

Ref:	NR/L2/SIG/30009/GKRT0060
Issue:	2
Date:	07/03/2015
Compliance date:	06/06/2015

Level 2

Interlocking Principles (Former Railway Group Standard GK/RT0060)

Endorsement and Authorisation

For endorsement and authorisation, please refer to NR/L2/SIG/30009

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User information

This Network Rail standard contains colour-coding according to the following Red–Amber–Green classification.

Red requirements – *No variations, could stop the railway*

- **Red requirements shall** always be complied with and achieved.
- Red requirements shall be presented in a red box **with the word “shall” or expressed as a direct instruction**.
- Accountability for the efficacy of red requirements lies with the Professional Head/Standard Owner.
- Red requirements are monitored for compliance.
- Corrective actions shall be enforced if deviations are discovered through functional checks (e.g. engineering verification visits, audit or Operations Self-Assurance).

Amber requirements – *Controlled variations, approved risk analysis and mitigation*

- **Amber requirements shall** be complied with unless deviation has been approved in advance.
- Amber requirements shall be presented with an amber sidebar **and with the word “shall” or expressed as a direct instruction**.
- Accountability for the efficacy of these requirements lies with the Professional Head/Standard Owner, or their nominated Delegated Authority.
- Amber requirements are monitored for compliance.
- Deviations **may** be permitted. Deviations are approved by the Standard Owner or through existing Delegated Authority arrangements.
- Corrective actions shall be enforced if **non-approved** deviations are discovered through functional checks (e.g. engineering verification visits, audit or Operations Self-Assurance).

Green – *Guidance*

- Guidance is based on good practice. Guidance represents supporting information to help achieve **Red** and **Amber** requirements.
- Guidance shall be presented with a dotted green sidebar **and with the word “should” (usually in notes) or as a direct instruction**.
- Guidance is **not mandatory** and is not monitored for compliance.
- Alternative solutions may be used. Alternative solutions do not need to be formally approved.
- Decisions made by a competent person to use alternative solutions should be backed up by appropriate evidence or documentation.

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Issue record

Issue	Date	Comments
1	June 2014	Incorporating former RGS GK/RT0060
2	March 2015	Insertion of Trackers 2823, 3217 & 6312

Compliance

This Network Rail standard is mandatory and shall be complied with by Network Rail and its contractors if applicable from 06/06/2015.

When this standard is implemented, it is permissible for all projects that have formally completed GRIP Stage 3 (Option Selection) to continue to comply with the issue of any relevant Network Rail standards current when GRIP Stage 3 was completed and not to comply with requirements contained herein, unless stipulated otherwise in the scope of this standard.

Reference documentation

GK/RT0060	Interlocking Principles
GK/RT0055	Block System Interface Requirements
GE/RT8071	Proceed-on-Sight Authorities

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Ref:	NR/L2/SIG/30009/GKRT0060
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Compliance date:	06/06/2015

Contents

1 Purpose	5
2 Scope	5
3 GK/RT0060 – Interlocking Principles	5

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1 Purpose

As part of the filtering exercise carried out by RSSB, it was found that a number of mandatory requirements contained in [GK/RT0060](#) were out of scope of the Railway Group Standards Code as being single duty holder responsibilities. This a result, the Railway Group Standard was withdrawn by RSSB.

2 Scope

All requirements contained [GK/RT0060](#) are still required to be complied with, the table below shows the exception to this.

