

# Railway safety miscellaneous provisions

Railway Safety (Miscellaneous Provisions) Regulations 1997



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## Introduction

1 These Regulations introduce new requirements for railways and other guided transport systems. They also repeal or revoke a larger number of old provisions, which are listed in a Schedule to the Regulations.

2 The duties in regulations 3 to 7 apply to both passenger-carrying and non-passenger-carrying transport systems which differ widely in nature, size, complexity and in potential risks. To permit a range of suitable measures, depending on the circumstances and risks, the duties are expressed in terms of objectives to be achieved rather than specific measures, and are qualified by 'so far as is reasonably practicable' or in other ways. Certain duties apply only 'where necessary for safety' or 'where appropriate'.

3 The measures which are necessary to comply should be determined in the light of the suitable and sufficient risk assessment which is required to be undertaken and kept up to date by the Management of Health and Safety at Work Regulations 1992. These measures will vary considerably from system to system, for example, those on the main railway network to prevent collisions and derailments are likely to be different from, and generally more complex than, those on a small self-contained industrial railway or heritage railway. However, even very small passenger-carrying railways have the potential for major accidents and require measures to reduce risks to a level that is as low as reasonably practicable.

4 The Regulations place duties on a number of different people. The guiding principle has been to place the duty to comply with each of the five requirements on the party most likely to be in control of the matter in question. So the duty to comply with regulations 3 and 5, concerning the prevention of unauthorised access to the railway, collisions and derailments, is placed on the infrastructure controller, while the duty to comply with regulations 4 and 6 concerning the provision of means of passenger communication and suitable and sufficient braking systems rests on vehicle operators. However in the case of regulation 7, which concerns the prevention of accidents to persons at work from moving vehicles, the duty is placed on a number of different people, reflecting the different situations and employment relationships covered by the requirement.

5 Responsibility for the matters addressed in the Regulations may in practice be shared with others under contractual arrangements. For example, responsibility for maintaining rail vehicles and their equipment may lie partly with leasing companies as well as vehicle operators; and responsibility for deterring unauthorised access to the railway at stations may lie partly with station operators as well as the infrastructure controller. Such arrangements will be set out in leases or other contractual agreements. In addition, the installation and maintenance of equipment may be contracted out to specialist contractors. All those who have such responsibilities will have duties of care under the Health and Safety at Work etc Act 1974 (HSW Act) commensurate with their contractual obligations and, although the Regulations do not apply directly to them, under section 36 of the HSW Act they could nevertheless be charged with an offence if a breach of the Regulations were due to their act or default. Regulation 9 provides duty holders with a statutory defence on the basis that they exercised all due diligence and took all reasonable precautions.

6 The Railway Inspectorate of the Health and Safety Executive (HSE) has produced a substantial body of guidance in several volumes entitled *Railway safety principles and guidance* (RSPG), which contains much advice on matters which are the subject of these Regulations. Part 1 covers general principles, while Part 2 gives more detailed advice, and is divided into eight separately published sections dealing with the infrastructure (including fencing), signalling, stations, electric traction systems, level crossings, trains, tramways,

and heritage railways (see Appendix 3 for full details). The series of publications is intended to guide those involved in the design and construction of new and altered works, plant and equipment requiring approval under the Railways and Other Transport Systems (Approval of Works, Plant and Equipment) Regulations 1994; consequently it does not cover either existing works, plant or equipment or new or existing works on industrial railways. Nevertheless, the RSPG will assist those with duties under the Railway Safety (Miscellaneous Provisions) Regulations by suggesting measures which may be appropriate and reasonably practicable, although in some instances the advice may not be fully appropriate.

7 Duty holders and others with responsibilities for the matters covered by the Regulations are advised to seek advice from HSE if they are in any doubt about whether any of the requirements apply, or about the measures or standards expected, in particular locations or circumstances.

## Regulation 1

### Regulation 1

## Citation and commencement

*These Regulations may be cited as the Railway Safety (Miscellaneous Provisions) Regulations 1997 and shall come into force on 10 May 1997.*

## Regulation 2

### Regulation

2(1)

## Interpretation

(1) *In these Regulations, unless the context otherwise requires -*

*“1992 Act” means the Transport and Works Act 1992;*

*“1994 Regulations” means the Railways and Other Transport Systems (Approval of Works, Plant and Equipment) Regulations 1994;*

*“construction work” has the meaning assigned to it by regulation 2(1) of the Construction (Design and Management) Regulations 1994;*

*“factory” means a factory within the meaning of section 175 of the Factories Act 1961 and premises to which section 123(1) or (2) or 125(1) of that Act applies;*

*“harbour” and “harbour area” have the meanings assigned to them by regulation 2(1) of the Dangerous Substances in Harbour Areas Regulations 1987;*

*“mine” and “quarry” have the meanings assigned to them by section 180 of the Mines and Quarries Act 1954;*

*“prescribed system of guided transport” means a system using a mode of guided transport prescribed by regulation 3 of the 1994 Regulations;*

### Guidance

2(1)

8 ‘Prescribed systems of guided transport’ are systems which use one of the modes of guided transport prescribed by the Railways and Other Transport Systems (Approval of Works, Plant and Equipment) Regulations 1994, such as monorail systems and road-based systems with cable or side guidance. These are listed and defined in Schedule 1 of the 1994 Regulations which is reproduced at Appendix 1.

