

An Coimisiún  
Sábháilteachta  
Iarnróid

Railway  
Safety  
Commission

## RSC-G-014-A Third Party Guidance on Railway Risk Volume 5 Emergency Services



## **CONTENTS**

<b>1</b>	<b>INTRODUCTION</b>	<b>3</b>
<b>1.1</b>	<b>WHO HAS PUBLISHED THIS GUIDANCE AND WHY ?</b>	<b>3</b>
<b>1.2</b>	<b>WHO SHOULD READ THE GUIDANCE ?</b>	<b>3</b>
<b>1.3</b>	<b>WHAT DOES THE GUIDANCE COVER ?</b>	<b>3</b>
<b>1.4</b>	<b>PASSENGER AND THIRD PARTY RISK</b>	<b>3</b>
<b>1.5</b>	<b>PASSENGER AND THIRD PARTY GUIDANCE</b>	<b>3</b>
<b>2</b>	<b>GUIDANCE</b>	<b>5</b>
<b>2.1</b>	<b>WHO SHOULD USE THIS VOLUME ?</b>	<b>5</b>
<b>2.2</b>	<b>CROSSING THE RAILWAY ON EMERGENCY CALL</b>	<b>6</b>
<b>2.3</b>	<b>GAINING ACCESS TO THE TRACK</b>	<b>7</b>
<b>2.4</b>	<b>REPORTING AN EMERGENCY</b>	<b>8</b>
<b>2.5</b>	<b>MANAGEMENT OF ABNORMAL VEHICLES OR LOADS</b>	<b>9</b>
<b>2.6</b>	<b>RESPONDING TO RAILWAY INCIDENT</b>	<b>10</b>
<b>2.7</b>	<b>CARRYING OUT MANOEUVRES / DRILLS</b>	<b>12</b>
<b>3</b>	<b>KEY CONTACT POINTS</b>	<b>13</b>
<b>4</b>	<b>GLOSSARY OF TERMS</b>	<b>16</b>
<b>5</b>	<b>REFERENCES</b>	<b>18</b>

The Railway Safety Commission is grateful for the help of Sotera Risk Solutions Ltd. ([www.sotera.co.uk](http://www.sotera.co.uk)) in the drafting of these Guidelines.

# **1 INTRODUCTION**

## **1.1 WHO HAS PUBLISHED THIS GUIDANCE AND WHY ?**

This document has been published by the Railway Safety Commission to show all external parties how their various activities might affect railway safety. It also deals with how the risks involved can be controlled.

## **1.2 WHO SHOULD READ THE GUIDANCE ?**

The guidance covers all passenger and third party actions that might affect the safety of the railway. These third parties include the Emergency Services.

## **1.3 WHAT DOES THE GUIDANCE COVER ?**

The guidance is applicable to the mainline railway, Luas, heritage railways and the Bord na Móna industrial railway system (where it comes into contact with public areas).

## **1.4 PASSENGER AND THIRD PARTY RISK**

Some railway dangers are solely the responsibility of the railway company. Examples include collisions between trains and derailments. However, the risk from such types of accident accounts for only about 10% of the total safety risk. Passengers and third parties must play their part to control the remainder of risk on the railways.

## **1.5 PASSENGER AND THIRD PARTY GUIDANCE**

Volume 1: Planning and Development.

Volume 2: Neighbours.

Volume 3: Crossing the Railway.

Volume 4: Passengers.

**Volume 5: Emergency Services.**

A risk rating has been provided, for each activity and hazard, using a thermometer symbol. The higher the thermometer level, the higher the risk involved.

Find the relevant guidance for you and your activities on the next page.

**Figure 1 Emergency Services – Page number for guidance on each activity**

Activity	Person					
	Gardaí	Fire Brigade	Ambulance	Bord Gáis ESB Networks	Mountain Rescue Coastguard	Army and air corps
Crossing the railway on emergency call	6	6	6	6		
Gaining access to the track	7	7	7	7		
Reporting an emergency	8	8	8	8	8	8
Management of abnormal vehicles or loads	9	9				
Responding to railway incident	10	10	10	10	10	
Carrying out manoeuvres/drills	12			12	12	12

## 2 GUIDANCE

### 2.1 WHO SHOULD USE THIS VOLUME ?

This guide is for ***the emergency services***.

