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Guidance on Defective On-Train Equipment
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Documents

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Guidance on Defective On-Train Equipment (DOTE)

Issue record

Issue	Date	Comments
One	September 2013	Original document, the contents of this document were transferred from GO/RC3537 issue 5 and amended to reflect changes to GO/RT3437 and to GE/RT8000 Rule Book module TW5.
Two	September 2015	Amendments made to align with changes to GE/RT8000 Rule Book module TW5.

Superseded documents

The following Railway Group documents are superseded, either in whole or in part as indicated:

Superseded documents	Sections superseded	Date when sections are superseded
GO/GN3637 Issue one Guidance on Defective On-Train Equipment	All	05 December 2015

Supply

The authoritative version of this document is available at www.rgsonline.co.uk. Enquiries on this document can be forwarded to enquirydesk@rssb.co.uk.

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Guidance on Defective On-Train Equipment (DOTE)

Part 1 Introduction

G 1.1 Purpose of this document

- G 1.1.1 This document gives guidance on interpreting the requirements of Railway Group Standard GO/RT3437. It does not constitute a recommended method of meeting any set of mandatory requirements.

G 1.2 The structure of this document

- G 1.2.1 All requirements from Railway Group Standard GO/RT3437 are reproduced with a grey background in this document.
- G 1.2.2 Guidance is provided as a series of sequentially numbered clauses prefixed 'G' immediately below the greyed text to which it relates.
- G 1.2.3 Specific responsibilities and compliance requirements are laid down in the Railway Group Standard itself.

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G 1.4 Approval and authorisation of this document

- G 1.4.1 The content of this document was approved by TOM Standards Committee on (proposed 28 July 2015).
- G 1.4.2 This document was authorised by RSSB on (proposed 30 July 2015).

Guidance on Defective On-Train Equipment (DOTE)

Part 2 Guidance on Defective On-Train Equipment (DOTE)

G 2.1 Responsibilities of infrastructure managers

Extract from GO/RT3437

Section 2.1.1 Review of DOTE contingency plans

2.1.1.1 Infrastructure managers shall review and, if appropriate, comment, on all draft DOTE contingency plans submitted to them by railway undertakings.

- G 2.1.1 When an infrastructure manager is reviewing draft DOTE contingency plans, it should check that the following items are covered:
- a) All items of on-train equipment listed in Appendix A of GO/RT3437, and relevant to the railway undertaking, have been identified.
 - b) Any items of on-train equipment listed in Appendix B of GO/RT3437 that the railway undertaking has decided to include.
 - c) There are statements that identify all locations on routes used by the railway undertaking concerned, at which:
 - i) A defective train or vehicle can be turned, re-marshalled or replaced.
 - ii) A defective train or vehicle can be examined by a rolling stock technician.
 - iii) The defective on-train equipment can be repaired or replaced.
 - iv) The train or vehicle can be taken out of service.
 - d) All maintenance depots used by the railway undertaking, and the items of equipment that can be repaired or replaced at each depot, are specified.
 - e) All stations that are suitable for the detraining of passengers are identified (see also G 2.2.4).
 - f) There are procedures that are designed to control any identified risks.
 - g) There is consistency with the contents of the Sectional Appendix (where relevant).
 - h) The procedures in the plan comply with the requirements of GO/RT3437 and, where they do not follow the additional guidance in this document, there is appropriate and sufficient evidence that the alternative arrangements will control risk to an equivalent or lower level.
- G 2.1.2 An infrastructure manager may, following their review of a DOTE contingency plan, decide that it can accept the contents without further comment. The infrastructure manager should inform the railway undertaking(s) concerned if this is the case.

Extract from GO/RT3437

Section 2.1.2 Advising railway undertakings of changes to facilities

2.1.2.1 Infrastructure managers shall inform railway undertakings of any changes to facilities, either temporary or permanent, that will affect the detraining of passengers at stations identified in a published DOTE contingency plan.

- G 2.1.3 Changes to facilities should include, but not be limited to, the factors shown as G 2.2.4.2 of this guidance note.

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G 2.2 Responsibilities of railway undertakings

G 2.2.1 Production of contingency plans

Extract from GO/RT3437

Section 2.2.1 Requirement for the production of a contingency plan for defective on-train equipment

2.2.1.1 Railway undertakings shall produce and publish a DOTE contingency plan that describes the actions to be taken when any item of on-train equipment, as listed in Appendix A of this document, becomes defective and gives due consideration to the inclusion of the items listed in Appendix B.