### Regulation

2(1)

*“railway” has the meaning assigned to it by section 67(1) of the 1992 Act;*

*“station” means a passenger station or terminal of a transport system but does not include any permanent way or plant used for signalling or exclusively for supplying electricity for operational purposes to the transport system;*

*“street” has the meaning assigned to it by section 67(1) of the 1992 Act;*

*“train of vehicles” means two or more vehicles attached to each other;*

*“tramway” has the meaning assigned to it by section 67(1) of the 1992 Act;*

### Guidance

2(1)

9 The definitions of ‘railway’, ‘street’ and ‘tramway’ are given in Appendix 1.

## Regulation

*“transport system” means a railway, tramway or prescribed system of guided transport, except it does not include any part of such a system which -*

- (a) *employs parallel rails forming a track of a gauge of less than 920 millimetres and is -*
  - (i) *part of a factory;*
  - (ii) *within a maintenance or goods depot;*
- (b) *employs parallel rails forming a track of a gauge of less than 1.432 metres and is above ground at a mine or quarry;*
- (c) *is below ground at a mine;*
- (d) *runs along and at the same level as a street or in any other place to which the public has access (including a place to which the public has access only on making a payment);*
- (e) *is used solely for the purpose of carrying out construction work.*

2(1)

## Guidance

10 The Regulations apply to ‘transport systems’. This term covers railways, tramways (but only where they cease to operate along a street or other public place) and prescribed systems of guided transport. Sidings and depots are covered, as well as running lines. There is a conditional exclusion for transport systems within factories, harbours and harbour areas, mines and quarries, from regulation 3 only (measures to prevent unauthorised access).

11 Paragraph (d) of the definition of ‘transport system’ excludes any part of a railway, tramway or prescribed system of guided transport, which runs along and at the same level as a street or in any other place to which the public has access, from the scope of the Regulations. This means that the whole or the larger part of every tramway is excluded from scope. However the Regulations apply to any parts of a tramway which are laid in a place to which the public does not have access.

12 Also excluded from scope is any part of a transport system which is:

- (a) part of a factory or within a maintenance or goods depot, if the gauge is less than 920 mm;
- (b) above ground at a mine or quarry, if the gauge is less than 1.432 m;
- (c) below ground at a mine;
- (d) used *solely* for the purpose of carrying out construction work.

13 These exclusions reflect gauge thresholds in the earlier legislation which these Regulations replace, and the existence of separate provisions covering transport systems underground in mines (Coal and Other Mines (Locomotives) Order 1956) and on construction sites (Construction (Health, Safety and Welfare) Regulations 1996). ‘Factory’, ‘mine’, ‘quarry’ and ‘construction work’ are separately defined in regulation 2(1).

2(1)

## Regulation 2(1)

*“vehicle” means a vehicle which is being used on a transport system and includes a mobile traction unit.*

**Regulation**

2(2)

(2) Any reference in these Regulations to the infrastructure of a transport system is a reference to the fixed assets used for the operation of the transport system including its permanent way and plant used for signalling or exclusively supplying electricity for operational purposes to the transport system, but does not include a station.

**Guidance**

2(2)

14 'Infrastructure' includes the track, overhead electric lines, signalling, and fixed electrical plant such as sub-stations and transformer houses. It excludes 'stations' (defined in regulation 2(1)), that is passenger station and terminal buildings, but includes the track at such places.

**Regulation**

2(3)

(3) Any reference in these Regulations to a person in control of any infrastructure of a transport system is a reference to a person who, in the course of a business or other undertaking carried on by him (whether for profit or not), is in operational control of that infrastructure, except that where such control is for the time being exercised by a person undertaking maintenance, repair or alteration work on the infrastructure, it is a reference to a person who would be in operational control of the infrastructure if such work were not being undertaken.

**Regulation**

2(4)

(4) Any reference in these Regulations to a person operating a vehicle is a reference to the person operating the vehicle for the time being in the course of a business or other undertaking carried on by him (whether for profit or not), but it does not include a self-employed person by reason only that he himself drives or otherwise controls the movement of a vehicle.

**Guidance**

2(3)-(4)

15 Under regulation 2(3), the Regulations apply to companies which control infrastructure or operate vehicles in the course of a business or other undertaking carried on by them, whether for profit or not. Contractors and others in temporary control of the infrastructure while carrying out maintenance, repair or alteration work on it do not assume the duty of the infrastructure controller under regulations 3, 5 and 7.

16 Regulation 2(4) establishes that a driver does not count as a vehicle operator under regulations 4, 6 or 7. The vehicle operator is the company which organises the movement of the vehicle, including making the necessary arrangements with the company which controls the infrastructure (where that is a different company).

17 The word 'person' is used in the Regulations, but normally the duty will be on a company (which is a legal 'person'). There are no direct duties on individual directors, managers or other employees. However, sections 36 to 37 of the HSW Act provide for such persons to be prosecuted as well as or instead of the company in certain circumstances.

**Regulation**

2(5)

(5) Any reference in these Regulations to the maintenance of any equipment is a reference to -

- (a) the maintenance of that equipment in an efficient state, in efficient working order and in good repair; and
- (b) where appropriate, subjecting that equipment to a suitable system of maintenance.

**Guidance**

2(5)

18 Regulations 4, 5, 6 and 7 require equipment to be 'provided and maintained'. Under regulation 2(5), this includes maintaining the equipment in an efficient state, in efficient working order and in good repair and also, where appropriate, subjecting the equipment to a suitable system of maintenance.

19 A suitable system of maintenance involves ensuring that:

Guidance

2(5)

- (a) regular maintenance (including, as necessary, inspection, testing, adjustment, lubrication and cleaning) is carried out at suitable intervals;
- (b) any potentially dangerous defects are remedied and that if necessary the affected vehicle, or infrastructure, is not used in the meantime, or is only used subject to conditions in which safety is not jeopardised;
- (c) regular maintenance and remedial work is properly carried out; and
- (d) a suitable record is kept to ensure that the system is properly implemented and to assist in validating maintenance programmes.

### Regulation 3

### Unauthorised access

Regulation

3

(1) *So far as is reasonably practicable, a person in control of any infrastructure of a transport system to which this regulation applies shall ensure, where and to the extent necessary for safety, that unauthorised access to that infrastructure is prevented.*

(2) *In paragraph (1) "access" means access by any person not at work on the transport system or by any animal.*

(3) *This regulation applies to any transport system except that it does not apply to any part of such a system which -*

- (a) *is within a harbour, harbour area, maintenance or goods depot; or*
- (b) *is part of a factory, mine or quarry,*

*where access to the harbour, harbour area, maintenance or goods depot, factory, mine or quarry is adequately controlled.*

(4) *Breach of a duty imposed by this regulation shall not confer a right of action in any civil proceedings.*

Guidance

3

20 Regulation 3 concerns the prevention of unauthorised access to the track and other infrastructure such as overhead electrical lines. It covers the measures that are necessary to prevent or deter entry by trespassers, and also by large animals which might damage or derail a train or other vehicle and so endanger passengers. The combined effect of regulation 2(2) and the definition of 'station' is that the duty covers unauthorised access to the track at stations but not to the station building. The duty is placed on the person who controls the infrastructure.

