

# NORTHERN ASSOCIATION of MODEL ENGINEERS

## Basic Guidance Sheet for Passenger Carrying Miniature Railways

### Introduction

This information has been produced to assist societies and any commercial organisations who are operating miniature railways which are involved in carrying members of the public and/or are operating in a public place, in controlling the risks not only to those persons riding as passengers on the railway but also those working in the sector whether as club members (hobby) or employed. In most of the above the Health & Safety at Work etc Act 1974 could apply.

This guidance covers miniature railways of less than 350mm gauge which may provide a transport facility within a site, constitute a tourist attraction or may simply be a model engineering club etc which occasionally opens its facilities to the public.

Please note that HSG 216 has been removed from the HSE website, however it is still regarded as best practise and is still available as hard copy from the Northern Association and is also on our website.

### Managing Health & Safety

There is a requirement for all organisations operating miniature railways which are engaged in carrying members of the public to identify the hazards and assess the risks to determine the control measures required, to either remove, or reduce the risk to an acceptable level.

- 1) Write a clear safety policy (in plain language) and include details of the organisations rules and regulations etc regarding health and safety.
- 2) To ensure as far as possible the safe operation of the railway, by applying a system of frequent inspections of the site, its facilities, equipment, and maintaining records of faults found and corrective measures taken
- 3) Review your operating procedures whenever the circumstances show that it is necessary.
- 4) Monitor your safety record particularly after an incident which has or may have caused an accident or near miss.
- 5) Be aware that clubs have the same duty of care under Civil Law as they do under Statutory Law

Guidance

\*Health and safety made simple

HSE INDG 449

### Risk Assessments

These should be a careful examination of what, could cause harm to a person or persons, this enables you to decide whether or not the precautions you have taken are sufficient. One very important fact to remember is that the outcome of the assessment is more important than the method used. The control measures identified by the assessment need to be fully documented.

Guidance

\*Risk assessment (a brief guide)

HSE INDG 163

### Manual Handling

More than a third of the injuries reported each year are the result of improper manual handling activities such as lifting, pushing, pulling or carrying, items that are either awkward, to handle or are simply too heavy. The resulting injuries are easy to receive but can be permanent.

Guidance

\*Manual handling at work (a brief guide)

HSE INDG 143

## **Control of Substances Hazardous to Health**

All substances which are covered by the C.O.S.H.H regulations must be stored in cabinets or a room dedicated for the purpose, a supply of safety and use information leaflets for each substance in stock must be stored with them.

Guidance

\*Working with substances hazardous to health

HSE INDG 136

## **Reporting and Recording Incidents**

All incidents including derailments must be investigated, and all details recorded. Accidents that require people to receive medical attention, and Derailments of passenger trains in motion should be reported to the HSE by either e-mail or telephone.

Guidance

\*Reporting accidents and incidents at work

HSE INDG 453

## **Operation**

All miniature railways no matter how simple in operation need to have operating rules to provide for the safe operation of passenger trains in both normal and emergency situations, the rules should be as simple as possible and appropriate to the railway concerned.

There is a need to ensure that all staff involved in the operation of the railway are competent and have declared that they are medically and physically fit for the duties they are to perform, and that they are not under the adverse influence of any medication, alcohol, or drugs.

For each operating session a person should be appointed as manager/superintendent who will have full responsibility for the management of the days operations.

Preparation of locomotives and stock including all refuelling operations should be carried out in the relevant steaming bays or sidings away from the general public.

Guidance

\*Passenger Carrying Miniature Railways

HSG 216

## **Infrastructure**

The design of all earthworks and structures including bridges and viaducts should allow sufficient clearance on each side of the track to allow passengers to get off the train in an emergency, and to ensure that passengers cannot reach out and come into contact with line side objects including trees, where this cannot be done warning signs must be displayed.

Tunnels should have adequate width and headroom to ensure safety in cases where it is necessary for passengers to leave the train.

\*Passenger Carrying Miniature Railways

HSG 216

## **Stations**

Wherever practicable stations should be constructed on level ground having straight platforms, where this is not possible grade and curvature should be kept to the minimum, platforms should be long enough to accommodate the longest trains normally used, and of sufficient width to allow ease of access for the number of persons expected to use them, it is recommended that separate entrance and exit gates are provided at opposite ends of the platforms, buildings and other structures must be located so as not to interfere with the drivers line of sight.

\*Passenger Carrying Miniature Railways

HSG 216

## **Permanent Way**

### **Raised track**

A masonry or steel structure generally capped with timber on to which the track is secured. The structure should be inspected regularly.

### **Ground level track**

A traditional structure the track laid in ballast on prepared and drained earthworks, generally including points and signalling etc these require virtually permanent maintenance including regular inspection of the earthworks to keep the site to a safe standard

### **Portable track**

Constructed of preformed sections of track either ground level or raised, these sections should be fitted with a method of levelling and joining so as to ensure safe operation.

\*Passenger Carrying Miniature Railways

HSG 216

## Pre-running Inspections

There should be a visual inspection of the locomotives, rider cars/coaches, track, and stations, including adjacent areas used by the public as well as a proving run undertaken to ensure that all the equipment is in full working order with all details recorded and signed for by the operations manager/superintendent prior to the commencement of the days operations.

Guidance

\*Passenger Carrying Miniature Railways

HSG 216

## Signalling

The purpose of a signalling system is to safely control the movement of trains through the system by dividing the line into a number of sections, the signalman or automated system only allowing one train into a section at a time thereby maintaining a safe distance between trains.

If safety of operation can be obtained by a system known as driving on line-of-sight no signalling system will be required, but train speeds need to be kept low as the driver needs to be able to stop within line of sight at all times.