- G 2.2.1.1 Each railway undertaking should arrange for a competent person(s), with a suitable knowledge of that undertaking's train operation, to produce their DOTE contingency plan.
- G 2.2.1.2 The DOTE contingency plan should describe the action to be taken when a defect is found on a train or vehicle about to enter service, or when on-train equipment becomes defective on any train or vehicle which is in service.
- G 2.2.1.3 The DOTE contingency plan should provide detailed instructions to train operators controllers and others responsible for its implementation, about the action to be taken when any item of on-train equipment specified in the plan and operated by the railway undertaking is reported as defective. These should accurately supplement the working instructions in the Rule Book, which determine the precise instructions to be given to drivers and others in each case (see G 2.2.2).
- G 2.2.1.4 Appendix A of this document lists those items of on-train equipment which have a clear interface and, therefore are within the scope of GO/RT3437. However, railway undertakings should include in their DOTE contingency plans, any additional items of on-train equipment fitted only to specific rolling stock fleets. Appendix B provides a list of on-train equipment that railway undertakings should consider for inclusion in their DOTE contingency plan, according to their operational circumstances.
- G 2.2.1.5 This document provides specific guidance in respect of all items of on-train equipment listed in both appendices of GO/RT3437. The following options have been provided to support railway undertakings determine, as part of their contingency plans, how best to manage trains that are found to have defective on-train equipment whilst in service:
- a) For the train or vehicles to proceed only as far as the next available location.
 - b) For the train or vehicles to complete the journey it is currently on and then be allowed to make one further non-passenger journey to a maintenance depot.
 - c) For the train or vehicles to complete its journeys for the remainder of the day provided its final journey of the day ends at a maintenance depot.
- G 2.2.1.6 The DOTE contingency plan should identify all items of on-train equipment that can be repaired or replaced on all classes of rolling stock using each maintenance depot, including main works, used by the railway undertaking.
- G 2.2.1.7 The DOTE contingency plan should state the location to which a train or vehicle, which has been permitted to enter service with defective on-train equipment, or on which on-train equipment has become defective when in service, should proceed.
- G 2.2.1.8 When drafting DOTE contingency plans, consideration should be given to likely traffic levels. For certain on-train equipment defects, it would be consistent with a risk-based contingency plan for different arrangements to be in place on those lines identified as lightly used, as opposed to densely trafficked commuter lines. The recommendations for managing specific equipment defects set out in Appendices A and B give examples of when such differences might be applicable.
- G 2.2.1.9 The DOTE contingency plan should aim to minimise the effect on network performance of a train remaining stationary for a prolonged period.

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G 2.2.2 DOTE contingency plans – instructions to staff

- G 2.2.2.1 The Rule Book, GE/RT8000, sets out the circumstances when trains or vehicles are permitted to enter service with defective on-train equipment and sets out the measures that should be applied in such cases. It also sets out the measures that should be applied when on-train equipment becomes defective on a train or vehicle which is in service. In some situations there may be a range of measures which can be taken. The Rule Book informs drivers that they must obtain instructions about arrangements for dealing with the train or vehicle.
- G 2.2.2.2 It should be noted that not all items of on-train equipment listed in the appendices of GO/RT3437 have related requirements in the Rule Book. Some equipment, such as Automatic Train Protection (ATP), do not have a Rule Book entry as this equipment is not in general use and is applicable to certain rolling stock types only and in certain areas. Where this is the case, the specific guidance will refer users to the alternative source of such information (such as Sectional Appendices).

G 2.2.3 Use of competent people in the resolution of DOTE situations

- G 2.2.3.1 For some items of defective on-train equipment, a competent person may be used to:
- a) Accompany the driver in the cab, as a mitigating measure when the defect affects in-cab indications of signals (e.g. Automatic Warning System (AWS), Train Protection and Warning System (TPWS)) or forward visibility from the cab (the windscreen), or to monitor driver alertness (Drivers Safety Device (DSD), vigilance device).
 - b) Travel elsewhere in the train, such as the cab of the rear (empty) unit after operation of the emergency bypass switch (EBS) following a brake defect or in passenger accommodation after failure of the passenger communication apparatus (PCA) or door-related defects.
- G 2.2.3.2 Use of a competent person in the driving cab should be limited to allowing a train to reach a location where other controls, such as reforming the train, can be applied as soon as is reasonably practicable after a defect is discovered. The likelihood of driver distraction increases the longer the competent person remains in the cab. DOTE contingency plans should identify the approximate journey times for which a competent person could be used, to enable those responsible for implementing plans to have clear guidance as to the limits on such working.
- G 2.2.3.3 The railway undertaking should check that the competent person accompanying the driver has the necessary route knowledge. When the role of the competent person requires the observation of signals (for example, defective AWS, TPWS or obscured windscreen), route knowledge should be sufficient to enable the competent person to identify, and interpret correctly, the signals and other indicators applicable to the train, particularly when the route includes complex layouts. Where the defective equipment relates to driver alertness, the competent person only needs to know how to stop the train if the driver becomes incapacitated, but it would be advantageous for them to be aware what response is required to in-cab warnings, such as AWS.
- G 2.2.3.4 Where the primary purpose of a competent person is to reassure or provide information to passengers, they may remain in place for the remainder of the journey, or the day.
- G 2.2.3.5 GE/RT8000 module TW5 sets out the defective on-train equipment that require a competent person to be used, and the operational consequences of using (or not using) a competent person. GE/RT8000 also sets out the duties of a competent person for the types of failure it includes. Railway undertakings should be aware that other documents, such as Sectional Appendices and Local Instructions, may also provide specific instructions according to the type of equipment and geographical circumstances.
- ### **G 2.2.4 Determining what is a suitable station**
- G 2.2.4.1 The DOTE contingency plan should identify, if necessary, the suitable stations at which passengers in any train or vehicle with defective on-train equipment should be detrained.
- G 2.2.4.2 In determining the suitability of a station for detraining passengers, the following factors should be taken into account:

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- a) The potential number of passengers involved.
- b) The means of control and maintaining the safety of the detained passengers.
- c) The ability to allow a train to remain at the station until alternative transport has been arranged for passengers or staff (where this is the position, that fact should be clearly stated).
- d) Provision of facilities for people with disabilities.
- e) Waiting facilities, for example, the provision of refreshments or toilet facilities.
- f) Ratio of available staff to the number of passengers being detained.
- g) Communication facilities, for example, the coverage for mobile telephones or provision of public telephones.

