set out in Part B2. Where those dates are later than the date on which this document comes into force, this is to give Railway Group members additional time to plan and commence implementation so as to achieve full compliance by the dates set out in Part B2.

This document supersedes the following Railway Group Standards, either in whole or in part as indicated:

Railway Group Standard	Issue No.	Title	RGS sections superseded by this document	Date(s) as of which sections are superseded
GK/RT0190	1	Emergency Voice Systems for Communication with Electrical Control Rooms	All	5 April 2003 (document withdrawn as of this date)
GO/RT3434/1	1	Accident and Emergency Planning	part of 8.1, part of 8.2.2, part of 8.2.3, part of 8.2.4, 8.3, 8.4.1, 8.4.2	5 April 2003 *

* The document GO/RT3434/1 is superseded in total on 2 August 2003, the remaining sections are superseded by GO/RT3471.

A3 Scope of Railway Group Standards

The overall scope of Railway Group Standards is set out in Appendix A of [GA/RT6001](#). The specific scope of this document is set out in Part B2.

Facilities for Emergency Voice Communications with Control Rooms

A4 Responsibilities

Railway Group Standards are mandatory on all members of the Railway Group* and apply to all relevant activities that fall into the scope of each individual's Railway Safety Case. If any of those activities are performed by a contractor, the contractor's obligation in respect of Railway Group Standards is determined by the terms of the contract between the respective parties. Where a contractor is a duty holder of a Railway Safety Case then Railway Group Standards apply directly to the activities described in the Safety Case.

* The Railway Group comprises of Railtrack PLC, Railway Safety, and the train and station operators who hold railway safety cases for operation on or related to infrastructure controlled by Railtrack PLC.

Railtrack PLC is known as Railtrack.

A5 Health and safety responsibilities

In issuing this document, Railway Safety makes no warranties, express or implied, that compliance with all or any documents published by Railway Safety is sufficient on its own to ensure safe systems of work or operation. Each user is reminded of its own responsibilities to ensure health and safety at work and its individual duties under health and safety legislation.

A6 Technical content

The technical content of this document has been approved by:

Jeff Allan, Principal Signalling & Telecomms Engineer, Railway Safety

Peter Williment, Principal Electrification Engineer, Railway Safety

Richard Evans, Principal, Operations, Railway Safety

Enquiries should be directed to Railway Safety – Tel: 020 7904 7518

A7 Supply

Controlled and uncontrolled copies of this document may be obtained from the Industry Safety Liaison Dept, Railway Safety, Evergreen House, 160 Euston Road, London NW1 2DX.

Railway Group Standard

GE/RT8021

Issue One

Date April 2002

Page 4 of 13

Facilities for Emergency Voice Communications with Control Rooms

This page has been left blank intentionally

Facilities for Emergency Voice Communications with Control Rooms

Part B

B1 Purpose

This document mandates the facilities to be provided for the **communication** of safety related voice messages to and from **control** rooms, including signalboxes, in connection with emergencies affecting the operation of the railway.

B2 Application of this document

B2.1 To whom the requirements apply

This document contains requirements that are applicable to duty holders of the following categories of Railway Safety Case:

- a) infrastructure controller
- b) station operator
- c) train operator

Under the Railways (Safety Case) Regulations 2000, the duty holder at a station (as defined in those Regulations) is responsible for ensuring that the requirements of Railway Group Standards are complied with. At a station, contractual arrangements (including a lease) do not of themselves relieve the duty holder of his obligations under those regulations.

B2.2 Compliance requirements

B2.2.1 Infrastructure controller

The requirements of this document are mandatory for new Railtrack controlled infrastructure and for alterations to existing Railtrack controlled infrastructure affecting communications with **control** rooms for which Approval in Principle is given on or after 1 June 2002.

When Approval in Principle is given before 1 June 2002, but the infrastructure has not yet been brought into service, the design shall be reviewed and, where reasonably practicable, brought into line with the requirements of this document. Where it is not reasonably practicable to do so, the situation shall be regularised by means of a non-compliance or derogation (see section B2.2.4).

The requirements of sections B5.2, B5.3, B6 and B7 of this document, are mandatory from 1 June 2002 for all new and existing equipment.

The requirements of sections B4.4.3 and B5.1 of this document are mandatory from 5 April 2003 for all new and existing equipment.

B2.2.2 Station operator

The requirements of this document are mandatory for new stations and for alterations to existing stations affecting communications with **control** rooms for which design commences on or after 1 June 2002.

When design commences before 1 June 2002, but the station (or station modification) has not yet been brought into service, the design shall be reviewed and, where reasonably practicable, brought into line with the requirements of this document. Where it is not reasonably practicable to do so, the situation shall be regularised by means of a non-compliance or derogation (see section B2.2.4).

