

	<b>HM Railway Inspectorate &amp; Safety Policy Directorate</b>	<b>Rail Guidance Document RGD-2007-08</b>	
<b>DETERRING UNAUTHORISED ACCESS AND VANDALISM</b>			
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<b><u>Summary</u></b>	This Rail Guidance Document (RGD) provides updated guidance on relevant legal requirements, current mainline industry arrangements, and inspection priorities for deterring unauthorised access and vandalism. It replaces RGD-2004-17 on lineside security.		
<b><u>Consultation</u></b>	Topics manager; topic strategist/NRT team lead; RNET and Area Teams via Railway Operations Working Group; SEPD.		

1 In recent years, route crime (unauthorised access and vandalism) has been the cause of most deaths to members of the public on Britain's railways; while most are suicides, a significant number are accidental deaths due to trespass. RSSB's Safety Risk Model<sup>1</sup> estimates that trespass accounts for almost a quarter of the total risk (44.8 fatalities and weighted injuries) on the mainline network. In 2005, there were 208 adult accidental trespass deaths reported to HMRI<sup>2</sup>, over half of which were suspected suicides. In 2006, total accidental trespass and suicide deaths increased to 321, three quarters of which involved suspected or confirmed suicides. Three children under 16 were killed in 2006 while trespassing on the railways, compared with five the previous year. RSSB data<sup>2</sup> shows that about a quarter of trespass deaths in 2005 occurred at stations.

2 Vandalism affecting trains makes a smaller contribution, at 0.5% overall network risk<sup>1</sup>, however these incidents are of particular concern because of the potential for catastrophic derailment as a result of vandals obstructing the track.

3 RIDDOR and industry data indicate that route crime risk on the mainline network has reduced significantly in recent years, as a result of co-ordinated efforts by the industry and British Transport Police (BTP) to tackle the problem. Steadily decreasing trends in the numbers of trespass and vandalism accidents and near misses between 2000 and 2004 support this conclusion, as does the reduction in vandalism as a train accident precursor.

4 Despite the overall reductions in route crime risk since 2000, there has been a marked upturn in accidental trespass deaths on the mainline railway since 2005, reversing the previous downward trend. The RIDDOR data on vandalism causing train accidents is more encouraging, with 2006 data showing a continuation of the previous downward trend. Although the 2006 data shows a slight upturn in cases of obstruction of the line by vandals, the figures remain significantly below those seen in recent years.

5 HMRI's route crime strategy for 2007-08 to 2009-10 identifies derailment risks arising from obstructions placed on the line by vandals, together with prevention of child trespass, as key priorities for any HMRI interventions on route crime. This approach recognises the societal expectation that more protection should be afforded to vulnerable groups, particularly children, as well as to passengers and rail staff. HMRI's work on route crime will continue to focus on monitoring the industry's progress in managing these key risks at both national and

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<sup>1</sup> RSSB Safety Risk Model Risk Profile Bulletin Version 5 August 2006

<sup>2</sup> Reported under the Reporting of Injuries, Diseases, and Dangerous Occurrences Regulations 1995 (RIDDOR),

local level. Work to directly monitor route crime risk management by key dutyholders, including lineside security and materials management, is proposed to deliver HMRI's strategic priorities on route crime over the next 3 years.

## LEGAL REQUIREMENTS

6 HSWA Section 3(1) is the primary legislation requiring employers to manage risk to persons not in their employment, so far as is reasonably practicable. Regulation 19 of The Railways and other Guided Transport Systems (Safety) Regulations 2006 (ROGS) specifically requires a transport operator to:

- make a suitable and sufficient assessment of the risks to the safety of any persons, for the purpose of identifying the measures needed to ensure safe operation of the transport system, in so far as this is affected by his operation; and
- implement the measures referred to above.

Also relevant may be the Management of Health and Safety at Work Regulations 1999, which overlap with the above, both requiring assessment and adequate control of risk.

