

# HS2020 - Managing health and safety at passenger-carrying miniature railways

Guidance for operators of passenger-carrying miniature railways



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# Preface

The Passenger Carrying Miniature Railway Safety Group (PCMRSG), has drafted this new guide for managing health and safety of passenger-carrying miniature railways.

Following the guidance is not compulsory and you are free to take other action. If you do follow the guidance you will normally be doing enough to comply with the law.

The group comprises representatives from;

## Associations/Federations

- Britain's Great Little Railways,
- Midland Federation of Model Engineers
- Northern Association of Model Engineers
- Southern Federation of Model Engineering Societies
- The Heywood Society
- 7¼" Gauge Society
- 10¼" Gauge Railway Society

## Businesses

- Cromar-White
- Denver Light Railway
- National Railway Museum
- Rother Valley Country Park Railway
- Walker Midgley Insurance Brokers

The list of businesses above is solely of those who actively participated in the drafting of this Guide. Other suppliers of goods and services are available. No recommendation of the work or services offered by them is intended, nor is any implication or guarantee of quality of the work or service.

PCMRSG are indebted to the Health and Safety Executive (HSE) for their support and encouragement throughout the drafting of this guidance and are delighted to have received the following endorsement from them.

*"The Health and Safety Executive (HSE) was involved with Passenger Carrying Miniature Railway Safety Group in producing this guidance. HSE endorses the guidance, as it follows a sensible and proportionate approach to managing health and safety."*



# Managing health and safety at passenger-carrying miniature railways

Across the UK there is strong interest in miniature railways. It is important that the operators of passenger-carrying miniature railways manage the health and safety of all involved with this popular leisure activity providing enjoyment for participants, passengers and visitors alike.

Accidents are not prevented by written words. The incidence and consequences of accidents are minimised by people exercising their intelligence, knowledge, competence and imagination in considering and reducing the potential for harm in any activity.

This guide outlines the main risks of passenger-carrying miniature railways and some of the steps that can safeguard the health and safety of employees, operational staff, passengers and visitors, and contains practical advice for operators organising or managing passenger-carrying miniature railways.

Health and safety aspects covered include safety management, competency of those involved, layout and design of a railway, the track system, platforms, locomotive and rolling stock design, the control of train movements, level crossings, inspection, maintenance, record keeping, service area safety, noise, safe use of equipment, manual handling, hazardous materials and fire and electrical safety.

This guide contains;

- explanations of what the guidance is about, what is required to comply with the law and what action you should take and why,
- a logical structure that aims to help the reader to scan, understand and assimilate the content,
- links to legislation and further information and guidance.

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# Introduction

## About this guidance and who it is for

1. This guidance is aimed at helping organisers and operators of passenger-carrying miniature railways to understand what they need to do to comply with the Health and Safety at Work etc Act 1974 (the HSW Act) and the regulations made under it. (Ref <sup>1</sup>)
2. Private clubs and operations run by volunteers may not fall under the HSW Act and the regulations made under it, but they still have a duty of care to protect the public, their members and visitors. Failure to do so may result in civil action. In general, the same health and safety standards should be applied to voluntary workers as they would to employees exposed to the same risks. However, if the risk assessment shows that the risks to voluntary workers are different, the preventative and protective measures taken should reflect the different risks.
3. This guide will help with the safe operation at permanent venues such as private clubs and commercial miniature railway attractions or at temporary venues such as portable tracks erected for fairs, garden parties and festivals. It will help organisers to minimise risks in a proportionate way, which does not unduly restrict participation in this leisure activity.
4. This guide is for track gauges up to 350mm (13<sup>3</sup>/<sub>4</sub>" ) that do not cross a public highway. Track gauges of 350mm (13<sup>3</sup>/<sub>4</sub>" ) and above, or those less than 350mm that cross a public highway, fall within the jurisdiction of the Office of Rail and Road (ORR). Very small gauges, up to about 63.5mm (2<sup>1</sup>/<sub>2</sub>" ), are not commonly used for passenger-carrying trains, though there may be exceptions. Very small gauges used for passenger carrying should follow the guidance.

# Managing for Health and Safety

## Getting started

5. As an operator you have a duty to make sure, so far as reasonably practicable, that employees, operational staff, volunteers, passengers, visitors, members of the public and others, are not exposed to risks to their health and safety arising from your operation. You also need to understand what is required in law and how risks can be minimised.
6. This process is driven by Risk Assessments and suitably competent personnel to monitor your Health and Safety performance in accordance with your risk assessment. Your policies should clearly define responsibilities and state who does what, how and when. The Risk Assessment will inform your Safety Plan. This plan may be called a Rule Book, Code of Practice or Bye Laws for safe operation, that clearly brings all the operational elements together in one place.
7. A safety management system will help you demonstrate you are meeting your duties. You will find general guidance on managing for health and safety in the Health and Safety Executive (HSE) guidance "Plan, Do, Check, Act (PDCA) - An introduction to managing for health and safety". (Ref <sup>2</sup> )
8. If you are not confident of your ability to manage all design, construction and health and safety matters in-house you should consider seeking external help or advice. See Useful contacts on page 27.

## Risk assessments and Safety Plan

9. As an operator of a site, identify the;
  - (a) size, type and scope of the operation,
  - (b) number of operational staff, volunteers, passengers, visitors and others,
  - (c) location and duration of the operation,
  - (d) time of day and year of the operation (as the weather or running in the dark may be significant factors),
  - (e) the type(s) of motive power,
  - (f) the layout of the site.
10. Once you have identified the nature and scope of your operation, you should create a safety plan for the safe operation based on an assessment of the risks.
11. If the operation is to take place on a temporary site, the owner of the land is responsible for advising organisers of hazards that are to do with the land, such as buried services or overhead electrical cables.

## Producing risk assessments

12. As part of managing health and safety at your railway, you must assess and control the risks. To do this you need to think about what might cause harm to anyone within your site and decide whether you are doing enough to avoid harm as far as is reasonably practicable. This process is known as risk assessment and it is something duty holders are required by law to carry out.
13. A risk assessment is about identifying and taking sensible and proportionate

measures to control the risks at your operation, not about creating huge amounts of paperwork.

14. Be aware that the safety precautions for passenger-carrying miniature railway operations will vary widely according to the gauge and layout of the railway. For example, a large-gauge railway running on a permanent track will have different requirements to those for a small-gauge running on a temporary track.
15. Think about how accidents are likely to occur and concentrate on real risks - those that are most likely and which will cause the most harm.

The following might help:

- (a) think about your railway operation, and any processes or substances used that could either injure employees, operational staff, volunteers, passengers, visitors or others, or harm their health,
  - (b) ask your team what they think the risks are as they may notice things that are not obvious to you and may have some good ideas on how to control the risks. Speaking to other railway operators can also be helpful,
  - (c) recognise that some, operational staff or volunteers may have particular requirements, e.g. new or young staff, new or expectant mothers, people with disabilities, temporary workers and contractors, may be at particular risk,
  - (d) recognise also that the behaviour of visitors can be unpredictable. Risk assessment should include consideration of the risks of carrying all age groups,
  - (e) consider what could happen to infants, babes in arms, unaccompanied children or those who may be less able to brace themselves with hands or feet in the event of a jolt or an incident while on the train,
  - (f) consider also the risks associated with the presence of pets around the railway and on the train. The reaction of animals to sudden noise or movement is unpredictable, potentially adding to risks on platforms and on the train if allowed to accompany passengers,
  - (g) further advice and guidance may be available from one of the PCMRSG member organisations listed at the front of this document.
16. Having identified the hazards, you then must decide how likely it is that harm will occur. Risk is a part of everyday life and you are not expected to eliminate all risks. What you must do is make sure you know about the main risks and the things you need to do to manage them responsibly. Generally, you need to do everything reasonably practicable to protect people from harm.
  17. Make a record of your significant findings - the hazards, how people might be harmed by them and what you have in place to control the risks. Share this with your team.
  18. Risk assessments should set out the frequency of checks, who is responsible for them and the methods they should use.
  19. You can find more guidance on the risk assessment process at [www.hse.gov.uk/risk](http://www.hse.gov.uk/risk) (Ref <sup>22</sup>)

## Safety plan

20. The risk assessments form the basis of your safety plan.
21. The safety plan collects together the findings of the risk assessments and consolidates them into a single place, e.g. Rule Book, Code of Practice or Bye Laws, that introduces procedures to control the hazards identified in the risk assessment.