***Emergency services*** are taken to include the Fire Brigade, Gardai, Ambulance Service, Mountain Rescue, Coastguard, Army, Air Corps, ESB Networks and Bord Gáis.







The activities of emergency services include:

- Crossing the railway on emergency call.
- Gaining access to the track:
  - Dealing with trackside fires.
  - Hot pursuit.
  - Rescue of a person on overhead railway wires.
  - Isolate a leak from a gas pipeline.
  - Isolate or repair damaged ESB power lines.
- Reporting an emergency.
- Management of abnormal vehicles or loads.
- Responding to a railway incident.
- Carrying out manoeuvres/drills.


The general hazards associated with crossing the railway are covered in *Volume 3*.

The particular activities and hazards for those associated with the emergency services are summarised in *Figure 2*. Guidance then follows for each activity.

**Figure 2 Emergency Services Activities and Hazards**

Activity	Hazard	Risk
Crossing the railway on emergency call (see also Volume 3 – Crossing the Railway).	Fail to follow indications at protected crossing. Fail to make appropriate observations at unprotected crossing. Hit by train.	
Gaining access to the track.	Electrocution from running rail. Electrocution from OHLE. Hit by train.	
Reporting an emergency.	Electrocution from running rail or OHLE. Hit by train. Ignition of gas cloud.	
Management of abnormal vehicles or loads (see also Volume 3 – Crossing the Railway).	Fail to use telephone to contact railway staff. Vehicle still on crossing or load falls from bridge when train arrives.	
Responding to railway incident.	Fail to use best access point to incident. Fail to appreciate hazards.	
Carrying out manoeuvres/drills.	Interference with other railway activities. Hit by train.	

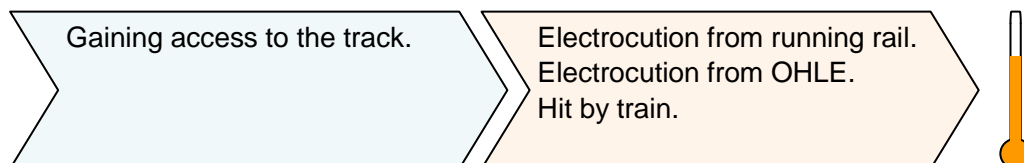
## 2.2 CROSSING THE RAILWAY ON AN EMERGENCY CALL

Crossing the railway on emergency call (see also Volume 3 – Crossing the Railway).	Fail to follow indications at protected crossing. Fail to make appropriate observations at unprotected crossing. Hit by train.	
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Particular care should be taken when crossing the railway even for emergency vehicles on an emergency call. Level crossings are not like road intersections as trains travel very quickly, silently and have a long stopping distance. Drivers should obey all indications at protected crossings and should make appropriate observations before crossing at unprotected crossings.

Drivers of high vehicles or vehicles with high loads should be aware that the maximum safe headroom for a crossing with overhead railway wires is 5m. Bridges may also present a height restriction. See *Volume 3* for more details of level crossing types and restricted height bridges and how they should be used.

## 2.3 **GAINING ACCESS TO THE TRACK**



It may be necessary to enter the railway in order to:

- Deal with trackside fires
- Pursue criminals or vandals
- Rescue people on the overhead electrical lines
- Isolate or repair utilities on railway land.

Before gaining access to the railway infrastructure, emergency service personnel should be aware of the risks relating to:

- The passage of trains
- Electrocution from overhead line equipment including the running rails, in the case of an electrified railway.

Where work is required around electrified wires, these should be isolated and earthed. Prior to starting any rescue, emergency service personnel should:

- Confirm their understanding of the limits of isolation to the railway company's representative.
- Ensure that each member of the emergency services involved in the operation *fully understands* the limits of the isolation.

Rescue equipment should not be brought close to the overhead wires while live; there is potential for an electrical arc from these high voltage lines.