7 Regulation 3(1) of the Railway Safety (Miscellaneous Provisions) Regulations 1997 imposes a specific duty on an infrastructure controller, where necessary for safety, to prevent unauthorised access to that infrastructure, so far as is reasonably practicable. Regulation 3(2) defines unauthorised access as including any person not at work on the transport system or any animal. Guidance to the regulations confirms that the required measures, including fencing, should be proportionate to the risk and involve consideration of line speeds, electrification, population density, and history of trespass and vandalism. Regulation 3(1) applies not only to initial provision of fencing/deterrence measures, but also to their inspection and continued maintenance.

## RELEVANT STANDARDS AND GUIDANCE

8 The UK's mainline industry (known as the Railway Group) has developed and published several relevant Railway Group Standards (RGSs) setting out a common approach that Railway Group members should adopt to manage unauthorised access and vandalism. Whilst these standards have no status in law, they do represent a set of sensible broad principles that can be used to inform inspectors' judgement when inspecting a dutyholder's risk management arrangements [also see paragraph 24].

9 The main relevant RGS is GE/RT 8063 Issue 1 (February 2004)

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<sup>3</sup> RSSB T322 Trespass and Access via the Platform End (March 2005)

<sup>4</sup> RSSB T555 Improving the content and placement of anti-trespass signage (June 2006)

‘Deterring unauthorised access and vandalism’. This standard sets out general principles relating to:

- risk assessment and subsequent action;
- inspection of lineside security;
- managing the removal or securing of lineside materials; and
- increasing awareness of risk from unauthorised access and vandalism.

Appendix 1 to this standard also usefully gives a list of possible lineside security measures.

10 GE/RT 8063 identifies key considerations in assessing the risk of unauthorised access, including:

- the history of access (including persistent or seasonal trespass, and suicide ‘hotspots’);
- adjacent land use (including identifying areas where unsupervised children are likely to gather, and other high risk areas);
- potential access points;
- the operational characteristics of the railway (linespeeds, number of tracks, obstacle deflectors on trains);
- electrification (particularly third rail);
- tunnels (increased risk of derailment due to obstructions); and
- potential for vandalism resulting from trespass.

11 It is important to note that duty holders can and may well have developed alternative arrangements to those in GE/RT 8063. In the case of Railway Group members, any alternative arrangements should have been formalised using the RSSB process for ‘Deviations from RGS’. In such cases alternative arrangements will have been assessed by RSSB, and inspectors will need to take account of this procedure in forming their judgement on the adequacy of risk control arrangements. For non Railway Group dutyholders, any arrangements should provide for a level of risk control broadly similar to that if the control measures in GE/RT 8063 had been followed.

12 There are also a number of Railway Group Standards addressing design. Those relevant to this RGD include:

- GI/RT 7014 (February 2004) ‘Infrastructure requirements at stations’;
- GC/RT 5203 ‘Infrastructure requirements for personal safety in respect of clearances and access’;
- GC/RT 5110 ‘Design requirements for structures’;

13 In respect of stations, GI/RT 7014, Part L ‘Design for deterring unauthorised access at a station’ provides for use of platform end

barriers and the removal of platform ramps where appropriate to reduce the trespass risk at stations. RGD-2003-02 'HMRI's approach to short platforms, and selective door operation' gives our position on removal of platform ramps. Essentially, where a risk assessment identifies a need to remove existing platform ramps in order to deter trespass or lengthen platforms, additional controls may be required to reduce the risk of falls from platform ends, and to provide safe access to the track for employees, so that the overall risk is not increased.

14 In addition to this RGS on station design, the industry has also produced good practice guidance on deterring unauthorised access via stations. Recent RSSB research projects have addressed trespass and access via station platform ends<sup>3</sup>, and improving anti-trespass signage<sup>4</sup>. Report T322 on station trespass contains assessment tools to help station operators to assess and mitigate trespass risk using a suite of possible controls. Report T555 on anti-trespass signage concludes that there is a strong case for improving existing signage, particularly at platform ends, making use of additional text to explain the reason for the prohibition. The potential benefits of further educational work in the wider community, and with parents, is also endorsed.

