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Rail Industry Standard for Passenger Train Dispatch and Platform Safety Measures

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Rail Industry Standard for Passenger Train Dispatch and Platform Safety Measures

Issue record

Issue	Date	Comments
One	June 2011	Initial document
Two	March 2013	Supersedes issue One. Amendments are to incorporate changes made to GE/RT8000 Rule Book Module SS1 (Station duties and train dispatch), to include relevant aspects of OFG sponsored work carried out by RSSB to review station safety and to make other amendments identified as a result of the 12 month review of the document.

Amended or additional parts and/or sections of revised pages have been marked by a vertical black line in the adjacent margin.

Superseded or replaced documents

The following Railway Group documents are superseded or replaced, either in whole or in part as indicated:

Superseded documents	Sections superseded	Date when sections are superseded
RIS-3703-TOM Rail Industry Standard for Passenger Train Dispatch and Platform Safety Measures	All	02 March 2013

Supply

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Part 1 Introduction

1.1 Purpose of this document

- 1.1.1 This document provides a standard for the development of passenger train dispatch processes and additional measures to encourage and manage the safe behaviour of passengers and the public on platforms.
- 1.1.2 This document sets out the operational requirements related to train dispatch and the management of behaviour on station platforms. GE/RT8060 Engineering Requirements for Dispatch of Trains from Platforms mandates the engineering requirements for the equipment used in the dispatching of passenger trains from platforms. GI/RT7016 Interface between Station Platforms, Track and Trains mandates requirements for the design and maintenance of station platforms for their safe interface with trains.
- 1.1.3 The document sets out factors for infrastructure managers to take into account when developing or reviewing the train dispatch process and / or identifying measures to manage passenger and public behaviour on station platforms. It defines requirements in terms of the view required to perform the train safety check. It also provides guidance on how to minimise the risk of staff error during train dispatch and how to promote good passenger behaviour on open platforms.
- 1.1.4 For the purpose of this RIS, an infrastructure manager refers to the person who is responsible for managing and operating that station. It does not apply to a railway undertaking unless they have this responsibility.
- 1.1.5 Railway undertakings who are responsible for developing their own train dispatch processes at stations operated by infrastructure managers may choose to adopt those parts of the document that apply to their operations.
- 1.1.6 The document is set out in the form of standard requirements followed by guidance notes. Guidance notes are marked by a grey bar in the margin with the letters GN and sequential numbering, to differentiate them from the standard requirements to which they relate.

1.2 Background

- 1.2.1 The platform-train interface (PTI) presents a number of hazards for station users, which can be made worse by their behaviour, such as trying to alight or board trains in a hurry or standing too close to the platform edge.
- 1.2.2 The key risks at the PTI consist of high frequency but low consequence events such as slips, trips and falls and low frequency but high consequence events such as dragging; falling from the platform and being struck by the train; falling from the platform onto the conductor rail and being struck by the train when standing on the platform.
- 1.2.3 Platform safety is therefore a key area of focus for infrastructure managers and railway undertakings. Some of this risk can be controlled through the careful development and implementation of the train dispatch process and by introducing additional measures to discourage unsafe passenger behaviour as far as possible.

1.3 Application of this document

- 1.3.1 A member of RSSB may choose to adopt all or part of this document in company procedures or contract conditions. Where this is the case the member of RSSB will specify the nature and extent of application.

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- 1.3.2 Specific compliance requirements and dates have therefore not been specified since these will be the subject of the internal procedures or contract conditions of the companies which choose to adopt this standard.

1.4 Health and safety responsibilities

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1.6 Approval and authorisation of this document

- 1.6.1 The content of this document was approved by Traffic Operation and Management Standards Committee on 11 December 2012.
- 1.6.2 This document was authorised by RSSB on 25 January 2013.

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Part 2 Requirements for Infrastructure Managers

2.1 Development of the train dispatch process based on risk assessment

2.1.1 Infrastructure managers shall, in liaison with railway undertakings, carry out a risk assessment to determine the appropriate system of train dispatch for passenger trains and identify additional measures needed to manage the behaviour of people on the platform.