## Incidents and emergencies

22. Your safety plan should include procedures to respond effectively to accidents and other emergencies. Consider the use of appropriate signage in key locations giving a summary of what to do in the event of an emergency.
23. Procedures should be in proportion to the level of risk presented by operational activities and the potential extent and severity of an incident.
24. Accidents and injuries should be recorded in a book kept solely for that purpose.

## Emergency procedures

25. Emergency procedures should address the basic requirements, for;
  - (a) protecting everyone from immediate danger,
  - (b) warning other trains (you may need to suspend all or part of railway operations according to the situation),
  - (c) protecting and informing anyone directly affected,
  - (d) management of all personnel, including those with disabilities, within the railway and their evacuation where necessary,
  - (e) the use and control of rescue trains must be carefully managed so as not to compromise the safety of other operations,
  - (f) summoning the emergency services if required,
  - (g) liaison with the emergency services and other authorities.
26. Appoint people to implement your emergency procedures.
27. Make sure that all relevant personnel, no matter what their normal role, understand what they should do in an emergency, e.g. how to raise the alarm or warn participating trains, and whose instructions they should follow. It may be useful to have training exercises to allow those involved to practise their roles.

# Design and construction considerations

## General

Because of the interaction between the various elements, the overall design and construction of the railway should be viewed in its entirety.

## Construction (Design and Management) Regulations

28. The Construction (Design and Management) Regulations (CDM) apply to construction projects (including, for example, refurbishment and demolition).
29. The regulations place duties on clients, designers and contractors, and require suitable management arrangements to be in place for construction work from concept to completion.
30. Whatever your organisation's role in a construction project, CDM aims to improve health and safety in the industry by helping your organisation to:
  - (a) sensibly plan the work so the risks involved are managed from start to finish,
  - (b) have the right people for the right job at the right time,
  - (c) cooperate and coordinate your work with others,
  - (d) have the right information about the risks and how they are being managed,
  - (e) communicate this information effectively to those who need to know,
  - (f) consult and engage with workers about the risks and how they are being managed.
31. Most passenger-carrying miniature railways will act as clients which is defined in CDM, as an organisation or individual for whom a construction project is carried out.
32. Although you are not expected to actively manage or supervise the work yourself, you have a big influence over the way the work is carried out. Whatever the size of your project, you decide which designer and contractor will carry out the work and how much money, time and resource is available.
33. You should make suitable arrangements for managing a project. This includes making sure:
  - (a) other duty holders are appointed,
  - (b) sufficient time and resources are allocated.
34. Make sure:
  - (a) relevant information is prepared and provided to other duty holders;
  - (b) the principal designer and principal contractor carry out their duties;
  - (c) welfare facilities are provided
35. The decisions you make have an impact on the health, safety and welfare of workers and others affected by the work.
36. HSE produce a publication that is aimed at building owners, users or managing agents who are having maintenance, small-scale building work or other minor works carried out in and details the legal duties of a client under the Construction (Design and Management) Regulations 2015 (CDM 2015).  
<http://www.hse.gov.uk/pubns/indg411.pdf>
37. For further information relating to construction, visit HSE's CDM webpages

## Track layout

38. The layout and design of the track should be suitable for the type of operation that is planned. You should consider the following when you design or select a location or route;
- (a) the types of trains to be used,
  - (b) the location of features such as curves and gradients,
  - (c) the type and position of pointwork needs to be carefully considered,
  - (d) the requirements for fencing and barriers,
  - (e) bridges and viaducts should be strong enough to bear the weight of fully loaded trains. Where walkways and handrails are provided, they need to be strong enough to bear the weight of the likely number of people who may use them,
  - (f) adequate running clearances between passing trains and to lineside structures or objects including headroom at tunnels, bridges or other overhead structures to avoid accidental contact and personal injuries,
  - (g) emergency offloading of trains in the case of train failure or train operation ceasing,
  - (h) the maximum speeds over different parts of the track,
  - (i) the skill, experience and number of operational staff required.



*An example of a tunnel portal on a 7¼" gauge railway. Note the headroom and clearances.*

## The track system

39. The track system of rails, ballast and supports should be suitable for the type of operation that is planned. You should consider the following when you design or select a track system;
- (a) the suitability of the track gauge for the intended operations,
  - (b) the stability and capability of the track to support the intended trains (e.g. the load-bearing capacity of the track bed, sleepers and rails or the load-bearing capacity of raised track supporting beams),
  - (c) the standards of track installation and maintenance, especially for temporary or portable track, that are required for the safe running of trains,
  - (d) facing points/turnouts need some form of route indication,
  - (e) check rails should be provided in pointwork so that that the wheels are unable to take other than the intended direction of travel,



*An example of a manual point lever indicating the route set on a facing point.*

- (f) the clearances of flangeways and crossings within pointwork need to be compatible with the profile of the wheels in use,
- (g) the stability of passenger carrying vehicles, i.e. the provision of means to reduce the risk of tipping, especially on portable or raised tracks,
- (h) the provision of appropriate drainage to avoid movement of the track foundation during periods of excessively wet weather, including unseasonably heavy rainfall.

## Platforms

40. You should consider the following when you design platforms;
- (a) the length required for the longest train to be operated under normal operating conditions,
  - (b) that wherever practicable they are positioned on straight track with as level gradient as possible,
  - (c) that they are wide enough for the unimpeded movement of passengers at the busiest times. You may also consider control measures to prevent platforms becoming overcrowded, or separate loading and unloading platforms to simplify the flow of passengers,
  - (d) the visibility along the platform for operational staff. Buildings and other objects should be positioned so as not to obstruct visibility or the movement of passengers,
  - (e) the height of the platform to facilitate safe loading and unloading of the carriages,
  - (f) the types and positions of barriers, controlled areas or other arrangements needed to direct the movement of visitors and operational staff.

## Design and construction of locomotives and other rolling stock

41. Vehicles should be suitable for the type of railway that is planned. You should consider the following;
- (a) the wheelset dimensions meet the appropriate design standards, that there is appropriate suspension/springing arrangements to accommodate track irregularities under all conditions of load, the length of the vehicle is compatible with the curvature of the track and the vehicle profile (height and width) are compatible with the available clearances,
  - (b) vehicles are adequately constructed for the intended purpose. Any vehicles intended to carry persons should be stable and have appropriate seating and footrests,
  - (c) the vehicle has adequate means for coupling to other vehicles in the train,
  - (d) the vehicle has adequate braking provisions for parking, normal and emergency braking,
  - (e) a locomotive must have an adequate system of control, taking into account the particular hazards associated with risks of the power source, e.g. electric locomotives running away through failure of the control system or locomotives being left in gear,



*An example of a raised track railway with passenger carrying vehicles  
Photo courtesy of Oxford SME.*

- (f) vehicles that have not run regularly on the track may require a 'fitness to run' examination prior to being allowed on the track,
  - (g) a locomotive, whether powered by steam, battery or internal combustion engine, should have adequate control of emissions to avoid injury or nuisance and the public should be made aware of any residual hazards,
  - (h) a locomotive powered by steam shall be designed, constructed and subsequently operated and maintained in accordance with all relevant pressure system regulations.
42. Electrically powered locomotives/vehicle should be provided with a battery isolator and a safety cut out to prevent uncontrolled movement in the event of a failure of the control system.