21 The measures that are necessary will depend on what is reasonably practicable at each location, taking into account the severity of the risks to safety and the difficulty of preventing unauthorised access. Absolute prevention will seldom be 'reasonably practicable'. However, the greater the likelihood that unauthorised access (including the risk of large animals straying onto the line) will occur, the more difficult should unauthorised access be made. At locations where some form of fencing is necessary, the type of fencing to be provided should take into account the speed of vehicles, any electrification, population density, and any history of trespass or vandalism. A high level of deterrence is needed where a line is electrified by the conductor rail system, and warning signs may also be needed. Additional physical barriers may be necessary where, for example, there is a risk of people coming into contact with

## Guidance

electric overhead lines from bridges or other structures. At some locations, a ditch or mound may constitute an adequate barrier. While barriers may not be reasonably practicable on station platforms, signs forbidding unauthorised access to the track may be necessary at platform ends.

22 At some locations, measures for preventing unauthorised access may not be judged to be necessary for safety, for example:

- (a) parts of a transport system where drivers should always be able to bring their vehicle to a halt within the distance they can see ahead. These include some sections of tramway, not laid in a public place and therefore subject to the Regulations in principle, which operate 'on line of sight';
- (b) disused parts of a transport system, and other parts at times when they are not in use by vehicles. However measures may still be necessary because of other hazards such as electrical equipment and unguarded edges at unused platforms;
- (c) lines where the risk of trespass is small because of the remote location and/or the difficult nature of the terrain; and
- (d) certain level crossings where the railway is not fenced off when the crossing is open to the road. However cattle-cum-trespass guards providing a deterrent surface would be required in most cases.

23 Infrastructure controllers are advised to consult HSE before concluding that no measures are necessary, or that measures other than a physical barrier will suffice.

24 The duty covers both the initial provision and the maintenance of fencing and other measures. Duty holders will need to have in place an adequate system for inspecting fencing and rectifying damage. The frequency of inspection should take account of the extent of vandalism or other damage in the past, and of the extent of the dangers if unauthorised access were to occur.

25 Under regulation 3(3), any part of a transport system which is within a harbour or harbour area, maintenance or goods depot, or which is part of a factory, mine or quarry is excluded from the duty in regulation 3(1), provided that access to the premises as a whole is 'adequately controlled', for example by means of a perimeter fence. The infrastructure controller will need to satisfy himself that adequate controls on access are in place, but need not necessarily operate the controls himself. As long as access to the site as a whole is adequately controlled, regulation 3(1) does not apply and so no measures are required under these Regulations to prevent people at work on the site from having unauthorised access to the railway. However, protective measures may be needed under employers' general duties in the HSW Act to protect the health and safety of their employees and others, depending on what is necessary for safety and reasonably practicable in the circumstances.

3

## Regulation 4

### Regulation

4

## Means of communication

*The operator of a vehicle which is being used for the carriage of fare paying passengers shall ensure that there is provided and maintained on such a vehicle suitable and sufficient means whereby passengers can communicate with a person who is in a position to take appropriate action in the event of an emergency.*

## Guidance

26 Regulation 4 requires the provision and maintenance of means of communication on all vehicles carrying fare-paying passengers. 'Maintained' is defined in regulation 2(5). The duty is placed on the operator of the vehicle.

27 A means of communication is needed so that passengers can alert appropriate staff in the event of, for example, a train defect which may present imminent danger, or an assault on staff or passengers. The regulation does not prescribe what form the system should take, only that passengers must be able to communicate with someone who is in a position to take 'appropriate action'. 'Appropriate action' may consist of stopping or holding the train, informing the driver, or investigating why the means of communication has been used. Thus the regulation permits a range of systems to be employed which may involve passengers alerting the driver, other train crew, or (in the case of driverless transport systems) control room staff. The means of communication may take the form of an emergency alarm device which passengers can use by pressing a button or by pulling a handle or chain. Alternatively, provision may be made for passengers to speak to the driver (or other staff) over an intercom system.

28 Means of communication will generally be dedicated for use only in emergency. However, the regulation does not rule out the use of means of communication which may also be used by passengers in normal operation. For example a stop button in a tram which passengers can press if they wish to alight at a request stop might constitute a suitable means of communication, provided it sounds repeatedly in the driver's cab when pressed repeatedly.

29 Whatever system is chosen, the means of communication need to be suitable for the circumstances, readily accessible in all vehicles, clearly marked and easy to operate in an emergency, and usable at all times when fare-paying passengers are carried. The system should enable staff to trace the source of a passenger communication.

30 There is likely to be a small number of minor transport systems where it is not necessary to provide means of communication. These may include certain railways where the driver is in close physical proximity to all passengers and can be immediately alerted in emergency; and some driverless railways, such as certain cliff railways, where a person controls the movement of the train from outside the vehicle and is able to keep the train under close visual observation. In such cases it will be open to the railway operator to request exemption under regulation 8.

31 Regulation 4 replaces section 22 of the Regulation of Railways Act 1868 which required means of communication to be provided in passenger trains travelling over 20 miles without stopping, and also provided a penalty for misuse. Misuse of equipment provided for safety purposes such as means of communication may constitute an offence under railway by-laws and also under section 8 of the HSW Act.

4

## Regulation 5

### Regulation

5

## Measures to prevent collisions and derailments

(1) *A person in control of any infrastructure of a transport system shall ensure, so far as is reasonably practicable, that -*

(a) *appropriate procedures are in place;*

(b) *where appropriate, equipment which is suitable and sufficient is provided and maintained,*

## Regulation

5

for the purpose of preventing any of the events referred to in paragraph (2).