G 2.2.4.3 As part of the process for drafting a DOTE contingency plan, prior to submitting a draft copy to the infrastructure manager responsible for managing the network, the railway undertaking should liaise, discuss and, if possible, reach an agreement with the infrastructure manager responsible for the management of the selected station involved, that it is suitable for use as proposed.

G 2.2.5 Requirement for the distribution of draft and published DOTE contingency plans

Extract from GO/RT3437

Section 2.2.2 Requirement for the distribution of draft and published DOTE contingency plans

- 2.2.2.1 Railway undertakings shall distribute a copy of their respective DOTE contingency plan, in draft when they are in development, and in final published format to the following:
- a) The infrastructure manager responsible for the mainline railway.
 - b) Infrastructure managers responsible for stations where a DOTE contingency plan states that passenger detrainments are permitted.
 - c) Other railway undertakings affected by the operation of a DOTE contingency plan.

G 2.2.5.1 No guidance is provided for this requirement.

G 2.2.6 Requirement to monitor and amend a published DOTE contingency plan

Extract from GO/RT3437

Section 2.2.3 Requirement to monitor and amend a published DOTE contingency plan

- 2.2.3.1 Railway undertakings shall monitor the effectiveness of a published DOTE contingency plan in order to identify any shortcomings.
- 2.2.3.2 Railway undertakings shall amend and update their published plan if required as a result of DOTE contingency plan monitoring.

G 2.2.6.1 Railway undertakings will have developed and published contingency plans that specifically deal with what will happen in case of a train that has defective on-train equipment. Once the plans have been published, there is a need to make sure that they continue to work efficiently and correctly as intended. For this purpose, joint monitoring of the effectiveness of published DOTE contingency plans should include the following:

- a) A review of the application of the DOTE contingency plan; this should cross-reference the user application instructions as outlined in GE/RT8000 Rule Book, module TW5, as well as any other relevant source publication (such as Sectional Appendices or Local Instructions).
- b) A joint assessment of 'on the day' amendments to a DOTE contingency plan.

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G 2.2.7 Dealing with exceptional circumstances

- G 2.2.7.1 Where a railway undertaking finds that it is not possible to follow the agreed, published DOTE contingency plan due to exceptional circumstances, the railway undertaking and the infrastructure manager should discuss, resolve and document alternative arrangements. Exceptional circumstances may include:
- a) Where the train involved is the first train off a branch line in the morning or the last train at night.
 - b) Equipment becoming defective where it is not possible to make alternative transport arrangements for the passengers affected – special operating conditions may have to be applied in such circumstances, such as speed restrictions or arranging with the signaller for blocking or clearing of signals as appropriate.
 - c) Where public disorder may result in a higher level of risk than if the train had been allowed to continue in service.
 - d) Temporary changes to the status of elements of the published DOTE contingency plan, for example unforeseen reduction of staff at a station defined in the plan as suitable.
 - e) Where crowding in trains or on stations is at such a level it is likely to create a serious safety incident.
- G 2.2.7.2 Exceptional weather conditions are likely to affect the assumptions about alternative transport arrangements that were used to compile the DOTE contingency plan. The likely effects of weather on alternative transport arrangements should be considered as part of the contingency arrangements.
- G 2.2.7.3 In all of the above circumstances, the balance of risk between continuing in service with the defect and the consequences of cancelling or reducing the capacity of trains, should be taken into account and fully documented.
- G 2.2.7.4 Alternative arrangements should not be applied to trains which have defective AWS, ERTMS, TPWS or ATP.

G 2.2.8 Requirement to review DOTE contingency plans

Extract from GO/RT3437

Section 2.2.4 Requirement to review DOTE contingency plan

- 2.2.4.1 Railway undertakings shall review their published DOTE contingency plan whenever the following occur:
- a) Changes are made to routes over which they operate.
 - b) Changes to the train service pattern or the level of train service are made that affect a published DOTE contingency plan.
 - c) Changes are made to their rolling stock fleet.
 - d) Removals, modifications, additions and/or withdrawals are made to on-train equipment.
 - e) Changes are made to the rolling stock maintenance arrangements that affect a published DOTE contingency plan.
 - f) Changes are made to facilities, either temporary or permanent, at stations identified for the detraining of passengers in a published DOTE contingency plan.
 - g) After an issue arising from an application of the DOTE contingency plan.

- G 2.2.8.1 No guidance is provided for this requirement.