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Guidance on Transitions Between Signalling Systems

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Rail Industry Guidance Note for GK/RT0036



Documents

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Guidance on Transitions Between Signalling Systems

Issue record

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One	September 2011	Original document. Guidance developed to support GK/RT0036 issue two.

Superseded documents

This Rail Industry Guidance Note does not supersede any other Railway Group documents.

Supply

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Guidance on Transitions Between Signalling Systems

Part 1 Introduction

1.1 Purpose of this document

- 1.1.1 This document gives guidance on interpreting the requirements of Railway Group Standard GK/RT0036, issue two, Transitions Between Signalling Systems. It does not constitute a recommended method of meeting any set of mandatory requirements.
- 1.1.2 The signalling systems referred to are those in accordance with GK/RT0045 Lineside Signals, Indicators and Layout of Signals, and GK/RT0055 Block System Interface Requirements (when published), or a different form of signalling, for example, London Underground.
- 1.1.3 All requirements in GK/RT0036 are reproduced in the sections that follow. Guidance is provided as a series of sequentially numbered clauses prefixed 'GN' immediately below the boxed text to which it relates. Where there is no guidance given, this is stated.
- 1.1.4 Specific responsibilities and compliance requirements are laid down in the Railway Group Standard itself.
- 1.1.5 The appendices to this document set out examples of how transitions between specific systems should be managed.

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1.3 Approval and authorisation of this document

- 1.3.1 The content of this document was approved by Control Command and Signalling Standards Committee on 23 June 2011.
- 1.3.2 This document was authorised by RSSB on 14 July 2011.

Part 2 Guidance on Requirements for Transitions Between Signalling Systems

2.1 Primary safety objectives

2.1.1 Information provided by the signalling system

2.1.1.1 Within each transition zone the signalling system shall provide the following information to the driver, where relevant:

- a) All changes to the permissible speed and any temporary or emergency speed restrictions that apply.
- b) The approach to any reduction in permissible speed or temporary or emergency speed restriction, with sufficient warning for the train to reduce speed.
- c) Any requirement for the train to reduce speed or to stop, with sufficient warning to comply.
- d) The route to be taken at a diverging junction, unless the method of operation and signalling system advises the driver of the speed for the route to be taken.

GN1 Permissible speed and speed restriction information is required by drivers so that they can control the speed of the train as it passes through the transition area.

GN2 Information about changes in speed should be provided at a sufficient distance from the place at which the change in speed applies so that drivers can reduce the speed of the train in accordance with the relevant professional driving policy.

GN3 Unless the permitted speed is displayed as part of the movement authority, drivers should know when a diverging route is set at a junction so that they can control the speed of the train at the junction.

GN4 The actual information and the method of providing this information depends on:

- a) The signalling system provided on each side of the transition.
- b) The speed that trains pass through the transition.
- c) Whether the transition is to be performed while the train is moving or at a stand, and the extent to which drivers are required to make manual adjustments to controls while approaching and passing through the transition.

2.1.2 Signalling system management

2.1.2.1 The enabling and disabling of trainborne systems shall be automatic, unless manual intervention is compatible with train operations.

GN5 Automatic changeover facilities allow drivers to concentrate on controlling their trains through transition zones. This is particularly important when travelling at high speed.

GN6 Manual changeover should only be required where it will be normally operated when a train is stationary.

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2.1.2.2 The signalling system shall provide facilities for the driver to monitor the enabling and disabling of trainborne systems.

2.1.2.3 A manual facility shall be provided for the driver to enable and disable trainborne systems if they fail to operate automatically. This facility shall not interfere with the driver's normal operation of the train.

GN7 Because the correct operation of changeover facilities is part of the signalling transition, drivers should be able to observe progress of the changeover and be able to intervene if the automatic process fails to operate satisfactorily.

GN8 The manual intervention facility should be available in sufficient time so that a driver can take or regain control of the changeover in time to avoid the train passing through the transition without the process being complete.

2.1.2.4 The signalling system shall cause the train to be controlled as appropriate to the effects of the failure on safety if the driver fails to perform the manual changeover operation satisfactorily.

GN9 Failure of the changeover process should prevent the train from entering the area controlled by a signalling system to which the train or driver is unable to respond.

GN10 Because the correct operation of changeover facilities is a prerequisite for interfacing with the signalling system beyond the transition, the train should be stopped or its speed restricted so that the final movement authority given by the previous signalling system is not exceeded.

2.1.2.5 Where signalling system information is duplicated in the cab and the lineside signalling system, the information conveyed by both systems shall be consistent.

GN11 Drivers should not be confronted with conflicting information.

GN12 If conflicting information is observed by the driver, the operational rules should require the most restrictive information to be obeyed.

2.2 Transitions between signalling systems

2.2.1 Transitions from cab signalling to lineside signalling

2.2.1.1 Where the signalling braking distance (as set out in GK/RT0075) means that the first caution for a lineside signal stop aspect would be positioned on the approach to the transition zone, cab information equivalent to the information displayed by a lineside signal cautionary aspect sequence shall be provided to the driver.

GN13 Irrespective of the signalling system provided, drivers require adequate and timely information via the cab display that the train is approaching the end of its movement authority so that the train is brought to a stand at the lineside stop signal beyond the transition zone.