When accessing the trackside area, emergency services personnel should contact Central Traffic Control (see *Section 3* for contact details) and you should not enter onto the railway until it has been confirmed that:

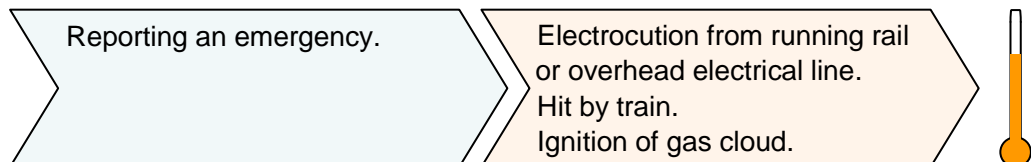
- Trains have been stopped by the signals.



- Power has been isolated and earthed (only applicable in electrified area).

When dealing with lineside fires, care should be taken with sensitive lineside electrical equipment, which can be adversely affected by water.

## 2.4 **REPORTING AN EMERGENCY**



If you are reporting an emergency, you should contact central traffic control (see *Section 3* for contact details) as follows:

- 1) Identify yourself, your location and your status (e.g. contractor, level crossing user etc.)
- 2) Confirm who you are talking to
- 3) State "This is an emergency call"
- 4) Clearly state:
  - Location by reference to a station, signal, level crossing, bridge or other unambiguous reference also direction of travel of train if applicable
  - Nature of emergency e.g. gas release, vehicle on line, collision, fire
  - Required actions e.g. call ambulance, turn off power, stop trains
- 4) Give your name and contact details in case further information is required.

Examples of potential emergencies include:

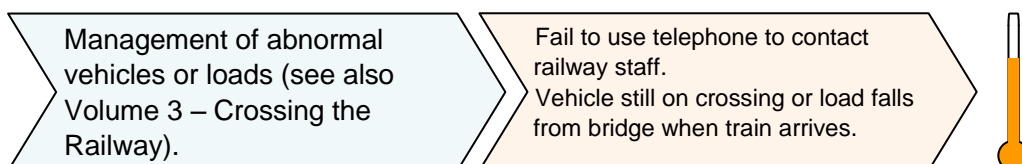
- A leak from a gas pipeline in the vicinity of the railway
- Fallen or damaged ESB power cables
- A vandal or trespasser running up the line
- Trespassers putting an object on the line.



If the emergency relates to a gas pipeline release, you should also contact the Bord Gáis 24-hour Emergency Line (see *Section 3* for Contact details). Bord Gáis have statutory powers to enter land and property to find and secure gas leaks. A gas cloud will present a hazard to anyone in the vicinity. The railway is a potential source of ignition and it is important that all trains are stopped and any overhead line equipment de-energised until the source of the leak has been isolated and gas dispersed.

If the emergency relates to damaged overhead power lines, you should also contact the ESB Networks emergency telephone number (see *Section 3* for Contact details).

## 2.5 **MANAGEMENT OF ABNORMAL VEHICLES OR LOADS**



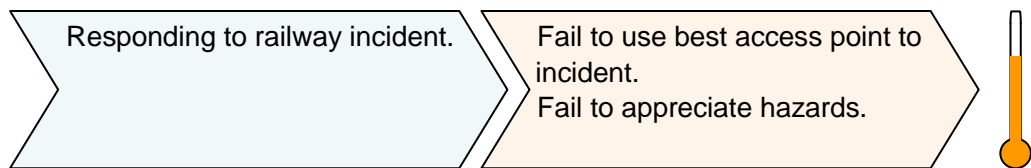
Where Gardaí are escorting an abnormal load, the driver will expect that the escorting vehicles are providing safe passage. Gardaí should be aware of the extra risks of abnormal loads at level crossings (including Luas crossings) and bridges (further details are available in Volume 3 under Management of Abnormal Vehicles or Loads).

At level crossings, there is a higher risk of grounding and getting stuck on the crossing where the transporting vehicle has a long wheelbase and/or is low to the ground. A slow moving or long load may take more than the allowed time to get across the crossing.

Escorting officers should:

- Ensure that the load carrier telephones for permission at *all* level crossings, even where no warning lights are showing, to make sure that there is time to cross safely.
- Ensure the load carrier has checked the route for the abnormal load - height and weight restrictions of bridges (up-to-date lists are available from the Iarnród Éireann Principal Engineer: Track and Structures (see *Section 3* for contact details).