If it is decided that a signalling system is required then careful consideration should be given as to the type required, whether semaphore or colour light, should be used, then there is the system of control, mechanical, electrical, pneumatic, solid state, which ever system is selected there is one thing common to all systems, in the case of failure, the signals return to danger.

Guidance

\*Passenger Carrying Miniature Railways

HSG 216

## Level Crossings

Ideally level crossings should be avoided, but if it is necessary for one or more to be installed the operator must ensure that the gates/barriers are properly interlocked with the controlling signals, so that the signals cannot be cleared for a train unless the gate is securely locked against the road, and that the gates cannot be opened for the road unless the signals are in the stop position against the railway.

If the path or road constitutes a public highway the crossing would come under the ORR and the Local Authority and would be outside the remit of this document

Guidance:

\*Passenger Carrying Miniature Railways

HSG 216

## Passenger-carrying vehicles

The design of passenger-carrying vehicles needs to ensure that they are stable, and minimise as far as possible, the risk of passengers moving their hands, feet, or limbs etc into a position of danger either from line-side objects or between vehicles. They should be fitted with adequate **suspension, buffers, couplings, and brakes** to ensure that they can be operated safely, and should be subject to frequent, planned and recorded inspection & maintenance.

Guidance:

\*Passenger Carrying Miniature Railways

HSG 216

## Locomotives

Need to be:

Constructed to provide safety & reliability in service.

Provided with a system to give an audible warning of approach.

Provided with a system to ensure safety when the locomotive is left unattended or stabled.

Where pressure vessels ie steam boilers are used, these must be constructed and tested according to current legislation and codes of practise

Guidance:

\*Safety of pressure systems

HSE L 122

\*The Examination & Testing of Miniature Steam Boilers

MELG

\*Safe operation of pressure systems for the model engineer.

MELG

\*Passenger Carrying Miniature Railways

HSG 216

## Maintenance

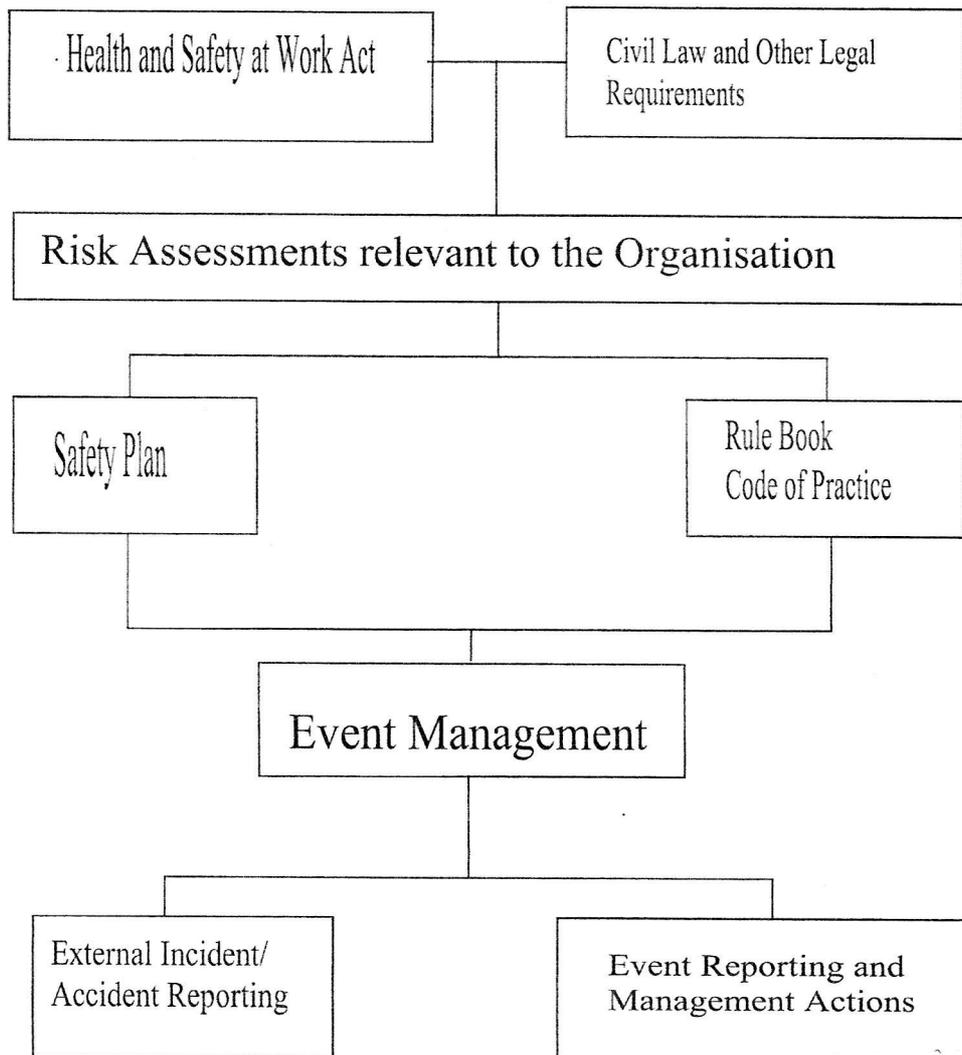
There should be a planned system of maintenance the details of which would depend on the amount of usage, operating environment, and where necessary after an incident. There should be a complete written record made of all work carried out on passenger vehicles, Locomotives, track, and infrastructure.

Guidance

\*Passenger Carrying Miniature Railways

HSG 216

## Passenger Carrying Miniature Railways Safety Planning



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