## The control of train movements (Signalling)

43. If more than one train is in operation on a miniature railway, a system to prevent conflicting train movements is needed. The system of control needs to be as simple as possible. Where safe operation can be achieved by driving on a line-of-sight basis, a signalling system may not be required.
44. Where train control is by line of sight, train speeds should be controlled so that at all times the train can stop within the line-of-sight.
45. A system for the control of train movements are critical to the safe operation of a railway. The main functions of any control system are to;
- (a) maintain a safe distance between trains,
  - (b) control access to a section of the line,
  - (c) protect against conflicting movements,
  - (d) give indications of the route that has been set.
46. The control system should be suitable for the type of operation that is planned and the choice of control system needs to be supported by an appropriate risk assessment. Control systems that you may consider include;
- (a) tokens, keys or 'staffs' giving authority for access to specific sections of the line,
  - (b) a manual system consisting only of signallers or other operational staff giving trackside hand signals,
  - (c) a manual signalling system consisting of semaphore or colour light signals operated by signallers or other operational staff,
  - (d) an automated or semi-automated signalling system using a train detection system to operate semaphore or colour light signals,
  - (e) two-way radio communication.
47. Bear in mind that a combination of control systems along the railway may be appropriate.
48. Whichever control system(s) is/are selected it is important that all signals return to danger in the event of a failure of the signalling system.
49. You should consider the following when you design or select a manual system using operational staff giving trackside hand signals;
- (a) the skill, experience, training and number of operational staff required to manage the system safely,
  - (b) the locations of trackside signallers needed to provide adequate control.
50. You should consider the following when you design or select a manual signalling system consisting of semaphore or colour light signals operated by signallers or

other operational staff;

- (a) the frequency of trains,
- (b) the gradients and potential stopping distances of loaded trains,
- (c) the maximum permitted speeds at different parts of the track,
- (d) the location of features such as blind curves, sloping ground, trees and other obstructions to sight lines,
- (e) the types of visual indication to be presented to the train crew, including during the hours of darkness or reduced levels of visibility,
- (f) the spacing and location of the visual indications to provide visibility for an adequate warning on the approach to the signal,
- (g) the skill, experience and number of train operating staff,
- (h) the skill, experience and number of route control staff e.g. signallers, station staff and level crossing controllers,
- (i) the locations where trains are likely to stop as part of the normal running, e.g. the position of the train loading and unloading points.

51. In addition to the above when selecting an automated or semi-automated signalling system you should consider the following;

- (a) the type of train detection system to use,
- (b) that train operating staff rely almost entirely on the safe and reliable operation of automated signalling systems,
- (c) the system design, manufacture and installation provides for fail safe operation,
- (d) the system should be thoroughly tested and verified for all expected operating conditions,
- (e) a backup system should be in place to manage train operations when a failure occurs, e.g. manual or hand signalling or consideration of ceasing operations.

## Level crossings

52. Level crossings present high levels of different sorts of risk. It is essential those risks are assessed and well managed. Wherever practicable, an alternative means of crossing the railway should be provided. Where a level crossing has to be provided, you should consider the following;

- (a) the requirements of all the different sorts of user of the crossing, including road vehicle traffic and pedestrians as well as the trains,
- (b) whether the sight lines, signalling, warning signs and protection barriers are adequate for all users of the crossing,
- (c) where the level crossing is of a public highway or right of way such as a bridleway or footpath, you will need to ensure that the protective arrangements stipulated in the Level Crossing Order issued by the ORR are complied with.

53. Further information is available from Railway Safety Publication, “Level Crossings: A guide for managers, designers and operators”, available from the Office of the Rail Regulator [www.orr.gov.uk](http://www.orr.gov.uk) and in the Railway Group Standard, “Level Crossing Interface Requirements GKRT0192” from Rail Safety and Standards Board Ltd. [www.rssb.co.uk](http://www.rssb.co.uk)

### Trackside safety signage

54. Consider the provision of track side signage such as maximum permitted speeds, limited clearances, access prohibition, sound audible warning (whistle or horn), limits of train movement and gradients.



*Examples of line side signal and signage for speed limit and gradient*

# Managing operations of your railway

## Running of your railway

55. Before operations commence there should be a visual inspection of locomotives, driving trucks, coaches, track, platforms and signalling (where provided), including adjacent areas used by the public. A simple checklist will help.
56. Check that new and visiting vehicles are compatible with the railway. (See clause 41 above)
57. A proving run should be undertaken to confirm that all the equipment is in full working order. Details should be recorded and signed for by the designated person responsible for the overall safe operation of the railway.
58. Any moving locomotive must be under direct control at all times. To achieve this, the following should be assessed;
  - (a) that the locomotive is in good running order, with current appropriate certification and suitable for its proposed duties,
  - (b) that the person in control is competent and familiar with the locomotive controls,
  - (c) that there is an adequate braking system, both when stationary and in motion,
  - (d) that there is a suitable and secure coupling system between the locomotive, its tender or driving vehicle and between each vehicle of the train,
  - (e) that there is adequate protection against uncontrolled movement, particularly with the use of any wireless/remote control system,
  - (f) that the person in control has a clear visibility of the track ahead.
59. Other items of rolling stock should be checked for;
  - (a) their fitness to run,
  - (b) their stability, both with and without a full load, and during loading and unloading,
  - (c) adequate system for braking both when stationary and in motion,
  - (d) suitability and condition of any seating, foot boards, step plates and handles.
60. Passengers should be instructed on the safe riding on miniature trains, e.g. to sit upright and keep their feet and arms within the vehicle. Warning notices should also be plainly visible at key points, such as ticket offices, coaches, platforms etc. It may be appropriate to use verbal instruction, which should be repeated frequently, e.g. by pre-recorded announcement, before every train departure.
61. Once the railway opens, attention should move away from planning to the effective management and monitoring of running the railway. There should be a designated person responsible for the overall safe operation of the railway. All relevant persons need to be aware of who this is e.g. by means of a briefing or suitable notice.
62. The designated person should check that there is co-operation and proper co-ordination of all activities on the site. The designated person may delegate some of the responsibilities to other competent persons.

63. To minimise risks to health and safety, appropriate guidance on the operation of the railway should be provided to all relevant persons, as identified by your risk assessment. For example, you may need to tell people about;
- (a) site hazards,
  - (b) safe speeds,
  - (c) what to do in the event of an emergency,
  - (d) first aid, toilets and wash facilities,
  - (e) communication systems,
  - (f) signalling or other means of train control.
  - (g) when specifically authorised, to enter the area to talk to drivers and view their locomotives. Such visitors should be accompanied by a member of the operational staff. You may need to limit the number of people admitted at any one time and the period that they can enter
64. It may also be necessary to provide relevant health and safety information e.g. in the form of warning notices, to operational staff, passengers and visitors. Consider the use of pictograms, particularly where passengers and visitors may be predominately young or not English speakers.

### Competence of operational personnel

65. The competencies of operational staff should be assessed to ensure that they fully understand your operational procedures. These are most likely to be contained in your Rule Book, Code of Practice or Bye Laws.
66. All operational staff should know how to perform their tasks safely and without risks to themselves or others. There should also be an appropriate level of competent supervision, proportionate to the risk, nature of the task and the personnel involved. Operational staff need to be competent to manage the aspects of operation that they are responsible for.
67. Operational staff should undergo regular evaluation to verify that they are competent to undertake the required tasks. Retraining or refreshers may be required for them to remain competent, especially if there are any significant changes to their responsibilities and/or the systems that they are using.
68. Operational staff involved with the movement of trains should undergo regular evaluation to verify that they are familiar with the system for the control of train movements (signalling). Retraining or refreshers may be required for them to remain competent, especially if there are any significant changes to their responsibilities and/or the systems that they are using.
69. Records should be kept of training and competency assessments.
70. Some passenger-carrying miniature railways have a system of progression for driver and guard training. You could also consider giving less experienced operating staff separate running periods.
71. Think about how you will deal with operational staff who fail to comply with instructions and put themselves and/or others at risk. You may have to stop the operation temporarily or replace the member of the operational staff.
72. You may also need to take steps to prevent operational staff from taking part if they are under the influence of alcohol, drugs or health conditions that may impair their ability to perform their duties safely. Anyone who would be unfit to drive a motor vehicle in a public place is unfit to undertake any safety-critical role.