The requirements of sections B5.2, B5.3, B6 and B7 of this document, are mandatory from 1 June 2002 for all new and existing equipment.

The requirements of sections B4.4.3 and B5.1 of this document are mandatory from 5 April 2003 for all new and existing equipment.

Facilities for Emergency Voice Communications with Control Rooms

B2.2.3 Train operator

The requirements of this document are mandatory for new depots and independent sidings, and for alterations to existing new depots and independent sidings affecting communications with **control** rooms for which Approval in Principle is given on or after 1 June 2002.

When Approval in Principle is given before 1 June 2002, but the new depot or independent siding has not yet been brought into service, the design shall be reviewed and, where reasonably practicable, brought into line with the requirements of this document. Where it is not reasonably practicable to do so, the situation shall be regularised by means of a non-compliance or derogation (see section B2.2.4).

The requirements of sections B5.2, B5.3, B6 and B7 of this document, are mandatory from 1 June 2002 for all new and existing equipment.

The requirements of sections B4.4.3 and B5.1 of this document are mandatory from 5 April 2003 for all new and existing equipment.

B2.2.4 General compliance requirements

Until the compliance dates, or the date by which compliance is achieved (if earlier), the applicable requirements of the predecessor documents shall continue to be met (see Part A for details).

After the compliance dates, or after the date by which compliance is achieved (if earlier), Railway Group members shall not deviate from the requirements set out in this document.

Where it is considered not practicable, or not reasonably practicable, to comply with the requirements set out in this document, authorisation not to comply shall be sought in accordance with [GA/RT6001](#), [GA/RT6004](#) or [GA/RT6006](#).

B2.3 Related requirements in other documents

These are set out in a number of documents as detailed below:

- a) Requirements for the positioning and labelling of lineside telephones are contained in [GE/RT8048](#).
- b) Requirements for the provision of signal post telephones are contained in [GK/RT0041](#), [GK/RT0042](#) and [GK/RT0051](#).
- c) Requirements for the provision, positioning and labelling of telephones associated with level crossings are contained in [GK/RT0183](#).
- d) Requirements for the production, maintenance, testing and use of incident response plans are contained in [GO/RT3471](#).
- e) Requirements for the avoidance of danger from the presence of DC electrification lines are contained in [GO/RT3091](#).

B2.4 Supporting documents

This document is supported by a Railway Group Guidance Note GE/GN8521 Guidance on providing Facilities for Emergency Voice Communications with **Control** Rooms.

B3 Definitions

Conductor rail system

An electric traction system utilising a rail supported on insulators, located on the outside of one of the running rails and through which electricity is supplied to electric trains.

Control rooms

A collective title for the infrastructure controller's electrical **control** rooms, signalling **control** centres and operations **control** rooms.

Facilities for Emergency Voice Communications with Control Rooms

Designated location

A point of contact for emergency calls via train radio systems (see [GO/RT3410](#)).

Direct line

A telephone line that only connects the user to one location eg a signalling **control** centre or electrical **control** room.

Electrical **control room**

An electrical **control** room (ECR) is the location of the apparatus for the remote **control** of the equipment associated with the electric traction system, and the staff who operate it.

Emergency authority **control**

The emergency service location dealing with emergency calls.

Independent siding

Sidings that do not form part of the Railtrack controlled infrastructure.

Infrastructure controller's operations **control**

The infrastructure controller's **control** room responsible for co-ordinating railway operations in both routine and emergency situations.

Public telephone network

Public telephone network (PTN) is the commercially available voice telephone network available for public use. It is sometimes referred to as the PSTN.

Railway internal telephone network

The telephone system provided throughout the British railway network as an alternative to the public telephone network. It is sometimes referred to as the ETD (extended trunk dialling) network or as Railnet.

Signalling **control centre**

A collective title for rooms or centres where signallers or crossing keepers operate train **control** equipment. For the purposes of this standard it excludes ground frames.

Switched network

Any telephone system which requires the caller to dial a number to select the destination required.

B4 System requirements

B4.1 Facilities required for emergency communications

B4.1.1 Communications between **control** rooms

The infrastructure controller shall provide facilities for calls to be made between:

- a) **control** rooms with responsibilities for a common area of infrastructure (eg between a signalling **control** centre and an electrical **control** room with a common geographical area of responsibility)
- b) adjacent **control** rooms carrying out the same function (eg two adjacent electrical **control** rooms).

When providing these facilities, consideration shall be given to:

- i) the complexity of call set-up
- ii) the anticipated number of calls
- iii) the ability of the recipient to recognise the priority status of the call.

The rationale supporting the choices made shall be documented.

Facilities for Emergency Voice Communications with Control Rooms

Major signalling **control** centres shall have a direct line provided to any electrical **control** room responsible for all or part of the signalling **control** centre's area.