- (2) The events referred to in paragraph (1) are -
- (a) collisions between vehicles;
  - (b) collisions between vehicles and buffer-stops;
  - (c) the derailment of vehicles on account of excessive speed or incorrectly set points.

## Guidance

5

32 Regulation 5 requires measures to be taken to prevent specified events, namely, collisions between vehicles on a transport system, collisions with buffer stops, and derailments resulting from excessive speed or incorrectly set points. The duty is placed upon the infrastructure controller who is required to ensure so far as is reasonably practicable that appropriate procedures are in place and, where appropriate, that suitable and sufficient equipment is provided and maintained, to prevent such incidents taking place. 'Maintained' is defined in regulation 2(5).

33 The duty sets an objective which calls for a range of different measures and combinations of measures, depending upon the nature of the particular transport system and its risks. The balance to be struck between procedures and equipment, and the nature and extent of the equipment to be provided, will vary considerably.

### Equipment

34 The requirement to provide equipment is qualified by 'where appropriate'. The potential risks to safety are such that in most cases an automatic signalling system will be appropriate and, indeed, necessary for the safe routing, spacing and control of trains and to adequately insure against human error.

35 In some cases a signalling system is not necessary. Examples include transport systems where vehicles are driven 'on line of sight' so that they can be brought to a halt within the distance the driver can see ahead (as with some sections of tramway), and some small systems where the method of operation is such that the risk of collisions causing injury is minimal. There may also be some industrial or other small systems where risks to safety can be adequately controlled by, for example, the use of radio or telephonic links between a traffic controller and drivers to identify the position of vehicles, together with procedures for giving permission to proceed.

36 Paragraphs 37 to 40 apply in cases where a signalling system is necessary. Paragraph 39(a) to (c) may also apply in other cases where such equipment would be appropriate and reduce risks. More detailed guidance on signalling systems is provided in *Railway safety principles and guidance* (Section D).

37 Essential features of a signalling system include:

- (a) a system of fixed or moving blocks, to ensure that in normal circumstances only one vehicle or train at a time is present on a given section of line ('block') on the same track; and
- (b) interlocking of points and signal controls (by solid state technology, electro-mechanical or mechanical means), to ensure that a train can only be authorised to proceed if points have been correctly set and no other train is occupying the block section, and to maintain the integrity of the route after authority to proceed has been given. Interlocking prevents

derailments due to incorrectly set points as well as collisions, and may also be used to control the speed of trains by delaying the clearance of a signal. It needs to include a reliable locking mechanism to avoid the possibility of derailment due to points being inadequately locked or so that they move as a result of vibration from trains.

38 A system for identifying the position of vehicles may also be required, depending on the type of signalling in use. This may involve mechanical, electrical or electronic detection methods.

39 The suitability of any particular signalling system will depend on, among other things, the speed and frequency of trains and their braking performance. For simpler transport systems, a simple signalling system which may require a higher level of human intervention for safe operation may be satisfactory as long as it is backed by procedures which together provide an adequate level of control and safety. On this basis it should be possible for the operators of heritage railways to continue to use original equipment. In all cases there needs to be adequate protection against the effects of human error and against equipment failing in an unsafe mode.

40 Other infrastructure equipment which may be needed to prevent collisions and derailments and to minimise the incidence of signals passed at Danger (SPADs) includes:

- (a) suitable lineside signals, in-cab displays and other indications or controls;
- (b) derailing devices such as trap points or catch points to minimise dangers from runaway vehicles;
- (c) fixed red lights or reflective markers at buffer stops;
- (d) for control centres and signal-boxes, suitable diagrams, controls, block instruments, reminder devices, and means of communication with other signal-boxes and trains;
- (e) as part of an automatic warning system, devices on the track to transmit signal status to the train. At some locations it may be appropriate also to install devices which can detect trains travelling at excessive speed at the approach to signals and/or trains passing signals at Danger.

41 Equipment of the type mentioned in paragraph 40(e) requires train-borne equipment to receive information, generate indications or warnings to the driver, and (in the event of excessive speed, a signal passed at Danger, or the driver's failure to acknowledge a warning) to apply the brakes. As technology develops, automatic systems such as these, including in some cases automatic train protection or automatic train control, are likely to become increasingly feasible and 'appropriate' in the terms of regulation 5 for preventing potentially catastrophic accidents of the kind covered by the regulation. The infrastructure controller's duty under regulation 5 will extend to securing the installation and use of train-borne equipment where necessary.

### Procedures

42 Regulation 5 also requires adequate procedures to be in place. The procedures that are needed will depend on the signalling and other equipment provided and on the extent to which human intervention is necessary for its operation. There will, however, need to be adequate operating rules and procedures covering staff who operate the equipment. It will be necessary to ensure, among other things, that:

## Guidance

- (a) staff operate equipment in the way intended;
- (b) communications are adequate, clear, and effective;
- (c) any necessary restrictions such as speed limits are implemented and observed; and
- (d) proper safety standards are maintained in abnormal or degraded operating conditions.

43 The procedures required by regulation 5 also include, as appropriate:

- (a) procedures for controlling the movement of vehicles through the use of hand signals (as in shunting operations) or, where such means are used, through radio, telephonic or visual means;
- (b) the provision of adequate information, instruction and training concerning the use of equipment and the observance of safety rules and procedures, and adequate supervision and monitoring;
- (c) any special procedures which may be needed to prevent opposing movements in the case of single-line sections or where a section of line is used for movements in both directions.

44 Regulation 5 does not cover all collisions and derailments which have the potential to cause serious injury to people. It does not, for example, cover collisions between rail vehicles and pedestrians or vehicles on the road (for example at level crossings or where routes cross within industrial premises), or derailments caused by track defects. These hazards are, however, covered by the general duties in the HSW Act which include duties on employers and other persons conducting an undertaking to ensure the health and safety of employees and others so far as is reasonably practicable. The measures which are required may include the adoption of safe procedures for operating vehicles, and maintenance procedures to ensure that railway track remains in a safe condition. Regulation 17 of the Workplace (Health, Safety and Welfare) Regulations 1992 requires employers and others who have control of workplaces to organise the workplace in such a way that vehicles and pedestrians can circulate in a safe manner.