### Monitoring and review of safety performance

73. You should periodically check your methods for controlling risks to make sure they

are working and being followed.

74. For larger operations, a number of people may share the monitoring role. Whoever is the designated person responsible for the overall safe operation of the railway should be familiar with the risk assessment findings, control measures and be able to identify new hazards and assess risks as they arise.

## Maintenance

### Inspection, maintenance and record keeping

75. For any railway to operate reliably and safely, it is important that track, locomotives, rolling stock, control systems, etc. receive adequate maintenance. There should be a planned system of maintenance to include;
  - (a) Inspection,
  - (b) Testing,
  - (c) Lubrication,
  - (d) Cleaning,
  - (e) Adjustment or repair.
76. The frequency of inspection will be determined by the complexity of the individual piece of equipment and frequency of use. Your risk assessments should consider the maximum time acceptable between inspections and the details be included in your Rule Book, Code of Practice or Bye Laws.
77. Inspections should be undertaken by someone who is competent, i.e. someone with adequate knowledge and expertise in relation to the equipment being inspected.
78. Up to date documentation should be kept to aid operational training, maintenance and fault finding. If there is no record of an inspection there is no proof that the inspection ever took place. Checklists will assist those undertaking the inspections to complete all elements of the inspection.
79. Defects identified during inspection should be recorded and arrangements made to remedy the fault. It may be necessary to remove the equipment from use or impose suitable restrictions so that safety is not compromised until such time as a full repair can be completed.
80. Records of inspections should not only include defects found and actions taken, but where no fault is found during a routine inspection, this fact should be recorded as evidence that the prescribed inspection has been undertaken.

### Track

81. Regular inspections of the track should include the following;
  - (a) the condition of the support system to raised tracks and the effectiveness of the system used to attach the track to the support system,
  - (b) that the system used to attach the rails to the sleepers is secure and bolted fasteners, such as fishplates, are secure,
  - (c) the alignment of ground level tracks particularly where prone to movement during hot weather or heavy rainfall,
  - (d) that the gauge and cant or cross-level of the track is within design tolerances,
  - (e) that switch rails of points/turnouts are fully “home” in both normal and reverse settings. This is particularly important at facing points/turnouts,
  - (f) the gauge of the track should be maintained through any points in either

direction,

- (g) check for signs of damage on check and wing rails in points/turnouts. This may indicate that non-compatible wheelsets are in use or the presence of wide gauge trackwork.

### ***Locomotives and rolling stock***

- 82. To assist with the management of inspection and maintenance records, you should consider a numbering system that uniquely identifies vehicles and major interchangeable sub-assemblies e.g. bogies.
- 83. Locomotives and rolling stock should be inspected for general wear and any signs of damage that may impair safe operation.
- 84. Steam locomotives are subject to both initial and subsequent regular testing of the boiler and other pressure components according to the requirements of the Pressure Equipment Regulations (PER) and the Pressure Systems Safety Regulations (PSSR) (See <sup>4</sup> and <sup>5</sup> in References and further reading)
- 85. It is your responsibility to verify that pressure vessels have valid certification for operation. (Ref <sup>6</sup>)

### ***Control systems***

- 86. All equipment used for the control of trains, either fixed or portable, should be checked for correct operation at the intervals determined by your risk assessment.
- 87. Where lineside signals or indications are installed in areas where bushes or trees are growing, adequate visibility of the signal by the train driver should be confirmed.
- 88. Backup equipment should also be verified as ready for use.

### ***Other infrastructure***

- 89. The correct operation of all equipment associated with a level crossing must be verified at the interval determined by your risk assessments.
- 90. Platform areas should be checked for the presence of trip and slip hazards.
- 91. Bridges, tunnels and other lineside buildings should be inspected for any signs of degradation that may affect the stability of the structure or the passage of a train.
- 92. Other items of the infrastructure, such as clearances, fences, track side signs etc. should be regularly inspected and confirmed as being satisfactory.

# Staff and visitor safety

## Personal safety

93. Be proportionate in your approach to managing visitors. Tailor your safety measures to the number and type of visitors you expect and to the layout of the venue/railway. For example, a public open day is likely to attract more visitors than a private society-organised meeting and so may require more in the way of management. Previous attendance figures and experience should help you to evolve and plan your approach.
94. You should provide visitors with appropriate information to help safeguard their health and safety. For example, it is a good idea to provide information about the risks associated with passenger-carrying miniature railways on websites and notices around the railway.
95. Operational staff may need to communicate with people, especially if there is an incident or emergency. If you plan to use a public-address system or loud hailer it is important that it is audible and intelligible to the target audience.
96. All areas where public, staff, operators and volunteers have access should be checked at intervals identified in the risk assessments, for both trip and slip hazards. Where such hazards are identified arrangements should be made promptly to make the area safe.

## Regulated areas

97. You will need to take reasonable steps to reduce the risks to visitors and operational staff from moving trains. Your risk assessment may identify areas of the operational railway where access by visitors and/or operational staff should be regulated. You may like to consider the following;
  - (a) Prohibited areas - where both operational staff and visitors are prevented from entering while trains are in operation,
  - (b) Restricted areas - open to operational staff but restricted to visitors unless authorised and accompanied by a member of the operational staff,
  - (c) Controlled areas close to the operational railway, open to visitors under the control of operational staff.

### *Prohibited areas*

98. When trains are moving you may decide to prohibit access to locations with limited clearance or visibility. These may include;
  - (a) tunnels,
  - (b) bridges,
  - (c) blind curves,
  - (d) cuttings or embankments.

Such areas should be clearly marked, e.g. by warning notices but you may also consider providing stewards to direct and inform people, and to prevent them from entering prohibited areas. Stewards should be easily identifiable (e.g. wearing name badge or club shirt)

### *Restricted areas*

99. Your risk assessment may identify areas where access by visitors should be restricted. During your planning you should consider appropriate methods for

restricting visitor access to;

- (a) locomotive and rolling stock unloading and loading facilities,
- (b) locomotive preparation areas,
- (c) boiler blow down and ash pit areas,
- (d) turntables,
- (e) running tracks,
- (f) workshops,
- (g) operational control locations such as signal boxes

Appropriate control methods could include fences/barriers, stewards and/or notices.

### **Controlled areas**

- 100. Your risk assessment may also identify areas where access is allowed under controlled conditions. During your planning you should consider the appropriate method for controlling visitor access to,
  - (a) platforms,
  - (b) level crossings,
  - (c) viewing areas.
- 101. At places where members of the public may not be aware that a railway is operating, such as across a path, you should decide on the most appropriate method of control. It could be by signs, temporary barriers, the posting of operational staff along the path and/or instructions to drivers on what to do when approaching members of the public. Control could be by an audible whistle/horn and the driver being prepared to bring the train to a halt if necessary. You may also wish to consider speed limits in such areas.
- 102. The choice of any physical barrier or fence will depend on a number of factors, including;
  - (a) the distance from the track,
  - (b) restriction of a drivers view of any signals or the track ahead,
  - (c) the condition and levels of the ground on each side of the barrier or fence.

### **Locomotive preparation area safety**

- 103. Key hazards in locomotive service areas include moving trains, slip or trip hazards, ash pits, hot objects and the presence of flammable fuel.
- 104. Normally, only operational staff should be permitted to enter the area.
- 105. Your procedures should cover safety and operational briefing of drivers and visiting participants about the system used for the control of train movements.