#### NETWORK RAIL CONTROLLED INFRASTRUCTURE (NRCI)

15 Results of the route crime interventions carried out across all field teams under the Network Rail Delivery Plan between 2002/3 and 2004/05, confirmed that significant progress had been made in reducing route crime risk on NRCI, primarily through enhanced fencing programmes and lineside materials clearance, coupled with education initiatives, particularly at route crime hotspots.

16 Network Rail has recently revised it's internal procedures and standards for managing route crime risk on it's infrastructure, which aim to support the requirements of the relevant Railway Group Standards. Implementation of these revised procedures will impact on how Network Rail assesses and mitigates route crime risk. The main significant changes in approach are outlined below.

17 In October 2005 Network Rail issued a new business process document NR/SP/TRK/05100 'Management of fencing and other boundary measures'. This took full effect from 1 April 2007, replaces RT/CE/S/072 'Prevention of unauthorised access to the lineside' and RT/CE/C/030 'Lineside Security', and is available via the IHS (formerly Technical Indexes) [website](#).

18 This revised procedure introduces significant changes in the risk assessment method used to determine the frequency of lineside fencing inspection and renewals requirements. The revised risk-based assessment is based on the likelihood of unauthorised access (informed by adjacent land use); the consequences of such access (now based on track category data determined by Territory Track Engineers); and the

condition of the fencing/boundary measure. The new arrangements allow for the interval between routine fencing inspections to be increased from 12 up to 36 months in circumstances where unauthorised access is consistently deterred. Where a breach of the boundary measure occurs, the frequency of routine inspection is increased to 3 or 6 monthly, depending on the consequence rating.

19 Changes to the requirements for barrier class on renewal now require the provision of Class I (high security barriers including steel palisade) only at the highest risk locations, ie third/fourth rail or track category 1A (highest speed/busiest lines) coupled with recorded evidence of route crime within last 12 months. Enhancement to Class I barriers at locations which do not merit this high-risk (4 x 4) score, but which are identified as route crime hotspots, is however permitted by Network Rail under their revised standard for route crime risk management outlined below.

20 Network Rail introduced a new procedure for route crime risk management NR/SP/RSC/01401 in June 2006, which came into effect on 5 August 2006. This is a complete revision in line with SAF5 and replaces the route crime tool (NR/HSSM/14.01). NR/SP/RSC/01401 clarifies line management responsibilities for route crime; extends the scope from line of route to include on-train and on-station crime; introduces a revised risk assessment tool to identify route crime hotspots; and establishes a new structure of route crime partnership meetings. As an internal management procedure, NR/SP/RSC/01401 is not currently available with other Network Rail standards via the IHS website. Network Rail Area staff should be able to provide current versions to local HMRI staff on request. Anyone who has difficulty obtaining this document from Network Rail can contact Sharon Mawhood, topic strategist for route crime.

21 In the revised procedure, the risk scoring criteria have been simplified, with more detailed guidance on applying the scores and thresholds for action. Evidence of child/youth trespass, vandalism likely to affect the safety of the line, and electrification are key factors in determining the risk score, and therefore the priority given to risk reduction. Locations with risk scores at or above 14 are designated route crime hotspots requiring an action plan to reduce the risk. For locations with risk scores between 10 and 13 the revised procedure requires that further risk reduction measures be considered and implemented where reasonably practicable.

22 A route crime toolkit in the new procedure sets out the hierarchy of controls for route crime risk reduction. Although meeting existing standards for lineside security and materials management in line with Railway Group Standards remains a priority for Network Rail, this new company procedure gives enhancement to the infrastructure (including bridge caging, enhanced fencing, removal of redundant buildings) a low priority. In making this decision, Network Rail considers that localised

enhancements merely shift the route crime problem a short distance away, and in their revised procedure are focusing more attention on education and diversionary measures, detection, and enforcement, with enhancement as last resort.