5

## Regulation 6

### Regulation

6

*The operator of a vehicle shall ensure that a suitable and sufficient braking system is provided and maintained for that vehicle and where the vehicle is part of a train of vehicles, for that train of vehicles.*

45 Regulation 6 requires the provision and maintenance of a suitable and sufficient braking system for each vehicle and, in the case of a train of vehicles, a suitable and sufficient braking system for the train as a whole. 'Maintained' is defined in regulation 2(5). In this guidance on regulation 6, 'train' means 'train of vehicles', ie two or more vehicles attached to each other which are being used on a transport system. ('Train of vehicles' and 'vehicles' are defined in regulation 2(1)). 'Train' therefore includes trains of vehicles on tramways and other transport systems.

46 The regulation covers all the braking systems that are needed for different types of vehicle or combinations of vehicle, including service brakes, emergency brakes, and parking brakes where needed. The requirement for the braking

6

## Guidance

system to be 'suitable and sufficient' covers all aspects of braking systems which are relevant to safety, including power, effectiveness, redundancy, reliability, smoothness of operation, automatic operation if a moving train divides, compatibility with the track, the signalling system and with any electric traction system, and the ability to secure a stationary train.

47 The braking system of a passenger train would not normally be considered to be suitable unless it included continuous brakes which are applied automatically to every vehicle if the train divides while in motion. In the case of some heritage or minor railways, alternative arrangements may be acceptable; operators are advised to discuss these with HSE. For non-passenger trains, continuous brakes may not be necessary as long as there is adequate braking power, but measures may be needed to minimise dangers from runaway vehicles, for example the provision of derailing devices as mentioned in paragraph 40(b).

48 Under regulation 6, a suitable and sufficient braking system needs to be in operation whenever a vehicle is in use on the transport system. However, the regulation does not necessarily require the same braking system in all circumstances. For example, the braking systems that are needed in normal running may be different from those that are necessary for shunting operations. The regulation also does not necessarily preclude a train from completing its journey with a defect in the braking system, provided adequate measures are taken to minimise any risk so that the braking system can be considered 'suitable and sufficient' in those particular circumstances. The conditions for degraded mode operation where braking performance might be affected need to be clearly defined and where necessary agreed between the vehicle operator and infrastructure controller.

49 For certain railways with a propulsion system external to the vehicles, such as cable-hauled factory railways, an external braking system which can be applied by the person in immediate control may be adequate. However, where passengers are carried, as in the case of cliff railways, an automatic runaway brake would also be needed.

6

## Regulation 7

### Accidents to persons at work from moving vehicles

#### Regulation

(1) *A person to whom this regulation applies shall ensure, so far as is reasonably practicable and insofar as they are matters within his control, that -*

- (a) *appropriate procedures are in place;*
- (b) *where appropriate, equipment which is suitable and sufficient is provided and maintained,*

*for the purpose of preventing any person at work on a transport system from being struck by, or falling from, a moving vehicle.*

(2) *This regulation applies to -*

- (a) *a person in control of any infrastructure of a transport system;*
- (b) *an operator of a vehicle;*
- (c) *an employer of a person at work on a transport system;*
- (d) *a self-employed person as it applies to an employer and a person at work on a transport system as if that self-employed person were both the employer and the person at work.*

7

50 Regulation 7 requires measures to be taken for the purpose of preventing persons at work on a transport system from being struck by, or falling from, moving vehicles. The duty holder is required to ensure so far as is reasonably practicable that appropriate procedures are in place and, where appropriate, that suitable and sufficient equipment is provided and maintained for the stated purpose. This effectively covers all measures which may be necessary to protect people whose work brings them close to, or onto, moving vehicles. Where feasible, hazards should be eliminated or minimised at source. Hazards that remain should be combated by a suitable combination of physical measures and procedures.

51 One category of staff whom the duty is designed to protect is staff working on or near the track or permanent way engaged for example in track or signalling maintenance work. Guidance produced by HSE's Railway Industry Advisory Committee, *Railway safety - the prevention of risk to workers on the track* (HSE Books ISBN 0 7176 0805 0), sets out principles to be considered in planning and managing the safety of workers near the track. Where reasonably practicable, the work should be separated from running vehicles. Where this is not reasonably practicable, there needs to be a method of work which adequately protects people working on or near the track, and equipment providing automatic warning of the approach of vehicles would normally be expected where they cannot be seen in sufficient time for staff to reach a place of safety. The duty also covers the provision and maintenance of adequate lineside paths, places of safety and refuges, and keeping these free from vegetation or other obstruction.

52 Other staff whom the duty is designed to protect include staff who supervise vehicle shunting movements and whose work may involve potentially hazardous tasks such as coupling and uncoupling wagons and attaching and detaching brake pipes. Unless automatic couplers are in use, appropriate equipment for coupling operations needs to be provided and procedures laid down for its correct use, so that staff do not place themselves in danger. Procedures need to be in place to ensure that staff communicate with each other when necessary, and that they do so effectively and unambiguously, for example by the use of clear hand-signals between drivers and shunters. Shunting areas should be adequately lit.

53 Regulation 7 also covers all staff whose work may bring them into the close proximity of moving vehicles, if only occasionally or incidentally. Staff should be made aware of all relevant safety procedures and should wear high-visibility clothing. Trackside facilities such as lineside telephones and manually-operated points should be located and designed so that they can be used in safety. The procedures carried out by drivers need to be adequate to protect staff on foot, for example it may be necessary for drivers to sound a warning before moving off or when approaching a staff level crossing or other place where staff may be on or near the track, and special procedures may be needed where a locomotive propels vehicles from behind so that the driver has limited forward vision. Appropriate head and tail lamps should be displayed as necessary.

54 Regulation 7 covers the implementation and enforcement of adequate operational safety rules and procedures, and the provision of adequate information, instruction, training and supervision. Action may need to be taken to ensure that staff do not indulge in unsafe practices, for example crossing the track by crawling underneath a vehicle or riding on the outside of a moving vehicle.