## Use and storage of fuel

106. Gas or liquid fuels are fire and explosion hazards and must be handled and stored in accordance with applicable regulations. This is particularly important in the vicinity of locomotives in steam or other naked flame. You should have a system of safety precautions to deal with incidents that might occur when refuelling is taking place or where fuel is being stored.
107. At most small operations, individual participants bring their own fuel in small containers. Participants should be advised that fuel must be only be carried in containers required by applicable regulations. To help with identification, liquid fuel containers should be appropriately marked. The transportation of small quantities of flammable liquids is covered by HSE Guidance, "Portable petrol storage containers" (Ref <sup>8</sup> )
108. Because of the risks, storing petrol safely is covered by legislation and this applies to you if you store petrol. The regulations (Ref <sup>20</sup> ) apply to;
  - (a) workplaces that store petrol where petrol is dispensed directly into the tank of a vehicle with an internal combustion engine, i.e. retail and non retail petrol filling stations,
  - (b) non-workplace premises storing petrol, for example at private homes, or at clubs/associations (or similar).
109. Guidance on the storing of petrol is available is available from the HSE (Ref <sup>19</sup> )
110. Refuelling with flammable fluids is potentially dangerous and should be undertaken in a designated area adequately ventilated and away from sources of ignition such as hot surfaces or sparks produced by tools. It is essential that the areas where fuel is handled are kept clean and free from rubbish. Appropriate fire-fighting equipment should be maintained in such areas and operational staff should be competent to use it.

## General fire safety

111. Those providing venues for public events also have legal duties under the Regulatory Reform (Fire Safety) Order 2005, which applies in England and Wales. In Scotland, requirements on general fire safety are covered in Part 3 of the Fire (Scotland) Act 2005, supported by the Fire Safety (Scotland) Regulations 2006. The legislation requires a responsible person to assess the risk from fire to those using the premises and to make sure that the fire safety measures in place are suitable to protect lives in the event of a fire.
112. Where the railway is within another venue, operation organisers should discuss with the venue owner or other responsible person, what fire safety arrangements are in place and make sure they know what to do should a fire break out. This should link to your plans for dealing with incidents and emergencies.
113. At most workplaces the local fire and rescue authority is responsible for enforcing general fire safety and if you need advice you should contact them. The Department for Communities and Local Government, Scottish and Welsh governments will provide similar information to help you meet your responsibilities.

## Noise

114. The Control of Noise at Work Regulations 2005 (NAWR) require employers to prevent or reduce the risks to health and safety from exposure to noise at work. They require an employer to:
- (a) assess the risks to employees from exposure to noise at work,
  - (b) take action to reduce the noise exposures that produce those risks,
  - (c) put in place specific measures at the specified action levels in the legislation and make sure the limits for noise exposure are not exceeded,
  - (d) provide employees with hearing protection if you cannot reduce the noise exposure enough by using other methods,
  - (e) provide your employees with information, instruction and training,
  - (f) carry out health surveillance where there is a risk to health.
115. The Control of Noise at Work Regulations 2005 (NAWR) (Ref <sup>9</sup>) require you to take reasonable steps to protect your employees from noise that could damage their hearing. The duties in NAWR, while not directly applying to volunteers or visitors, extend the general duties set out in the HSW Act which require the safeguarding of the health and safety of people who are not your employees, e.g. voluntary staff and visitors.
116. Exposure to noise may have safety implications other than direct hearing damage. You should consider the following aspects of noise from your operation;
- (a) Sudden noises, e.g. a whistle or safety valve operating may startle nearby persons, especially young children, causing them to react,
  - (b) such reactions may result in the person falling or dropping items being carried or jumping and injuring a nearby person or themselves,
  - (c) A succession of noises from an operation may cause nuisance to neighbours, especially if they occur frequently,
  - (d) The use of locomotive and guard whistles and PA systems should be restricted to the essential requirements for safe operation and the area and duration of the activity.
117. Hearing protection should not be used as an alternative to controlling noise.
118. Some people attend passenger-carrying miniature railway operations regularly and will be at greater risk of long-term damage due to repeated or continual exposure periods. If your risk assessment indicates that there is a risk to health for employees exposed to noise, they should be placed under appropriate health surveillance (regular hearing checks).
119. For further information, visit HSE's noise webpages: [www.hse.gov.uk/noise](http://www.hse.gov.uk/noise)

## Manual handling

120. Manual handling activities are defined as the transporting or supporting of loads by hand or by bodily force and cause over a third of all workplace injuries. These include work-related musculoskeletal disorders (MSDs) such as pain and injuries to arms, legs and joints and repetitive strain injuries of various sorts.
121. The Manual Handling Operations Regulations 1992 (MHOR) require employers to manage, control and reduce the risk of injury from manual handling by;

- (a) avoiding the need for hazardous manual handling, so far as is reasonably practicable,
  - (b) assessing the risk of injury from any hazardous manual handling that can't be avoided,
  - (c) reducing the risk of injury from hazardous manual handling, so far as is reasonably practicable.
122. At passenger-carrying miniature railway operations there may be a range of manual handling tasks involving lifting, lowering, pushing, pulling and carrying. If any of these tasks are not carried out appropriately there is a risk of injury.
123. Manual handling injuries can have serious implications for both you and the person who has been injured. They can occur almost anywhere in the workplace. Heavy manual labour, awkward postures and previous or existing injury can increase the risk.
124. To help prevent manual handling injuries at your railway you should avoid such tasks as far as possible. You should look at the risks of that task and put sensible health and safety measures in place to prevent and avoid injury, using lifting aids where necessary.
125. For further information, visit HSE's manual handling webpages:  
[www.hse.gov.uk/msd/backpain/employers/mhor.htm](http://www.hse.gov.uk/msd/backpain/employers/mhor.htm)

## Buildings, plant and equipment

126. Regular and correct maintenance of buildings, plant and equipment is important in ensuring the health and safety of employees and miniature railway users.
127. The designer's (or manufacturer's) instructions should specify the preventive maintenance procedures and intervals. They should also indicate the competence and/or qualifications for those carrying out the work.
128. Manufacturer's instructions on operation of plant and equipment should also be available, for example by attaching copies to the plant itself or storing them in an easily accessible place.
129. All buildings, plant and equipment needs to be included in the risk assessments and have adequate maintenance arrangements in place to make sure it remains safe to use.

## Electrical safety

130. The Electricity at Work Regulations 1989 (EAW 1989) require precautions to be taken against the risk of death or personal injury from electricity in work activities and apply to all electrical systems and equipment (as defined) whenever manufactured, purchased, installed or taken into use even if its manufacture or installation pre-dates the Regulations.
131. The Regulations require that employers ensure that;
- (a) All systems shall at all times be of such construction as to prevent, so far as is reasonably practicable, danger.
  - (b) As may be necessary to prevent danger, all systems shall be maintained so as to prevent, so far as is reasonably practicable, such danger.
  - (c) Every work activity, including operation, use and maintenance of a system and work near a system, shall be carried out in such a manner as not to give rise, so far as is reasonably practicable, to danger.
  - (d) Any equipment provided under these Regulations for the purpose of protecting

persons at work on or near electrical equipment shall be suitable for the use for which it is provided, be maintained in a condition suitable for that use, and be properly used.