## 2.6 RESPONDING TO RAILWAY INCIDENT



The Gardaí and other emergency service providers have a responsibility for preparedness for a major incident <sup>(1)</sup>. Any service likely to be involved in an emergency should retain a copy of the railway company's emergency response plan. The railway company will appoint an incident officer in charge of the incident. Emergency services should coordinate their actions through the incident officer. It should also make sure that staff receive suitable and sufficient training in the railway specific aspects. Iarnród Éireann liaise with emergency services to provide briefing on request.

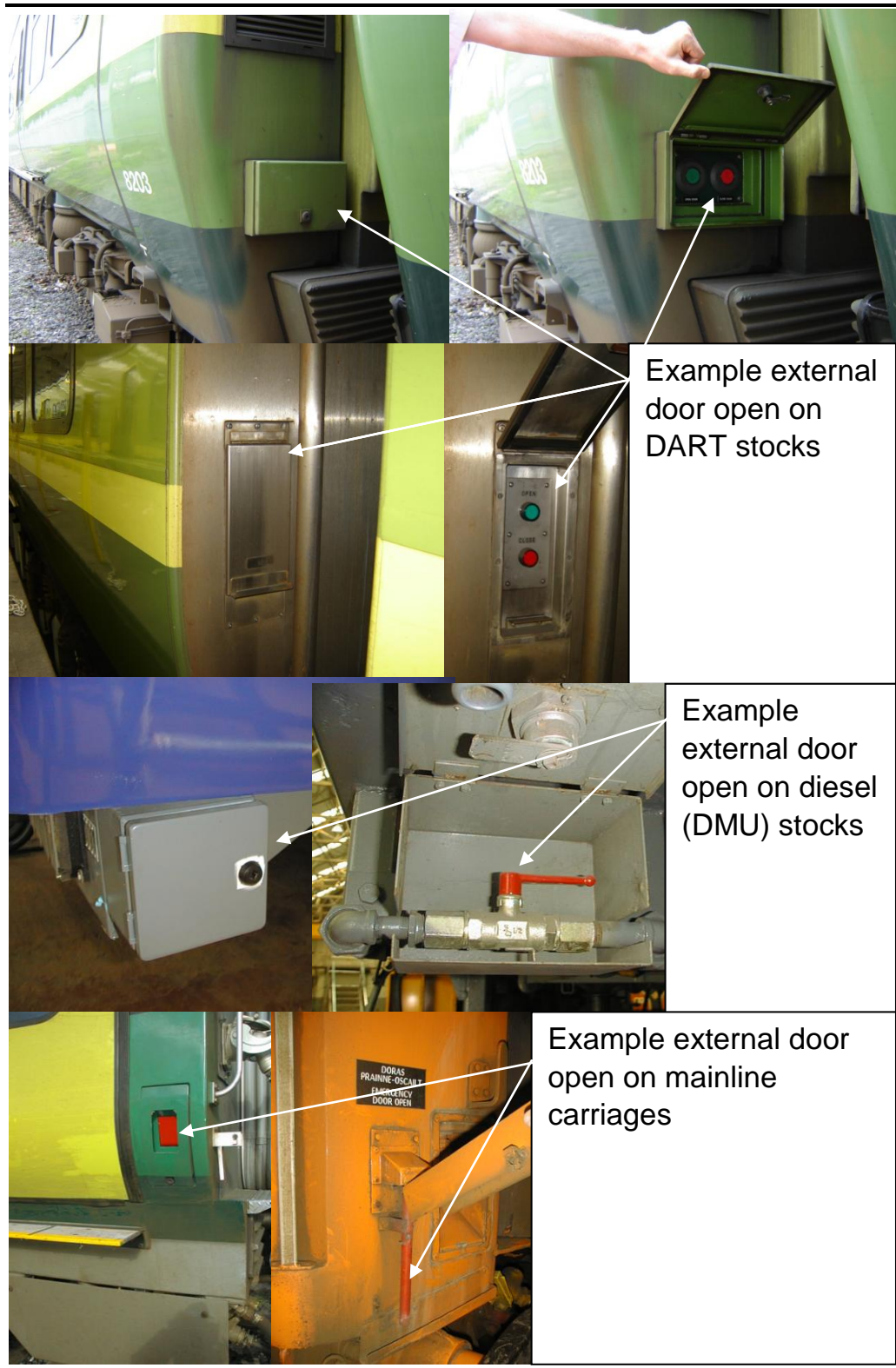
Emergency data sheets are available from the Safety and Security Officer in Iarnród Éireann (see Section 3 for contact details) on each of the stock types giving information on train access in an emergency as shown in *Figure 3*.