55 Provided the door of the driver's cab, and of any other vehicle in which crew travel, closes efficiently, no special equipment would normally be necessary to comply with regulation 7 so far as it concerns the prevention of

## Guidance

falls from moving vehicles. Any procedures or rules which are necessary to minimise the risk of falls occurring should be put in place.

56 The duty in regulation 7(1)(b) is to provide equipment which is 'suitable and sufficient' and to do so 'where appropriate'. It would not generally be necessary to fit a driver's door to vehicles which do not already have them - such as track maintenance or engineers' vehicles, brake vans and certain steam locomotives and heritage tramcars - provided the absence of a door poses no significant risk. However, people at work on such vehicles need to have an adequate and secure place to sit or stand, and handrails or handholds would normally be needed if they stand for some or all of the time. In addition, some form of physical restraint, such as an easily-released chain or bar across the entrance to the vehicle, may be needed to further reduce the risk of falling. In the case of a steam locomotive, the need for crew to be able to move quickly in the event of steam escaping into the cab may need to be considered when deciding whether a restraint or particular form of restraint would be 'appropriate' or 'suitable', in terms of the regulation. There should be sensible limits on the number of people who are allowed to be in an open-sided vehicle at any one time. Water level gauges, tool boxes and any other equipment which may need to be viewed or reached while the vehicle is in motion should be reasonably accessible so that crew do not place themselves at risk of falling.

57 Regulation 7 is also designed to protect different groups of staff with different employers. For example, the duty would apply to:

- (a) infrastructure controllers, in relation to their employees working on or near the track;
- (b) infrastructure maintenance companies, in relation to their employees working at or near the track;
- (c) train operating companies, in relation to their train crews and shunting staff;
- (d) all of the above, in relation to persons who are not their employees but to whom they owe a duty of care under the HSW Act, for example to self-employed contractors and contractors' employees; and
- (e) self-employed persons at work on a transport system, who owe a duty for their own safety.

7

## Regulation 8

### Exemptions

#### Regulation

(1) Subject to paragraph (2) and to any Community obligation of the United Kingdom the Health and Safety Executive may, by a certificate in writing, exempt any person or class of persons from any requirement imposed by these Regulations and any such exemption may be granted subject to conditions and to a limit of time and may be revoked by a further certificate in writing at any time.

(2) The Health and Safety Executive shall not grant any such exemption unless, having regard to the circumstances of the case, and in particular to -

- (a) the conditions, if any, which it proposes to attach to the exemption; and

8

## Regulation

8

- (b) *any other requirements imposed by or under any enactment which apply to the case,*

*it is satisfied that the health and safety of persons who are likely to be affected by the exemption will not be prejudiced in consequence of it.*

(3) *Subject to any Community obligation of the United Kingdom, the Secretary of State for Defence may, in the interests of national security, by a certificate in writing exempt any person or class of persons from the requirements of these Regulations and any such exemption may be granted subject to conditions and to a limit of time and may be revoked by the said Secretary of State by a further certificate in writing at any time.*

## Guidance

8

58 Regulation 8 allows HSE to exempt a duty holder (or class of duty holder) from any of the duties in the Regulations, with or without time limit or conditions. A duty holder who wishes to seek exemption should contact HSE. Before granting an exemption (which must be by certificate in writing), HSE must satisfy itself that the exemption will not prejudice health and safety.

## Regulation 9

### Defence

## Regulation

9

(1) *In any proceedings for an offence for a contravention of any of the provisions of these Regulations it shall be a defence for the person charged to prove -*

- (a) *that the contravention was due to the act or default of another person not being one of his employees (hereinafter called "the other person"); and*
- (b) *that he took all reasonable precautions and exercised all due diligence to avoid the contravention.*

(2) *The person charged shall not, without leave of the court, be entitled to rely on the defence referred to in paragraph (1) above unless, within a period ending seven clear days -*

- (a) *before the hearing to determine mode of trial, where the proceedings are in England or Wales; or*
- (b) *before the trial, where the proceedings are in Scotland,*

*he has served on the prosecutor a notice in writing giving such information identifying or assisting in the identification of the other person as was then in his possession.*

(3) *Where a contravention of any of the provisions of these Regulations by any person is due to the act or default of some other person, that other person shall be guilty of the offence which would, but for any defence under this regulation available to the first-mentioned person, be constituted by the act or default.*

## Guidance

9

59 Regulation 9 provides a defence against a charge of failing to comply with these Regulations, in a case where someone else (but not an employee of the defendant) was to blame and the duty holder had taken all reasonable precautions and exercised all due diligence to avoid an offence. This defence may be relevant in a case where, for example, equipment was not in place or working properly because of neglect on the part of a maintenance contractor or a malicious act - though whether such events would absolve the duty holder from blame would depend on the circumstances. The defendant is required by regulation 9(2) to give the prosecutor any information he or she may have to

help identify the person who was to blame. Regulation 9(3) ensures that if the operator establishes a defence under regulation 9(1) the person who was to blame could then be prosecuted under section 36 of the HSW Act.

## Regulation 10

### Regulation

10

## Transfer of functions from the Secretary of State to the Health and Safety Executive

- (1) Any reference to the Secretary of State in -
- (a) sections 41 (other than sub-section (1)) and 45 of the 1992 Act; and
  - (b) the 1994 Regulations,

shall have effect as if it were a reference to the Health and Safety Executive.

(2) Any approval, dispensation, notice or written consent granted or given under the 1994 Regulations or direction given under section 45 of the 1992 Act, by the Secretary of State, prior to the coming into force of these Regulations, shall have effect as if it had been granted or given, as the case may be, by the Health and Safety Executive.

### Guidance

10

60 The effect of regulation 10 is to transfer to HSE the Secretary of State for Transport's previous functions in relation to the approval of new and altered works, plant and equipment and the giving of directions in relation to maximum speed or weight. Since these functions are already exercised by HSE under delegated authority, existing practice will not be significantly affected.