132. The duties in EAW 1989, while not directly applying to volunteers or visitors, extend the general duties set out in the HSW Act which require the safeguarding of the health and safety of people who are not your employees, e.g. voluntary staff and visitors
133. Electricity can kill or severely injure people and cause damage to property. Every year many accidents at work involving electric shock or burns are reported to the Health and Safety Executive (HSE). Most of the fatal incidents are caused by contact with overhead power lines.
134. Even non-fatal shocks can cause severe and permanent injury. For example, shocks from faulty equipment may lead to falls from ladders, scaffolds or other work platforms.
135. Those using or working with electricity may not be the only ones at risk – poor electrical installations and faulty electrical appliances can lead to fire, which may also cause death or injury to others.
136. Most of these accidents can be avoided by careful planning and straightforward precautions.
137. For further information, visit HSE's electrical safety webpages:  
<http://www.hse.gov.uk/electricity/>
138. Where electrical power is required to signals or turnouts SELV – Safety (Separated) Extra-Low-Voltage systems should be considered.
139. Portable electrical equipment is covered by statutory regulations and HSE guidance is available. (Ref <sup>18</sup>)

## Battery charging

140. Potentially explosive gases are given off when some batteries are charged. The risk of an explosion is greater if the gases are allowed to collect. Always use a dedicated, well ventilated charging area.
141. Keep sources of ignition, such as flames, sparks, electrical equipment, hot objects and mobile phones, well away from batteries that are being charged, have recently been charged, or are being moved.
142. Do not charge batteries beneath electric lights or other equipment that could be an ignition source.
143. Check that the charging equipment is suitable for the battery e.g. correct voltage and charging rate.
144. Battery charging locations should be the subject of a risk assessment that considers;
  - (a) the suitability of the location for the purpose,
  - (b) the training and competency of personnel responsible for battery charging,
  - (c) arrangements for the topping up of battery cells,
  - (d) protection against short circuits that could cause explosion.
145. Guidance on using electric storage batteries safely is available from the HSE (Ref <sup>21</sup> )

## Harmful substances

146. The Control of Substances Hazardous to Health Regulations 2002 (COSHH) requires employers to control substances that are hazardous to health.
147. COSHH applies to a wide range of substances and preparations (mixtures of two or more substances) which have the potential to cause harm to health if they are ingested, inhaled, or are absorbed by, or come into contact with, the skin, or other body membranes.
148. The duties in COSHH 2002, while not directly applying to volunteers or visitors, extend the general duties set out in the HSW Act which require the safeguarding of the health and safety of people who are not your employees, e.g. voluntary staff and visitors
149. Most passenger-carrying miniature railway venues will use substances, or products that are mixtures of substances, which could cause harm to people, which might include;
  - (a) fuel,
  - (b) exhaust fumes in train workshops or where operations take place indoors,
  - (c) waste oil,
  - (d) paints, solvents and timber preservatives,
  - (e) weed killer.
150. Therefore, you must carry out an assessment under COSHH to protect voluntary staff and visitors against health risks from hazardous substances used at your site.
151. Having assessed the risks decide what precautions are necessary to prevent or control exposure. Then monitor the procedures and make sure that the control measures are used and maintained.
152. Initially you should always try to prevent exposure at source. For example:
  - (a) Can you avoid using a hazardous substance or use a safer process – preventing exposure, e.g. using water-based rather than solvent-based products, applying by brush rather than spraying?
  - (b) Can you substitute it for something safer – e.g. swap an irritant cleaning product for something milder, or using a vacuum cleaner rather than a brush?
  - (c) Can you use a safer form, e.g. can you use a solid rather than liquid to avoid splashes or a waxy solid instead of a dry powder to avoid dust?
153. If you can't prevent exposure, you need to control it adequately by applying the principles of good control practice.

154. Control is adequate when the risk of harm is 'as low as is reasonably practicable'.

This means:

- (d) All control measures are in good working order,
- (e) Exposures are below the Workplace Exposure Limit, where any exist,
- (f) Exposure to substances that cause cancer, asthma or genetic damage is reduced to as low a level as possible.

155. For further information, visit HSE's COSHH webpages:

<http://www.hse.gov.uk/coshh/index.htm>

## Asbestos

156. When materials that contain asbestos are disturbed or damaged, fibres are released into the air. When these fibres are inhaled they can cause serious diseases including mesothelioma, asbestosis, asbestos related lung cancer and pleural thickening. These diseases will not affect you immediately; they often take a long time to develop, but once diagnosed, it is often too late to do anything. This is why it is important that you protect yourself now as the HSE estimate that asbestos still kills around 5000 workers each year, which is more than the number of people killed on the road and around 20 tradesman die each week as a result of past exposure. This subject is covered by HSE Guidance, that must be followed.

<http://www.hse.gov.uk/pubns/guidance/a25.pdf>

157. However, asbestos is not just a problem of the past. It can be present today in any building built or refurbished before the year 2000.

158. Some older steam locomotive boilers were clad with materials that may have contained various types of asbestos.

159. The duty to manage asbestos is contained in regulation 4 of the Control of Asbestos Regulations 2012 and It requires the person who has the duty (i.e. the 'duty holder')

- (a) take reasonable steps to find out if there are materials containing asbestos in non-domestic premises, and if so, its amount, where it is and what condition it is in,
- (b) presume materials contain asbestos unless there is strong evidence that they do not,
- (c) make, and keep up to date, a record of the location and condition of the asbestos- containing materials - or materials which are presumed to contain asbestos,
- (d) assess the risk of anyone being exposed to fibres from the materials identified,
- (e) prepare a plan that sets out in detail how the risks from these materials will be managed,
- (f) take the necessary steps to put the plan into action,
- (g) periodically review and monitor the plan and the arrangements to act on it so that the plan remains relevant and up to date,
- (h) provide information on the location and condition of the materials to anyone who is liable to work on or disturb them.

160. The duty holder is defined as the owner of the non-domestic premises or the person or organisation that has clear responsibility for the maintenance or repair of non-domestic premises, for example through an explicit agreement such as a tenancy agreement or contract.

161. Passenger-carrying miniature railway organisations may well have duties under the

Control of Asbestos Regulations 2012, and you should check carefully to determine your duties.

162. If your organisation has duties under Control of Asbestos Regulations, there are four essential steps you should follow;
- (a) find out whether the premises contain asbestos, and, if so, where it is and what condition it is in. If in doubt, materials must be presumed to contain asbestos,
  - (b) assess the risk from asbestos present in the premises,
  - (c) make a plan to manage that risk and act on it,
  - (d) provide this information to other employers (e.g. building contractors) who are likely to disturb any asbestos present, so that they can put in place appropriate control while the work is being done.
163. There are also some basic principles to consider when managing asbestos;
- (a) asbestos is only dangerous when disturbed. If it is safely managed and contained, it doesn't present a health hazard,
  - (b) don't remove asbestos unnecessarily - removing it can be more dangerous than leaving it in place and managing it,
  - (c) not all asbestos materials present the same risk. The measures that need to be taken for controlling the risks from materials such as pipe insulation are different from those needed in relation to asbestos cement,
  - (d) if you are unsure about whether certain materials contain asbestos, you should presume they do and treat them as such,
  - (e) remember that the duty to manage is all about putting in place the practical steps necessary to protect maintenance workers and others from the risk of exposure to asbestos fibres - it is not about removing all asbestos.

Further information on managing asbestos and asbestos surveys is available via the HSE website.

## Personal Protective Equipment (PPE)

You have duties concerning the provision and use of PPE for anyone working on the railway. PPE should only be used where the risk cannot be adequately controlled in other ways.

164. The Personal Protective Equipment at Work Regulations 1992 (PPEW) sets out employer's duties concerning the provision and use of personal protective equipment (PPE) at work.
165. You should ensure that suitable personal protective equipment is provided to employees who may be exposed to a risk to their health or safety while at work except where and to the extent that such risk has been adequately controlled by other means which are equally or more effective.
166. PPE is equipment that will protect the user against health or safety risks at work. It can include items such as safety helmets, gloves, eye protection, high-visibility clothing, safety footwear and safety harnesses. It also includes respiratory protective equipment (RPE).
167. The duties in PPEW 1992, while not directly applying to volunteers or visitors, extend the general duties set out in the HSW Act which require the safeguarding of the health and safety of people who are not your employees, e.g. voluntary staff and visitors

168. Where your risk assessments identify the need for PPE to be used to protect the user against health or safety risks, you should consider the following types of PPE;
- (a) suitable clothing,
  - (b) safety footwear,
  - (c) head protection,
  - (d) eye protection,
  - (e) ear protection,
  - (f) hand protection,
  - (g) respiratory protection.
169. When selecting PPE, make sure it is CE-marked and it suits the user in terms of size, fit etc. If more than one item of PPE is worn at the same time, make sure they can be used together, e.g. wearing safety glasses may disturb the seal of a respirator causing air leaks.
170. Make sure that users of PPE are instructed, trained and competent on its use and it is maintained and available at all times.
171. For further information, visit HSE's PPE webpages:  
[www.hse.gov.uk/toolbox/ppe.htm](http://www.hse.gov.uk/toolbox/ppe.htm)