- GN1 The system of train dispatch and any additional measures needed to manage the behaviour of people on the platform should be determined on the basis of a risk assessment.
- GN2 When developing train dispatch procedures, infrastructure managers should liaise with railway undertakings whose trains stop at their stations, so that due consideration is given to the formation of trains and the likely position of on-board staff involved during the train dispatch process.
- GN3 The risk assessment should consider, but not be limited to, the following factors and any credible degraded modes involving such factors:
- a) Infrastructure – position of platform starting signals; other fixed signals; clearances; sub-surface stations; level crossings; barrow crossings and fixed structures.
 - b) Platform – platform length and layout; the gap between the platform and the train; platform height; position of stopping points; equipment available for train dispatch; position and nature of entrances / exits to / from the platform (stairways, escalators, footbridges, underpasses etc), platform curvature, level of lighting, station furniture; commercial structures, platform use and associated equipment and access points (GE/RT8060 sets out further requirements on specific factors within this section).
 - c) Trains (including Driver Only Operation (DOO) trains or those dispatched by a member of train crew) – lengths and types of regular service passenger trains; positions and types of doors; sensitivity of door sensors; duration and volume of door closure warning system; operation of the door obstacle detection system; use of platform by empty coaching stock, parcel trains and special trains; cab layouts and on-board system failures that affect train dispatch (requirements for contingency plans for such failures are set out in GO/RT3437 Defective On-Train Equipment).
 - d) Special train services – including regular charter trains or those that can be reasonably foreseen (such as steam specials) and other infrequent train services that have different train formations, rolling stock and methods of train dispatch.¹
 - e) Service - what platforms are used for what services; station dwell times; time of day; abnormal, degraded and emergency working (including staff shortage); crowd control; special events; unscheduled stops and short notice platform alterations.
 - f) Use of the platform - train stopping position; platform sharing by multiple trains; attachment or detachment of trains at the platform; empty trains standing with locked doors.
 - g) Platform users – platform user behaviour in response to any of the above factors; passengers and non-passengers; experience and knowledge of the railway; physical capability; attitudes; motivations and likely behaviours.

¹ Network Rail own the Charter Planning and Communication Process. A flow chart describing each stage of the charter train planning and communication process; and copy of the generic Station Access Request document used by the Charter Operators can be found at <http://opsweb.co.uk/resources-and-tool/station-safety-resource-centre>.

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- h) Other – previous train dispatch history; features and procedures within the rest of the station; features and procedures within the route(s); adverse weather; bright sunlight; diesel exhaust; engine and other noise that may make it difficult for announcements or warnings to be heard and other environmental conditions.

GN4 The risk assessment should take into account foreseeable interactions between the various factors, such as the relationship between time of day and passenger behaviour and the influence of platform layout on the ability of staff to undertake train dispatch duties.

GN5 All hazards and risks should be considered holistically when developing the train dispatch process and identifying additional measures needed to manage the behaviour of people on the platform. This includes hazards and risks that are present:

- a) Continuously on the platform.
- b) During train arrival.
- c) During boarding and alighting.
- d) During train dispatch.
- e) During train departure.

GN6 The infrastructure manager should carry out the risk assessment jointly with the relevant railway undertaking(s) and charter operators whose trains stop regularly at their station.

GN7 The risk assessment should include input from individuals with expertise in the following subject areas:

- a) Train dispatch arrangements (from station and on train).
- b) Human factors.
- c) Risk assessment and management principles.
- d) Local knowledge of the platform being assessed.
- e) Safety.

One individual might have expertise in several of these areas. For example, a union health and safety representative might have experience of train dispatch arrangements and safety.

GN8 The risk assessment used to support train dispatch planning should consider what (if any) alternative methods of train dispatch are permissible for use where the normal method can not be used. This should include situations where platform starting signals cannot be cleared or where a movement authority cannot be issued and drivers have to receive the signaller's permission to proceed. How and when to use the alternative method(s) should be included in the competence management system for all staff involved in train dispatch.

GN9 Temporary changes such as the installation of temporary structures or repair and renewal work may introduce additional risks and require changes to the train dispatch process or platform safety arrangements. The potential effects should be risk assessed and any necessary additional controls put in place prior to the changes being made.

GN10 Appendix D contains a risk assessment template that can be used to assist infrastructure managers perform a qualitative risk assessment according to this guidance.

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2.2 The view required for the train safety check

2.2.1 Infrastructure managers shall use the risk assessment to develop the train dispatch process and any subsequent procedures, so that the platform staff responsible for the train safety check are provided with or able to achieve a view of:

- a) The dispatch corridor parallel to the train body side that encompasses:
 - i) The full length of the train or the full length of the platform, whichever is the shortest distance.
 - ii) The gap between the train and the platform.
 - iii) At least 1500 mm of the platform measured from the platform edge.
 - iv) At least the height of the doors.
- b) For trains with manually closed doors (slam door), a view of every train door that passengers might use to board or alight which can be used to assess whether each door is properly closed.