## Regulation 11

### Regulation

11

## Amendments to the Health and Safety (Enforcing Authority) Regulations 1989

The Health and Safety (Enforcing Authority) Regulations 1989 shall be amended by -

- (a) in regulation 2 -
  - (i) the substitution of the following for the definition of "railway"-  
"“railway” means a railway or tramway with (in either case) a gauge of 350 millimetres or more or a prescribed system of guided transport;”;
  - (ii) the addition of the following after the definition of "preparation dangerous for supply"-  
"“prescribed system of guided transport” means a system using a mode of guided transport prescribed by regulation 3 of the Railways and Other Transport Systems (Approval of Works, Plant and Equipment) Regulations 1994;”;
- (b) in regulation 3 -
  - (i) the substitution of the following paragraph for paragraph (5)-  
“(5) Notwithstanding paragraph (3), the Executive shall be the enforcing authority for the common parts in a railway station or terminal or in a goods yard which is served by a railway.”;
  - (ii) the deletion of paragraph (6).

## Guidance

11

61 Regulation 11 amends certain provisions in the Health and Safety (Enforcing Authority) Regulations 1989, which allocate responsibility for enforcing health and safety legislation in certain premises to local authorities. Normally the enforcing authority for the 'common parts' of premises, that is parts which are used in common by different occupiers of premises, is the local authority. However, regulation 3(5) of the 1989 Regulations makes special provision for railways so that the 'common parts' of a station, terminal or goods yard are subject to HSE enforcement. That provision originally applied only to specified major railways such as British Rail, but will now be extended to all railways, tramways and prescribed systems of guided transport. A separate provision for other (minor) railways, under which the whole of the premises including any separately occupied parts and common parts were subject to HSE enforcement (regulation 3(6) of the 1989 Regulations), has been deleted. Thus, all railways, tramways etc are now subject to the same arrangements: any separately occupied offices or shops at stations, terminals and goods yards will be subject to local authority enforcement, but the common parts will be subject to HSE enforcement.

## Regulation 12

### Regulation

12

## Repeals and revocations

(1) *The enactments specified in column 1 of Part I of the Schedule shall be repealed to the extent specified in the corresponding entries in column 2.*

(2) *The instruments specified in column 1 of Part II of the Schedule shall be revoked to the extent specified in the corresponding entries in column 2.*

### Guidance

12

62 The Regulations repeal or revoke a significant number of provisions which are either replaced by the new duties in regulations 3 to 7, or are no longer necessary because of more recent provisions under the HSW Act concerning, for example, the establishment of accident investigations.

63 A small number of provisions pre-dating the HSW Act, relating to railways in factory, mine and quarry premises, remain in force. All these provisions are listed at Appendix 2.

## Schedule

## Repeals and revocations

### Regulation 12

#### Part I

<i>Column 1 Enactment</i>	<i>Column 2 Extent of repeal</i>
The Highway (Railway Crossings) Act 1839	In section 1, the words from “and any complaint” to the end. Section 2.
Railway Regulation Act 1842	Section 10.*
Regulation of Railways Act 1868	Section 22.*
Regulation of Railways Act 1871	The whole Act.*
Regulation of Railways Act 1889	Sections 1 and 4.*
Railway Employment (Prevention of Accidents) Act 1900	The whole Act.*
Transport Act 1968	Section 125.
Transport and Works Act 1992	Section 42.

#### Part II

<i>Column 1 Instrument</i>	<i>Column 2 Extent of revocation</i>
The Prevention of Accidents Rules 1902	The whole Rules.*
The Locomotives and Wagons in Lines and Sidings) Regulations 1906	Regulations 1 and 2, 5 to 7 and (Used 9 to 19.
The Prevention of Accidents Rules 1907	The whole Rules.*
The Prevention of Accidents Rules 1911	The whole Rules.*
The Coal and Other Mines (Sidings) Regulations 1956	Regulations 2(2) to 5 and 7 to 20.
The Quarries (General) Regulations 1956	Regulations 24 to 26, 27 (2) to (5), 28 to 35.

\* to the extent that they relate to Great Britain

## Appendix 1

### Meaning of 'railway', 'street', 'tramway' and 'prescribed system of guided transport'

The above terms which are used in the Railway Safety (Miscellaneous Provisions) Regulations are defined in regulation 2(1) by reference to certain other legal provisions. To establish the meaning of the terms it is therefore necessary to refer to those other legal provisions which are set out below.

#### Railway

'Railway' has the same meaning as in section 67(1) of the Transport and Works Act 1992, which states:

*"railway" means a system of transport employing parallel rails which -*

- (a) provide support and guidance for vehicles carried on flanged wheels, and*
- (b) form a track which either is of a gauge of at least 350 millimetres or crosses a carriageway (whether or not on the same level),*

*but does not include a tramway.'*

#### Tramway

'Tramway' has the same meaning as in section 67(1) of the Transport and Works Act 1992, which states:

*"tramway" means a system of transport used wholly or mainly for the carriage of passengers and employing parallel rails which -*

- (a) provide support and guidance for vehicles carried on flanged wheels, and*
- (b) are laid wholly or mainly along a street or in any other place to which the public has access (including a place to which the public has access only on making a payment).'*

#### Street

'Street' has the same meaning as in section 67(1) of the Transport and Works Act 1992, which states:

*"street" means -*

- (a) in England and Wales, a street within the meaning of section 48 of the New Roads and Street Works Act 1991, together with land on the verge of a street or between two carriageways;*
- (b) in Scotland, a road within the meaning of section 107 of the New Roads and Street Works Act 1991, together with land on the verge of a street or between two carriageways.'*

## **Prescribed system of guided transport**

'Prescribed system of guided transport' means a system using a mode of guided transport prescribed by regulation 3 of the Railways and Other Transport Systems (Approval of Works, Plant and Equipment) Regulations 1994. Regulation 3 of those Regulations prescribes the modes of guided transport described in Schedule 1 of the same Regulations, which is reproduced below.