## Respiratory Protective Equipment (RPE)

172. The Health and Safety at Work etc Act 1974 (Ref <sup>1</sup>) and the Management of Health and Safety at Work Regulations 1996 require employers to provide and maintain a safe working environment, so far as is reasonably practicable.
173. The laws governing the control of harmful substances in the workplace, and their supporting Approved Code of Practice, say that you should only use RPE after you have taken all other reasonably practicable measures to prevent or control exposure.
174. Where a COSHH assessment identifies that RPE is necessary, it should be provided on personal issue. The type of respirator, training, instructions and maintenance arrangements must be determined as part of the COSHH assessment.
175. RPE at work should:
- (a) adequately control inhalation exposure to provide the wearer with effective protection,
  - (b) be suitable for the intended use,
  - (c) be CE-marked or of an approved type/standard approved by HSE,
  - (d) be used by properly trained people who are supervised,
  - (e) be properly stored, cleaned and checked regularly to ensure it remains effective.
176. In addition to the COSHH Regulations 2002, RPE may need to be used to satisfy requirements in the following pieces of legislation. You will need to consider whether any of these Regulations apply to you and comply with any specific requirements they contain on RPE:
- (a) Control of Asbestos Regulations 2012 (Ref <sup>23</sup>)
  - (b) Control of Lead at Work Regulations 2002 (Ref <sup>24</sup>)
  - (c) Ionising Radiations Regulations 1999 (Ref <sup>25</sup>)
  - (d) Confined Spaces Regulations 1997 (Ref <sup>26</sup>)

- (e) Control of exposure of welding fume, including that from mild steel welding 2019. (Ref <sup>27</sup>)
- 177. You must also remember that as people come in all sorts of shapes and sizes it is unlikely that one particular type or size of RPE facepiece will fit everyone. Fit testing will ensure that the equipment selected is suitable for the wearer.

178. For further information, visit HSE's RPE webpages:

<http://www.hse.gov.uk/respiratory-protective-equipment/>

## First Aid

You are responsible for making sure that your operational staff, volunteers and visitors receive attention if taken ill or injured at the railway. Your arrangements will depend on the particular circumstances and you need to assess what your first-aid needs are.

- 179. The Health and Safety (First-Aid) Regulations require employers to provide adequate and appropriate equipment, facilities and staff to ensure that their employees receive immediate attention if they are injured or taken ill at work.
- 180. The duties under the first aid regulations, while not directly applying to volunteers or visitors, extend the general duties set out in the HSW Act which require the safeguarding of the health and safety of people who are not your employees, e.g. voluntary staff and visitors
- 181. HSE recommends that you include volunteers and visitors in your first-aid needs assessment and make provision for them as part of your overall duty of care towards them.
- 182. As a minimum, there should be available;
  - (a) a suitably stocked first-aid box, checked on a regular basis to confirm items are in-date,
  - (b) an appointed person to take charge of first-aid arrangements,
  - (c) information for all operational staff giving details of first-aid arrangements.
- 183. Through your risk assessment you might decide that you need a first aider, i.e. someone trained by an approved organisation who holds a qualification in first aid or emergency first aid. Find more guidance on first aid at work at [www.hse.gov.uk/firstaid](http://www.hse.gov.uk/firstaid)

## Provision of rescue equipment

- 184. Rescue equipment may be needed where there is a risk of a participant becoming trapped by or under a train. Equipment should be readily and easily available and of a type which, as far as possible, does not pose any additional risk to the injured person. For example, with some cutting equipment there is a risk of sparks, that could cause a fire if there has been a leakage of fuel or flammable vapour. Equipment powered by compressed air or hydraulic systems may be a safer alternative.

## Reporting accidents and incidents

185. Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013 (RIDDOR) is the law that requires employers, and other people in control of work premises, to report and keep records of:
  - (a) work-related accidents which cause death,
  - (b) work-related accidents which cause certain serious injuries (reportable injuries),
  - (c) diagnosed cases of certain industrial diseases, and
  - (d) certain 'dangerous occurrences' (incidents with the potential to cause harm).
186. If you are in control of premises, you must report any work-related deaths, certain injuries to members of the public and self-employed people on your premises, and dangerous occurrences (some near miss incidents) that occur on your premises
187. It is important to remember that these reports informing the enforcing authorities about deaths, injuries, occupational diseases and dangerous occurrences, allow them to identify where and how risks arise, and whether they need to be investigated.
188. It also allows the enforcing authorities to target their work and provide advice about how to avoid work-related deaths, injuries, ill health and accidental loss in future.
189. The reports made under RIDDOR are separate to any that might be required for insurance purposes.
190. For further information relating to accident reporting visit HSE's RIDDOR webpages; [www.hse.gov.uk/riddor](http://www.hse.gov.uk/riddor).

## Useful contacts

### Passenger-carrying miniature railway organisations

The following organisations may be able to provide additional information on the subjects covered in this document.

**Britain's Great Little Railways,**

<http://www.bglr.org/>

**Midland Federation of Model Engineers,**

<http://www.mfmes.org.uk/>

**Northern Association of Model Engineers,**

<https://www.name-1.org/>

**Southern Federation of Model Engineering Societies,**

<https://www.sfmesc.co.uk>

**The Heywood Society,**

<http://www.theheywoodsociety.co.uk/>

**7¼" Gauge Society,**

<http://www.sevenandaquarter.org/>

**10¼" Gauge Railway Society,**

<http://www.tenquarter.org>

**Passenger Carrying Miniature Railway Safety Group**

<https://www.pcmrsg.org>

# References and further reading

## References

- 1 Health and Safety at Work etc Act 1974 (c37) The Stationery Office 1974  
[www.legislation.gov.uk](http://www.legislation.gov.uk)
- 2 Plan, Do, Check, Act: An introduction to managing for health and safety INDG275(rev1) HSE 2013  
[www.hse.gov.uk/pubns/indg275.htm](http://www.hse.gov.uk/pubns/indg275.htm)
- 3 Reporting accidents and incidents at work: A brief guide to the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013 (RIDDOR) INDG453(rev1) HSE 2013  
[www.hse.gov.uk/pubns/indg453.htm](http://www.hse.gov.uk/pubns/indg453.htm)
- 4 Pressure Equipment (Safety) Regulations 2016,  
[http://www.legislation.gov.uk/ukxi/2016/1105/pdfs/ukxi\\_20161105\\_en.pdf](http://www.legislation.gov.uk/ukxi/2016/1105/pdfs/ukxi_20161105_en.pdf)
- 5 Pressure System Safety Regulations 2000, <http://www.legislation.gov.uk/ukxi/2000>
- 6 The examination and testing of miniature steam boilers (Revised edition 2018). A test code produced by the Model Engineering Liaison Group (MELG) and available from the Associations/Federations/Societies listed above in "Useful contacts".
- 7 Guide to safety at sports grounds ('The Green Guide') (Fifth edition) Sports Grounds Safety Authority 2013  
[www.safetyatsportsgrounds.org.uk/publications/green-guide](http://www.safetyatsportsgrounds.org.uk/publications/green-guide)
- 8 Portable petrol storage containers HSE 2014  
[www.hse.gov.uk/fireandexplosion/portable-petrol-storage-containers.pdf](http://www.hse.gov.uk/fireandexplosion/portable-petrol-storage-containers.pdf)
- 9 Controlling noise at work. The Control of Noise at Work Regulations 2005. Guidance on Regulations L108 (Second edition), HSE Books 2005  
[www.hse.gov.uk/pubns/books/l108.htm](http://www.hse.gov.uk/pubns/books/l108.htm)
- 10 Some frequently asked questions on noise at work.  
<http://www.hse.gov.uk/noise/faq.htm>
- 11 Manual handling at work: A brief guide INDG143(rev3) HSE 2012  
[www.hse.gov.uk/pubns/indg143.htm](http://www.hse.gov.uk/pubns/indg143.htm)
- 12 Power take-offs and power take-off drive shafts AIS40 HSE 2013  
[www.hse.gov.uk/pubns/ais40.htm](http://www.hse.gov.uk/pubns/ais40.htm)
- 13 Disposal of asbestos waste Asbestos essentials EM9 HSE 2012  
[www.hse.gov.uk/asbestos/essentials/](http://www.hse.gov.uk/asbestos/essentials/)
- 14 More information is available on COSHH at  
<http://www.hse.gov.uk/coshh/basics.htm>
- 15 For HSE's electrical safety webpages  
[www.hse.gov.uk/electricity/index.htm](http://www.hse.gov.uk/electricity/index.htm)