- GN11 There should be no blind spots within the dispatch corridor.
- GN12 The primary purpose of this view is to check that nothing, or no-one, is potentially trapped on the outside of the train that might be dragged along the platform when the train departs and, in the case of trains with manually closed doors (slam doors), these are secure prior to the train being started from the platform.
- GN13 The view should enable the person(s) responsible for the train safety check to reliably detect a test target object anywhere within the space required to be viewed in the typical day and night visibility conditions on the platform (see section 2.2.1)². GE/GN8560 Guidance on Engineering Requirements for Dispatch of Trains from Platforms provides guidance on suitable test target objects.
- GN14 The view required in section 2.2.1 should be achieved regardless of whether the train safety check is undertaken using cameras, mirrors or line of sight.
- GN15 The maximum distance that should be viewed by direct line of sight is 160 metres.
- GN16 The train dispatch procedure should be developed so that the member(s) of platform staff responsible for the train safety check can perform it comfortably and accurately from a suitable position identified in accordance with the formation of the train and the position of the train crew.
- GN17 A risk assessment should be used to support the design of the train dispatch system for use with trains that have recessed doors, the infrastructure manager should take into account the possibility that something trapped by the doors could be partially within the recess space. The consequence would be that only part of the target would be visible within the dispatch corridor of space defined in 2.2.1. The target would therefore be smaller and more difficult to see than if the whole target was visible.
- GN18 The development of equipment and processes to perform the train safety check should take into consideration any identified risks and other safety critical tasks that are required at a similar time, for example, to check the platform signal or operate train dispatch equipment, so that the member(s) of platform staff responsible can perform the train safety check and other tasks easily and reliably.

² Based on the London Underground Limited Manual of Good Practice for Telecommunications – OPO CCTV Systems G-150 Issue no A1.

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- GN19 The risk assessment should consider any variations in the view required where infrequent train services stop at a station. The risk assessment should give consideration to the length of the train, the types of rolling stock in use and the method of train dispatch.

2.3 Additional view for general hazard awareness

- GN20 A wider view than the minimum required in 2.2.1 should be provided to platform staff and train crew so they can monitor the movement and behaviour of passengers and respond to emerging risks from particular passenger behaviours while the train is at the platform.
- GN21 If provided, a wider view should allow the member(s) of platform staff to view entrances to the platform and a wider platform area so that people approaching and waiting can be observed while the train is at the platform.
- GN22 If an additional view is provided, the possibility that it will distract the member(s) of platform staff and decrease the accuracy and / or speed of the train safety check or distract from watching the train following train dispatch, should form part of the risk assessment.

2.4 Monitoring the train during train departure

- GN23 When developing the train dispatch process, consideration should be given to the level of monitoring required during train dispatch, with specific emphasis on monitoring during the door close process and during train departure. Such processes should be designed to mitigate the risk of staff involved in train dispatch failing to observe a person falling between the platform and the train, a person trapped in the doors or any other potentially dangerous occurrences taking place.
- GN24 Competence management systems should include the training, development and assessment of platform staff responsible for train dispatch which includes any required monitoring during train departure.

2.5 Definition and communication of staff roles and responsibilities

- 2.5.1 Infrastructure managers shall clearly define the roles and responsibilities of each member of platform staff involved in the train dispatch process.
- GN25 The specific responsibilities of each member of platform staff involved in the train dispatch process should be clearly defined.
- GN26 Where multiple platform staff are involved, the train dispatch plan should clearly define lead responsibility and responsibility for giving the 'Station Work Complete' and 'Ready to Start' signals.

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2.5.2 Infrastructure managers shall document and publish the train dispatch arrangements for each of their platforms in a train dispatch plan.

- GN27 The train dispatch arrangements should be communicated to all members of platform staff involved in the train dispatch process.
- GN28 Infrastructure managers should consider how to communicate details of the train dispatch arrangements to each group of staff involved in a form that is easily accessible and understandable.
- GN29 Where the train safety checks are divided between different members of staff, infrastructure managers should clearly communicate the division of responsibility to the staff involved.
- GN30 All members of platform staff involved in the process should be made aware of the responsibilities of each other member of staff involved in the process.

2.6 Developing train dispatch processes to reduce staff errors

2.6.1 Infrastructure managers shall develop the train dispatch process to minimise the likelihood of staff errors when implementing the process.

- GN31 Infrastructure managers should seek consistency of train dispatch methods, where possible, so that members of platform staff are not required to execute more than one train dispatch method between stations. This applies where the train dispatcher works at multiple locations either on the same platform or over the course of a day. Similar consideration should be given to traincrew to keep to a minimum the variation between the train dispatch arrangements they will experience at stations on a line of route.
- GN32 Where consistency is not possible, infrastructure managers should consider the likelihood and potential impact of platform staff and traincrew implementing the wrong dispatch procedure due to the natural tendency to use the most frequent or most recently used method and the additional workload that inconsistency places on staff.
- GN33 Where an alternative train dispatch procedure is introduced at short notice (for example, due to staff illness) all platform staff should be informed of the arrangements so they know what method of train dispatch to implement before the procedure starts. Alternative train dispatch processes should only be introduced if they have been risk assessed and staff are competent in their use.
- GN34 The development of train dispatch processes should take into account human capability so that sufficient attention and time can be devoted to the train dispatch process. The overall workload on members of staff that is imposed by the train dispatch process and any other duties should be taken into consideration as part of the risk assessment.
- GN35 If members of platform staff perform duties on more than one platform then sufficient time should be allowed for them to move between platforms.
- GN36 Competence management systems should include the training, development and assessment of platform staff responsible for the train safety check which should emphasise the priority to be given to train dispatch procedures above other duties, such as ticket collecting or answering questions.