23 The current Network Rail standard for safe storage of lineside materials delivered to and arising from track activities is set out in NR/SP/TRK/102 Issue 5 February 2002 'Track construction standards'. This standard replaces previous instructions in RT/CE/PWSI/010 'Leave sites safe and secure campaign' and the Site Materials Management Policy (previously adopted by Infrastructure Maintenance Contractors), which have been withdrawn. This should now remove any previous inconsistency between standards on the maximum permitted length of unsecured rail; the current standard requires that no rail less than 6m be left lineside.

#### ACTION BY INSPECTORS AND RICOS

24 When dealing with issues of unauthorised access and vandalism, either as part of an investigation or planned visits, dutyholders' risk management arrangements should be assessed against the legal duty to reduce risk so far as is reasonably practicable. For Railway Group members, this assessment should be informed by the provisions of relevant Railway Group Standards, as referenced in this RGD. Compliance with appropriate RGSs is good practice; it may not necessarily lead to system safety risk being reduced so far as is reasonably practicable. Conversely, failure to meet a RGS may not necessarily imply that a dutyholder has failed to adequately control risk.

25 Internal company standards, including Network Rail standards, have no legal status, but will also be a relevant consideration when assessing a dutyholder's risk management arrangements. As with RGSs, failure to comply with an internal company standard may not in itself result in a significant risk or a breach of the law; similarly, full compliance with internal standards may not necessarily reduce risk so far as is reasonably practicable. Inspectors should therefore be mindful not to seek absolute compliance with dutyholders' internal standards, but should rather verify that existing risk management arrangements deliver adequate and sensible risk control, so far as is reasonably practicable.

26 On NRCI, it is suggested that particular attention be paid to the validity of the revised risk assessment process, and the adequacy of the resultant inspection/maintenance arrangements, particularly where there is a history of or significant potential for, child trespass or obstruction of the line by vandals. HMRI intends to use evidence from Network Rail's own internal audit and review of their revised route crime management arrangements to inform and target future interventions on route crime.

27 RICOs can play an important role in monitoring the development and delivery of action plans for reducing route crime risk at high-risk

locations, via their participation in cross industry Community Safety Partnership Groups (CSPGs).

## ENFORCEMENT GUIDANCE

28 Decisions on enforcement action should be considered within the framework of the ORR health and safety enforcement policy statement (<http://www.rail-reg.gov.uk/upload/pdf/254.pdf>), and also the HSE's Enforcement Management Model (EMM), which ORR has adopted. Guidance on EMM considerations is given in the paragraphs below, however inspectors will need to continue to exercise discretion and professional judgement in deciding on the most appropriate means of securing compliance with the law.

29 Under the EMM, where the risk of unauthorised access is not adequately controlled, in most cases this will result in a *possible risk of serious personal injury* to a trespasser, either by being hit by a train or coming into contact with electrified overhead lines or conductor rails. Table 2.1 should be used, as the risk will usually be to single or low numbers of casualties. As the benchmark to be achieved is *remote* (there will remain a residual risk of trespass even when all reasonably practicable controls have been implemented), the risk gap will be *moderate*. The legal duty and the relevant industry standards on meeting this duty are *established*, giving an initial enforcement expectation (IEE) of a letter.

30 In some circumstances there may be an increased likelihood of *serious personal injury* to a trespasser occurring, resulting in a *probable* actual risk under the EMM. This might be the case, for example, at route crime hotspots where persistent trespass and vandalism is a known problem, particularly for children who will be less aware of the risks, and/or where railway operational characteristics increase the risk (eg. frequent train movements, third/fourth rail electrification). Again the benchmark to be achieved is *remote*, giving a *substantial* risk gap. As the standards to be applied are *established*, the IEE will be an *Improvement Notice (IN)* for these higher risk situations.