B4.1.2 Communications between the emergency services and **control** rooms

The infrastructure controller shall provide facilities for calls to be made between:

- a) all **control** rooms and the emergency services relevant to the site of the incident
- b) infrastructure controller's operations **control** rooms and a specified British Transport Police location.

At major signalling **control** centres and at infrastructure controller's operations **control** rooms, consideration shall be given to providing dedicated facilities to be used solely in the event of an emergency.

At infrastructure controller's operations controls, facilities shall be provided to allow incoming calls to be transferred to an adjacent infrastructure controller's operations **control** (including those of other infrastructure controllers) to cater for the occasion when the emergency services contact the wrong **control** for a specific emergency.

When providing these facilities consideration shall be given to:

- i) the complexity of call set-up
- ii) the anticipated number of calls
- iii) the ability of the recipient to recognise the priority status of the call.

The rationale supporting the choices made shall be documented.

B4.1.3 Other communications centres

The infrastructure controller shall identify communications centres outside of its authority that may have a need to pass emergency information affecting railway safety. Communications links shall be provided where the **control** room staff are required to take direct action as a result of information received from such a **communication** centre regarding a change of plan or emergency.

When providing these facilities, the infrastructure controller shall reach agreement for the choice of **communication** system with the **communication** centre organisation. Consideration shall be given to:

- a) the complexity of call set-up
- b) the anticipated number of calls
- c) the ability of the recipient to recognise the priority status of the call.

The rationale supporting the choices made shall be documented.

B4.1.4 Communications between the lineside and electrical **control** rooms

The infrastructure controller shall provide facilities for calls to be made between rooms/buildings containing traction switching equipment (eg sub-stations) and electrical **control** rooms.

At stations on lines with a conductor rail system, the station operator shall provide facilities to permit members of the public to request emergency isolations. Communications shall be either direct to the relevant electrical **control** room, or via public access emergency call points to a staffed location which has direct **communication** to the electrical **control** room. Platform telephones provided for this use shall be designated as emergency telephones and signed in accordance with [GE/RT8048](#).

Facilities for Emergency Voice Communications with Control Rooms

In respect of underground railways utilising a conductor rail system, the facilities shall permit **communication** throughout tunnels and underground station platforms from a driver to the electrical **control** room.

Operators of depots and independent sidings, which have electric traction equipment that is controlled by the infrastructure controller, shall provide facilities for their staff to contact the electrical **control** room (see section B4.1.3).

In addition to the above, where required, the infrastructure controller shall provide or make provision for other lineside communications with the electrical **control** room for use in requesting an emergency isolation. Additional facilities shall be provided where those provided for other purposes are considered inadequate.

B4.1.5 Communications between trains and control rooms

Emergency calls from a train radio shall be routed to designated locations as described in [GO/RT3410](#). The infrastructure controller shall provide facilities for calls between designated locations and any **control** room that may need to take action as a result of the emergency call.

When providing these facilities consideration shall be given to:

- a) the complexity of call set-up
- b) the anticipated number of calls
- c) the ability of the recipient to recognise the priority status of the call.

The rationale supporting the choices made shall be documented.

Train operators shall ensure that staff or contractors working on trains and provided with a mobile phone, have available telephone numbers necessary to contact the **control** rooms relevant to the journey.

B4.1.6 Layout of equipment in control rooms

Communications equipment and information systems required for use in the event of an emergency shall be arranged to facilitate the immediate response to calls associated with an incident.

B4.2 Network facilities

B4.2.1 Railway internal telephone network

The infrastructure controller shall ensure that arrangements exist with the telecommunications service provider to provide the following facilities and services:

- a) designated switchboards with equipment providing an interface between railway internal telephone network emergency calls and the emergency authority **control**, with 24-hour, 7 days a week operator coverage
- b) a switchboard operator to immediately direct railway internal telephone network emergency calls to the emergency authority **control** responsible for the location identified by the caller (whether or not this is the actual location from which the call is made)
- c) short dialling codes for electrical **control**.

The infrastructure controller shall identify telephones on the railway internal telephone network which are to be immediately accessible by an electrical **control** operator. Intrusion facilities shall be specified for those extensions identified.

The infrastructure controller shall provide facilities at electrical **control** rooms for the caller's location to be displayed. The infrastructure controller shall identify telephone extensions from which an emergency call can reasonably be expected

Facilities for Emergency Voice Communications with Control Rooms

to be received. As a minimum, the **control** centre shall display a location description when a call is made from any of these telephone extensions.

The rationale supporting the choices made shall be documented.

B4.2.2 Train radio networks

Train radio systems shall include simplified call set-up facilities for contacting a **control** room in the event of an emergency. (See [GO/RT3410](#)).

B4.3 Availability

The systems shall be designed to ensure that, so far as reasonably practical, emergency communications continue to be available in the following circumstances:

- a) under reasonably foreseeable system or network failures
- b) during planned system or network outages
- c) during planned changes to systems or networks.