### **Schedule 1 Prescribed modes of guided transport**

#### ***PART I The modes***

1. *Magnetic levitation*
2. *Monorail*
3. *Road-based with cable guidance*
4. *Road-based with rail guidance*
5. *Road-based with side guidance*
6. *Track-based with side guidance*

#### ***PART II Interpretation***

1. *In this Schedule -*

*"magnetic levitation" means a mode in which the vehicles are supported and guided by means of magnetic force;*

*"monorail" means a mode in which the vehicles are supported and guided wholly or mainly by means of a single rail or beam;*

*"road-based with cable guidance" means a mode in which the vehicles are -*

- (a) *capable of operating on a road; and*
- (b) *guided wholly or mainly by means of a cable, wire or other device which is not in direct physical contact with the vehicles;*

*"road-based with rail guidance" means a mode in which the vehicles are -*

- (a) *capable of operating on a road; and*
- (b) *guided wholly or mainly by means of a single rail or slot;*

*"road-based with side guidance" means a mode in which the vehicles are -*

- (a) *capable of operating on a road; and*
- (b) *guided wholly or mainly by means of wheels bearing outwards against fixed apparatus; and*

*"track based with side guidance" means a mode in which the vehicles are -*

- (a) *supported by means of a track or other structure not being a road; and*
- (b) *guided wholly or mainly by means of wheels bearing outwards against fixed apparatus.*

2. *In this Schedule, references to "mode" are to be construed as a mode of guided transport which employs vehicles used wholly or mainly for the carriage of passengers and "road" has the same meaning as in the Road Traffic Regulation Act 1984.*

## Appendix 2

### **Pre-HSW Act railway safety requirements remaining in force**

A number of safety provisions pre-dating the HSW Act which concern railways in factory premises and at mines and quarries remain in force after the repeals and revocations brought about by the Railway Safety (Miscellaneous Provisions) Regulations. These are as follows.

#### **Railways in factory premises**

##### ***Locomotives and Waggons (Used on Lines and Sidings) Regulations 1906***

###### Regulation 3:

“Lines of rails and points shall be periodically examined and kept in efficient order having regard to the nature of the traffic.”

###### Regulation 4:

“Every gantry shall be properly constructed and kept in proper repair. It shall have a properly fixed structure to act as a stop-block at any terminal point; and at every part where persons employed have to work or pass on foot there shall be a suitable footway, and if such footway is provided between a line of rails and the edge of the gantry the same shall, so far as is reasonably practicable, having regard to the traffic and working, be securely fenced at such a distance from the line of rails as to afford a reasonably sufficient space for such persons to pass in safety between the fence and a locomotive, waggon or load on the line of rails.”

###### Regulation 8:

“The mechanism of a capstan worked by power and used for the purpose of traction of waggons on a line of rails shall be maintained in efficient condition and if operated by a treadle such treadle shall be tested daily before use.”

###### Regulation 20 (a) and (b):

- “(a) The space immediately around such a capstan as mentioned in regulation 8 shall be kept clear of all obstruction.
- (b) Such a capstan shall not be set in motion until signals have been exchanged between the man in charge of the capstan and the man working the rope or chain attached to it.”

Note: The preamble to the Regulations (definitions etc) is also kept in force. Regulations 20(c) and 21, which set minimum ages for capstan operators, locomotive drivers and shunters, have been revoked by the Health and Safety (Young Persons) Regulations 1997.

#### **Railways above ground at mines**

##### ***Coal and Other Mines (Sidings) Regulations 1956*** (part of the Coal and Other Mines (Sidings) Order 1956)

###### Regulation 2(1):

“The manager of every mine at which trains are run on a line for the conveyance of workmen shall ensure that each such train accompanied by, and all persons therein are in the charge of, a competent person appointed by him.”

Regulation 6:

“The manager of every mine shall make and secure the efficient carrying out of arrangements whereby (except in the case of a vehicle being moved by a railway company) no vehicle is moved on a line otherwise than under the charge of a competent person appointed by the manager for that purpose.”

Note: Regulations 1 and 22 (application and interpretation) are also kept in force. Regulation 21, which sets minimum ages for locomotive drivers and shunters, is currently (March 1997) in force but is expected to be revoked in due course.

**Railways below ground at mines**

*Coal and Other Mines (Locomotives) Order 1956*

The whole Order

**Railways at quarries**

*Part III of the Quarries (General) Regulations 1956* (part of the Quarries Order 1956)

Regulation 27(1):

“The appropriate person shall take steps to secure that (except in the case of a vehicle being moved by a railway company) no vehicle is moved on a line otherwise than under the charge of a competent person appointed by the appropriate person for that purpose.”

Note: Part III consists of regulations 23 to 36 of the 1956 Regulations. Regulation 23 (application) is also kept in force. Regulation 36, which sets minimum ages for locomotive drivers and shunters, is currently (March 1997) in force but is expected to be revoked in due course.

## Appendix 3

### Further reading

*Guide to the approval of railway works, plant and equipment* L59 HSE Books 1994  
ISBN 0 7176 0741 0

*Railway safety principles and guidance Part 1* HS(G)153/1 HSE Books 1996  
ISBN 0 7176 0712 7

*Railway safety principles and guidance Part 2 Section A Guidance on the infrastructure* HS(G)153/2 HSE Books 1996 ISBN 0 7176 0949 9

*Railway safety principles and guidance Part 2 Section B Guidance on stations*  
HS(G)153/3 HSE Books 1996 ISBN 0 7176 0713 5

*Railway safety principles and guidance Part 2 Section C Guidance on electric traction systems* HS(G)153/4 HSE Books 1996 ISBN 0 7176 0711 9

*Railway safety principles and guidance Part 2 Section D Guidance on signalling*  
HS(G)153/5 HSE Books 1996 ISBN 0 7176 0953 7

*Railway safety principles and guidance Part 2 Section E Guidance on level crossings*  
HS(G)153/6 HSE Books 1996 ISBN 0 7176 0952 9

*Railway safety principles and guidance Part 2 Section F Guidance on trains* HS(G)  
153/7 HSE Books 1996 ISBN 0 7176 0868 9

*Railway safety principles and guidance Part 2 Section G Guidance on tramways*  
HS(G)153/8 ISBN 0 7176 0951 0 (Due out in 1997)

*Railway safety principles and guidance Part 2 Section H Guidance on heritage railways* HS(G)153/9 ISBN 0 7176 0950 2 (Due out in 1997)