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2.7 Performance of the train safety check

2.7.1 Infrastructure managers shall include, as part of their train dispatch procedures, clear instructions about how to perform the train safety check.

GN37 Train dispatch procedures should include the management of the dispatch corridor, especially in those circumstances where there is not a clear gap between passengers and the train.

GN38 Training and development of platform staff and traincrew responsible for the train safety check should clearly define when passengers should be treated as being potentially trapped in train doors and the action that should be taken. In the case of trains with manually closed (slam doors), this training and development should also clearly define the methods of determining that slam doors are correctly closed before the train starts away from the platform.

GN39 Members of platform staff should be trained to perform the train safety check in a systematic way so that the complete area that needs to be checked is considered every time the train safety check is performed. For example, checking the train from front to rear, checking each door portal and the dispatch corridor from front to rear, etc. If this process is interrupted, the train safety checks should be restarted.

2.8 Communication during train dispatch

2.8.1 Infrastructure managers shall clearly define the flow of information between different members of staff at each stage of the train dispatch process in terms of the purpose, meaning and permitted format of communication signals.

GN40 Where multiple platform staff are involved in the train dispatch process, communication between them should be designed to minimise the potential risk of confusion with the 'Station Work Complete' or 'Ready To Start' signals.

GN41 The purpose, meaning and permitted format of all communication signals should be included in the published train dispatch arrangements so that all platform staff are aware of the requirements.

2.8.2 The infrastructure manager shall develop the communication process to minimise the potential for communication errors.

GN42 If visual communication such as hand signals, close doors (CD) or right away (RA) indicators are used then the infrastructure manager should take into account factors that may affect the ability of platform staff to see the communication. Factors that should be considered include, but are not limited to:

- Position of members of staff in relation to the communication to be seen.
- Glare from the sun or other light sources.
- Obscuration of the communication, for example, by station furniture or people on the platform.
- Ease with which the communication can be distinguished from the background.
- Other safety critical tasks that are required at a similar time to giving or receiving the communication.
- The development of new dispatch equipment or processes, for example, illuminated dispatch bat.

GN43 New installations of CD / RA controls and indicators should take into consideration the dispatch procedure so that the position of this equipment does not impair the ability of platform staff to execute other parts of the train dispatch process.

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- GN44 If audible communications are used to pass messages between staff during the train dispatch process they should sound clearly distinct from the whistle that may be used to supplement the 'Ready to Start' signal.
- GN45 Audible communications that mean different things should sound clearly distinct from each other. Audible signals can be distinguished by:
- a) Using different types of sounds (for example, voice versus whistle).
 - b) Having a different uniform pitch from each other (for example, a low pitched sound versus a high pitched sound).
 - c) Using a pitch change within a sound.
 - d) Varying the temporal pattern (for example, a long slow blast versus two short blasts).
- Audible examples that illustrate these principles and further guidance are provided in the RSSB Alarms and Alerts toolkit. <http://www.rssb.co.uk/sitecollectiondocuments/pdf/research-toolkits/T326/index.html>.
- GN46 The risk of confusion with audible communications from another platform should be taken into consideration.
- GN47 Training and development of platform staff responsible for the train safety check should include awareness of the possible impact on passenger behaviour when using audible alarms.

2.9 Review of risk assessment

- 2.9.1 Infrastructure managers shall review the risk assessment and train dispatch arrangements periodically, when changes are proposed or following an accident or incident occurring during train dispatch.

- GN48 Changes include, but are not limited to:
- a) Introduction of new trains or changes to existing trains.
 - b) Variations to train lengths.
 - c) Changes to staffing levels.
 - d) Introduction of new staff.
 - e) Increase to staff workloads.
 - f) Organisational changes.
 - g) Alterations to signalling equipment.
 - h) Alterations (temporary and permanent) to station infrastructure.
 - i) Alterations to CCTV equipment.
 - j) Timetable change.

2.10 Real-time monitoring and management of people / passengers

- GN49 Safety on the platform can be maximised through real-time monitoring and management of passenger behaviour. This is primarily applicable where platform staff are provided but may be possible remotely where facilities exist.