It should be noted that there may be a requirement to move mobility impaired passengers as well as other passengers from the train to the track level in an emergency evacuation.

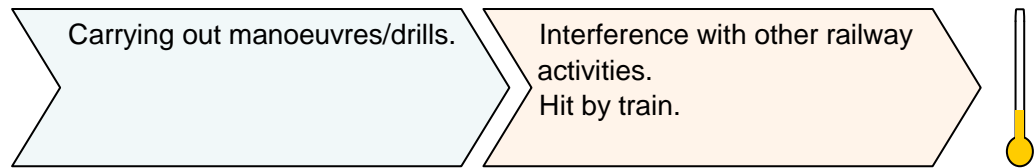
Emergency services should also be aware that Rail Accident Investigation Unit (RAIU) investigators and Railway Safety Commission (RSC) inspectors are likely to attend all major incidents. The RAIU conduct "no blame" investigations into railway accidents and incidents to identify the causes and make recommendations to improve safety. The purpose of these investigations is to ensure that safety lessons are learned quickly and that the site of an accident is restored to service as soon as possible. The RSC may also conduct investigations.

(1) Ref [U]: A Framework for Major Emergency Management in Ireland.

**Figure 3** *Gaining access to a carriage from outside (example external door opening locations)*



## 2.7 CARRYING OUT MANOEUVRES / DRILLS



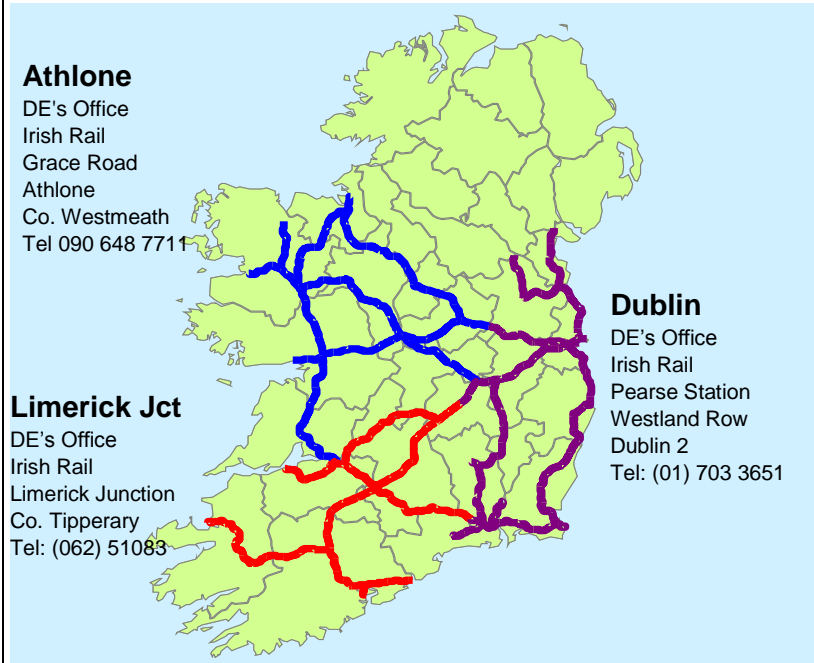
The appropriate rail traffic control centre should be informed in advance and on the day whenever manoeuvres or emergency drills are to be carried out near the track. The Chief Safety & Security Officer of Iarnród Éireann or Veolia Transport Safety Manager should also be contacted in advance (see *Section 3* for contact details).