Clause/subclause	Change
C7.4 Para 2	Tracker 2823 (04/211/NC): the requirement to provide a replacement facility for distant signals at level crossings is removed
Appendix 1 Item 16	Tracker 3217 (05/055/NC): Level crossing clear is only required at aspect level
C9.4, Appendix 2 (referenced by C7.1.1)	Tracker 6312 (09/096/DGN): the requirement to detect points in the overlap is removed completely
C5.1.4 b) and Appx 1 clause 8	These clauses shall be understood to mean that a route opposes another when they share a common part or when the overlap of one would share a part of the route or overlap of the other. The wording in the clause 'in use' does not infer that there is a requirement to establish whether the overlap is actually occupied by a train; a circumstance catered for by 'overrun detection' whether that is achieved at either route setting or aspect levels. Interlocking of routes against the <i>sectional overlap release</i> states of others is consequently simplified.
C3.2	Controls for PoSA are contained in GE/RT8071 (issue 1)
C5.1.9	Additional compatibility requirements are contained in GK/RT0055 (2.1.1.5)
C8.1.2	Requirements not required, see NB125/4
C9.1 c) {and C4.1 d) C5.1.4 b) C5.1.10 para 2 C6.3 d) C6.4}	To mitigate loss of train detection proving [in any practicable circumstances and for ANY type of train detection] and to avoid the risks associated with automatic route setting of conflicting routes it shall be necessary to delay sectional route release until either the next train detection section is occupied or a suitable time has elapsed. Where subsequent route setting can be protected within the control system then it is acceptable for these controls to be omitted from the interlocking. It is not necessary to add this mitigation into existing route relay interlockings due to the complexity (and reduction of reliability) that it would create.
Appendix 2, Table3, clause 22	In line 22 (Junction and route indicators required to be proved alight); under PoSA class, delete 'Yes', insert 'No'.

3 GK/RT0060 – Interlocking Principles

Is attached to this module.

Railway Group Standard

GK/RT0060

Issue Four

Date June 2003

Interlocking Principles

Synopsis

This document mandates the principles of **interlocking** of signals, points and other parts of the signalling system so that the safe operation of trains is ensured.

Signatures removed from electronic version

Submitted by

Paul Woolford
Standards Project Manager

Authorised by

Anne Blakeney
Acting Controller, Railway Group Standards

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Interlocking Principles

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	5
B4	Principles	7
Part C	Design requirements	
C1	Safety requirements	9
C2	Control of incidental risk	9
C3	Movement authorities	10
C4	Interlocking	11
C5	Setting and locking of routes	12
C6	Interlocking of points and other movable infrastructure	15
C7	Control of lineside signal aspect	16
C8	Withdrawal of movement authorities	18
C9	Releasing of routes	20
C10	Emergency and engineering controls	21
Appendices		
1	Locking level controls required before a route can be set	22
2	Aspect level controls required before a movement authority can be given	24
3	Signal replacement – additional information	28
References		29

Interlocking Principles

Part A

A1 Issue record

Issue	Date	Comments
One	May 1997	Original document Supersedes SSP5 and GS/ST0081
Two	April 2000	Replaces issue one Supersedes SSP62. Until SSP080 is withdrawn, where the requirements of this document and SSP80 conflict, this document takes precedence
Three	June 2000	Replaces issue two Compliance clause amended
Four	June 2003	Replaces issue three Supersedes SSP057 section 2 and all of SSP080

Revisions have not been marked by a vertical black line in this issue because the document has been revised throughout.

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 7 June 2003.

This document comes into force on 2 August 2003.

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
SSP080	1	Controls Required for Routes and Signals	All sections	2 August 2003
SSP057	N/A	Signals Leading Over Facing Points	Section 2	2 August 2003

SSP057 and SSP080 are withdrawn with effect from 2 August 2003.

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.

Interlocking Principles

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 Network Rail Infrastructure Limited, Rail Safety and Standards Board Limited, and the train and station operators who hold railway safety cases for operation on or related to infrastructure controlled by Network Rail Infrastructure Limited.

Network Rail Infrastructure Limited is known as Network Rail.

Rail Safety and Standards Board Limited is known as RSSB.

A5 Health and safety responsibilities

In issuing this document, RSSB makes no warranties, express or implied, that compliance with all or any documents published by RSSB 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 and Telecommunications Engineer, RSSB

Enquiries should be directed to RSSB – Tel: 020 7904 7518.

A7 Supply

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

Railway Group Standard

GK/RT0060

Issue Four

Date June 2003

Page 4 of 29

Interlocking Principles

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