31 A secondary risk, particularly in rural areas, is that of a train striking a large animal resulting in derailment and/or injury to the passengers. In the EMM there is then a *remote* risk of *serious personal injury*. The benchmark to be achieved is *negligible* risk to the passengers, so the risk gap from table 2.2 (for multiple casualties) is *substantial*. As the standards to be applied are *established*, the IEE will be an IN reflecting the catastrophic element of the risk to rail passengers.

32 Inspectors will need to consider both local and national issues in deciding whether there is a need for formal enforcement action to secure adequate control of route crime risk. Account should be taken of relevant dutyholder factors, including compliance history, the attitude and competence of management, and previous enforcement. Wider

strategic factors should also inform the decision, including ensuring protection of the most vulnerable groups, particularly children (but also vulnerable adults such as in-patients at mental health units close to the railway who may present an increased suicide risk). Consideration should also be given as to whether formal enforcement best meets the public interest (ensuring targeting of resource at the most serious risks and those within the dutyholder's control).

33 Where consideration is being given to issue of an IN on trespass risk, in most cases it will be appropriate to focus on requiring improvements to the management arrangements for assessing the risk of unauthorised access; provision of adequate risk controls; together with monitoring of control measures including inspection/maintenance regimes. Again, in accordance with EMM principles, the wider strategic implications of any local enforcement against a national dutyholder should inform the action taken; prior consultation with the account holder for the dutyholder will be appropriate in most cases.

34 In situations where inadequate lineside security (resulting in foreseeable access to the track by unauthorised persons) is combined with inadequate control of lineside materials (materials of such weight and size as to be handleable by vandals), the resulting serious risk of personal injury arising from derailment of a train due to obstructions placed on the line, may warrant use of a Prohibition Notice (PN). In assessing the foreseeability of this risk, consideration should be given to the history and evidence (including graffiti and property damage within the railway boundary, physical evidence of regular trespass such as dens, rope swings) of trespass and vandalism in the particular location; as well as the fencing standards; adjacent land use; and operational factors (including electrification, linespeeds, numbers of tracks, presence of tunnels/viaducts, train frequency).

35 Where the foreseeable risk warrants such action, PNs will usually require reduced linespeeds to allow time for the driver to see and stop short of an obstruction, or the provision of site warden(s) until handleable scrap is removed or secured (which allows linespeeds to be maintained). A sample immediate PN is attached at [Appendix 1](#). Although EMM risk gap considerations would not apply in these circumstances, consideration may also be given to prosecution in line with the ORR health and safety enforcement policy statement, again taking into account dutyholder and strategic factors as set out in the EMM.

## CONTACT

36 Enquiries about any aspect of this RGD, or on delivering HMRI's route crime strategy, should be made to the route crime topic strategist and NRT route crime lead Sharon Mawhood ([sharon.mawhood@orr.gsi.gov.uk](mailto:sharon.mawhood@orr.gsi.gov.uk)) T: 0845 301 3352 (external) or ext

3748 (internal).

37 This document, although publicly available, is primarily intended as internal guidance for use by inspectors.

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### **Appendix 1**

#### **POSSIBLE PROHIBITION NOTICE WORDING ON INADEQUATE LINESIDE SECURITY AND LINESIDE MATERIAL STORAGE**

*"I am of the opinion that the following activities namely:"*

running of trains at speeds above which drivers could see and stop short of an obstruction

*"which are being carried on under your control at:"*

specify location, e.g. at and around (specified) milepost/signal at (location)

*"the matters which give rise to the said risk are:"*

there are unsecured railway materials by the lineside of such a weight and size as to be handleable by vandals, and standards of lineside security are insufficient to prevent foreseeable public access to the lineside.

*"said matters will involve contravention of following statutory provisions:"*

The Health and Safety at Work etc Act 1974 Section 3(1)

The Railway and Other Guided Transport Systems (Safety) Regulations 2006 Regulation 19

*"because:"*

the presence of unsecured lineside materials combined with foreseeable access by unauthorised persons could result in derailment of a train due to an obstruction being placed on the line.