- 16 Work machinery and equipment  
[www.hse.gov.uk/work-equipment-machinery/index.htm](http://www.hse.gov.uk/work-equipment-machinery/index.htm)
- 17 More information about Musculoskeletal disorders is available at [www.hse.gov.uk/msd](http://www.hse.gov.uk/msd) and in 'Manual handling at work: A brief guide'
- 18 Guidance on Maintaining portable electrical equipment is available at <http://www.hse.gov.uk/pUbns/priced/hsg107.pdf>
- 19 Guidance on storing petrol safely is available at <http://www.hse.gov.uk/fireandexplosion/petroleum.htm>
- 20 The Petroleum (Consolidation) Regulations 2014  
[http://www.legislation.gov.uk/uksi/2014/1637/pdfs/uksi\\_20141637\\_en.pdf](http://www.legislation.gov.uk/uksi/2014/1637/pdfs/uksi_20141637_en.pdf)
- 21 HSE publication "Using electric storage batteries safely" containing guidance on charging is available at <http://www.hse.gov.uk/pubns/indg139.pdf>
- 22 HSE publication "Risk Assessment" to help you assess health and safety risks is available at <http://www.hse.gov.uk/pubns/indg163.pdf>
- 23 Control of Asbestos Regulations 2012  
<https://www.hse.gov.uk/asbestos/regulations.htm>
- 24 Control of Lead at Work Regulations 2002  
<https://www.hse.gov.uk/pubns/books/l132.htm>
- 25 Ionising Radiations Regulations 1999  
<https://www.hse.gov.uk/radiation/ionising/legalbase.htm>
- 26 Confined Spaces Regulations 1997  
<https://www.hse.gov.uk/confinedspace/>
- 27 Control of exposure of welding fume, including that from mild steel welding 2019  
<https://www.hse.gov.uk/welding/protect-your-workers/index.htm>

## Further reading

### *Relevant publications*

Health & Safety Made Simple. The basics for your business INDG 449  
This guide is for employers and those who want some basic information on what they must do to make sure their businesses comply with health and safety law.  
<http://www.hse.gov.uk/pubns/indg449.pdf>

Risk Assessment. A Brief Guide to Controlling Risks in the Workplace. INDG 163  
This revised leaflet aims to help you identify, assess and control health and safety risks associated with workplace hazards – the guidance replaces ‘Five steps to risk assessment’.  
<http://www.hse.gov.uk/pubns/indg163.htm>

Control of substances hazardous to health (COSHH). The Control of Substances Hazardous to Health Regulations 2002 (as amended). Approved Code of Practice and guidance L5 (Sixth edition), HSE Books 2013  
[www.hse.gov.uk/pubns/books/l5.htm](http://www.hse.gov.uk/pubns/books/l5.htm)

Dangerous substances and explosive atmospheres. Dangerous Substances and Explosive Atmospheres Regulations 2002. Approved Code of Practice and guidance L138 (Second edition), HSE Books 2013  
[www.hse.gov.uk/pubns/books/l138.htm](http://www.hse.gov.uk/pubns/books/l138.htm)

Safe use of lifting equipment. Lifting Operations and Lifting Equipment Regulations 1998. Approved Code of Practice and guidance L113 (Second edition), HSE Books 2014  
[www.hse.gov.uk/pubns/books/l113.htm](http://www.hse.gov.uk/pubns/books/l113.htm)

Safe use of work equipment. Provision and Use of Work Equipment Regulations 1998. Approved Code of Practice and guidance L22 (Fourth edition), HSE Books 2014  
[www.hse.gov.uk/pubns/books/l22.htm](http://www.hse.gov.uk/pubns/books/l22.htm)

Storage of flammable liquids in containers HSG51 (Third edition), HSE Books 2015  
[www.hse.gov.uk/pubns/books/hsg51.htm](http://www.hse.gov.uk/pubns/books/hsg51.htm)

Workplace health, safety and welfare. Workplace (Health, Safety and Welfare) Regulations 1992. Approved Code of Practice and guidance L24 (Second edition), HSE Books 2013  
[www.hse.gov.uk/pubns/books/l24.htm](http://www.hse.gov.uk/pubns/books/l24.htm)

### *Health and safety at work legislation*

Petroleum (Consolidation) Regulations 2014 SI 2014/1637

The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 SI 2009/1348

The Management of Health and Safety at Work Regulations 1999 SI 1999/3242 (see also [www.hse.gov.uk/pubns/books/l21.htm](http://www.hse.gov.uk/pubns/books/l21.htm))

### *Other relevant legislation*

Stay up to date with newly enacted legislation for the UK, Scotland, Wales and Northern Ireland as it is published at [www.legislation.gov.uk](http://www.legislation.gov.uk)

Regulatory Reform (Fire Safety) Order 2005 (applies in England and Wales, and under the Fire (Scotland) Act 2005 as amended, and the Fire Safety (Scotland) Regulations 2006) Cover general fire safety

Safety at Sports Grounds Act 1975 and the Fire Safety and Safety of Places of Sport Act 1987 cover events held at sports grounds (see also [www.safetyatsportsgrounds.org.uk](http://www.safetyatsportsgrounds.org.uk))

The Equality Act 2010, that replaced the Disability Discrimination Act 1995 (except in Northern Ireland) requires reasonable adjustments to be made to provide access for the disabled. This is not only to access a workplace or access shops and services, but also associations and private clubs. For further information go to <https://www.gov.uk/guidance/equality-act-2010-guidance>

Licensing Act 2003 and Civic Government (Scotland) Act 1982. Events that are attended by members of the public may require an entertainment licence  
More information at <http://www.legislation.gov.uk/ukpga/2003/17/contents>

Food Safety Act 1990 (as amended) (see also [www.food.gov.uk](http://www.food.gov.uk))

## Useful links

The health and safety toolbox: How to control risks at work  
[www.hse.gov.uk/toolbox/index.htm](http://www.hse.gov.uk/toolbox/index.htm)

The Health and Safety (First-Aid) Regulations  
[www.hse.gov.uk/firstaid](http://www.hse.gov.uk/firstaid)

Manual Handling Operations Regulations  
[www.hse.gov.uk/msd/index.htm](http://www.hse.gov.uk/msd/index.htm)

The Provision and Use of Work Equipment Regulations (PUWER)  
[www.hse.gov.uk/work-equipment-machinery/index.htm](http://www.hse.gov.uk/work-equipment-machinery/index.htm)

Lifting Operations and Lifting Equipment Regulations (LOLER)  
[www.hse.gov.uk/work-equipment-machinery/loLER.htm](http://www.hse.gov.uk/work-equipment-machinery/loLER.htm)

Control of Substances Hazardous to Health Regulations (COSHH)  
[www.hse.gov.uk/coshh/index.htm](http://www.hse.gov.uk/coshh/index.htm)

The Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR)  
[www.hse.gov.uk/fireandexplosion/dsear-regulations.htm](http://www.hse.gov.uk/fireandexplosion/dsear-regulations.htm)

RIDDOR - Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013  
[www.hse.gov.uk/riddor/index.htm](http://www.hse.gov.uk/riddor/index.htm)

## Further information

This document is available to read or download at [www.pcmrsg.org](http://www.pcmrsg.org)  
For a printed copy (for which a charge may be made) please contact any of the passenger-carrying miniature railway organisations listed on page 2727

## Notes

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