In the event of equipment failure or planned outage affecting a designated switchboard, arrangements shall exist to transfer the service to an alternative location providing the same facilities.

Where public telephone network services are provided for emergency use, a service level agreement shall be established with the provider that is adequate to meet the availability requirements of this section.

B4.4 Recording facilities

B4.4.1 Minimum provision

The infrastructure controller shall provide recording equipment for the following voice communications:

- a) all calls to or from electrical **control** room operators
- b) all calls between train radios and designated locations
- c) all calls to or from signal post and level crossing telephones to major signalling **control** centres
- d) all emergency calls made to the railway internal telephone network designated switchboard.

B4.4.2 Information to be recorded

Whenever recording facilities are provided they shall, as a minimum, record:

- a) all speech **communication**
- b) the date and time of the start of the call.

Consideration shall be given to providing equipment that additionally provides:

- c) called party identification
- d) calling party identification
- e) missed calls.

B4.4.3 Retention of information

Recorded information shall be retained for a minimum of seven days. Recorded information shall be kept secure.

Facilities for Emergency Voice Communications with Control Rooms

B4.4.4 Playback

The infrastructure controller shall ensure that playback facilities are available to recover the recorded information and ensure that staff are competent and available to carry out the operation. Unauthorised playback shall be prevented.

B5 User support

B5.1 Provision of information by the infrastructure controller

The infrastructure controller shall publish and keep up-to-date the details of the facilities provided and the dialling codes to be used for emergency calls to each **control** room. The emergency services, Railway Group members and other centres identified in section B4.1.3 shall be supplied with this information.

B5.2 Provision of information by Railway Group members

The responsible Railway Group member shall ensure that railway internal telephone network operators under their **control** have up-to-date records of the location of telephones from which emergency calls might be made.

B5.3 Briefing and equipping of staff

Railway Group members shall ensure that all staff and contractors required to work on or near the lineside have the information and, where required, the equipment, necessary to contact the **control** rooms relevant to that location.

Railway Group members shall ensure that these staff or contractors, when working on the railway and provided with a mobile phone, are able to:

- a) determine which **control** room(s) to contact in an emergency, and
- b) give accurate details of their location.

B6 Maintenance

B6.1 Maintenance programme

Railway Group members shall ensure that all equipment for which they are responsible, is maintained and tested at a frequency commensurate with the availability requirements. Availability requirements are set out in [GK/RT0206](#).

A list shall be maintained of telephone lines and facilities and the specified test frequencies. Faults shall be reported to the telecommunications service maintainer for repairs to be undertaken. A record shall be maintained of tests undertaken, faults reported and when they are repaired.

Direct lines between major signalling centres and electrical **control** rooms, and also direct emergency dialling systems between other signalling centres and electrical **control** rooms, shall be tested daily.

Other lines and facilities identified in sections B4.1.1, B4.1.2 and B4.1.3 shall be tested at least once per week.

The infrastructure controller shall monitor voice recording and playback facilities to ensure that information is being recorded and can be retrieved when required.

B7 Responsibilities

B7.1 Provision and maintenance of equipment

The station operator shall usually be responsible for the provision and maintenance of **communication** equipment provided on stations that are required to comply with this document.

The train operator shall usually be responsible for the provision and maintenance of **communication** equipment provided in depots and independent sidings that are required to comply with this document.

The infrastructure controller shall usually be responsible for the provision and maintenance of all other **communication** equipment provided to comply with this document.

Railway Group Standard

GE/RT8021

Issue One

Date April 2002

Page 12 of 13

Facilities for Emergency Voice Communications with Control Rooms

Responsibilities for train radio equipment are set out in [GO/RT3410](#).

It is permissible for responsibilities to be transferred between Railway Group members by mutual agreement.

Facilities for Emergency Voice Communications with Control Rooms

References

	Railway Group Standards and other Railway Group Documents
GA/RT6001	Railway Group Standards Change Procedures
GA/RT6004	Temporary Non-Compliance with Railway Group Standards
GA/RT6006	Derogations from Railway Group Standards
GE/RT8048	Positioning and Labelling of Lineside Telephones
GK/RT0041	Track Circuit Block
GK/RT0042	Absolute Block
GK/RT0051	Single Line Control
GK/RT0183	Provision of Telephones at Level Crossings
GK/RT0206	Signalling and Operational Telecommunications Systems: Safety Requirements
GO/RT3000	The Rule Book
GO/RT3091	DC Electrified Lines Instructions
GO/RT3410	Train Radio Communication
GO/RT3471	Incident Response Planning (Expected to be issued in April 2002)

The Catalogue of Railway Group Standards and the Railway Group Standards CD-ROM give the current issue number and status of documents published by Railway Safety.