**3**

**KEY CONTACT POINTS**

<b>General</b>
Emergency services (24-hour): 999 on any public or fixed land line or 112 on a mobile telephone
<b>Railway Safety Commission</b>
Information Officer Railway Safety Commission Trident House Blackrock County Dublin Ireland <a href="mailto:info@rsc.ie">info@rsc.ie</a> <a href="http://www.rsc.ie">www.rsc.ie</a> Tel : (01) 206 8110 Fax : (01) 206 8115
<b>Rail Accident Investigation Unit</b>
Information Officer Rail Accident Investigation Unit 4 <sup>th</sup> Floor Frederick Building South Frederick St Dublin 2 Ireland <a href="mailto:info@raiu.ie">info@raiu.ie</a> <a href="http://www.rsc.ie">www.rsc.ie</a> Tel : (01) 206 8110 Fax : (01) 206 8115
<b>Bord Gáis</b>
Bord Gáis Emergency Line (24-hour): Tel: 1850 20 50 50
<b>ESB Networks</b>
ESB Networks Emergency Line (24-hour): Tel: 1850-372-999
<b>Iarnród Éireann</b>
Iarnród Éireann Central Traffic Control (24-hour Emergency Number for reporting an immediate danger) (01) 855 5454
Iarnród Éireann Electrical Control - DART area (Emergency Number for reporting an immediate danger) (01) 878 7035

Divisional Engineer (DE) as appropriate:



Principal Engineer Track and Structures

Iarnród Éireann  
Track and Signals HQ  
Inchicore  
Dublin 8  
Tel: (01) 703 4207

Chief Safety & Security Officer

Iarnród Éireann  
Connolly Station  
Dublin 1  
Tel: (01) 703 2370

### Luas

Luas – Central Traffic Control (24-hour Emergency Number for reporting an immediate danger)  
(01) 467 3040

Veolia Contract Manager  
Veolia Transport Ireland Limited  
Luas Depot  
Red Cow Roundabout  
Clondalkin  
Dublin 22  
Tel: (01) 461 49 10  
Email: [maintenance@veolia-transport.ie](mailto:maintenance@veolia-transport.ie)

Safety Manager  
Veolia Transport Ireland Limited  
Luas Depot  
Red Cow Roundabout  
Clondalkin  
Dublin 22  
Tel: (01) 461 49 10

Alignment Design  
Railway Procurement Agency  
Parkgate Business Centre  
Parkgate St  
Dublin 8  
Tel (01) 6463400 or FREEFONE 1800 67 64 64

Communications Manager  
Veolia Transport Ireland Limited  
Luas Depot  
Red Cow Roundabout  
Clondalkin  
Dublin 22  
Email: [Luascustomer@veolia-transport.ie](mailto:Luascustomer@veolia-transport.ie)  
Tel: (01) 461 49 10  
Freefone: 1800 300 604  
Fax: (01) 461 4992



4

**GLOSSARY OF TERMS**

<b>Catch Points</b>	A pair of sprung trailing points usually located in gradients steeper than 1 in 260. Their purpose is to derail any train running backwards without authority or out of control.
<b>Central Traffic Control (CTC)</b>	Main control room from which the passage of trains is controlled.
<b>Clearance</b>	Gap between the 'swept path' of the train and the railway infrastructure.
<b>Connex</b>	Former name of Veolia Transport, the operator of the Luas.
<b>Culvert</b>	Small bridge or pipe carrying a stream under a railway or road.
<b>DART</b>	Dublin Area Rapid Transit. An area of electrified commuter mainline railway running from Greystones in the South to Howth and Malahide in the North.
<b>Electromagnetic interference (EMI)</b>	This is a type of electromagnetic radiation, produced from the operation of a primary equipment item. It is normally associated with electrical circuits that carry rapidly changing signals as a by-product of their normal operation. It is also sometimes called Radio Frequency Interference (RFI).
<b>Height restricted bridge</b>	Bridges are considered to have a height restriction if they do not provide a vertical clearance of 5.03m (16'6") for a 40' vehicle.
<b>Heritage railway</b>	A railway which is run as a tourist attraction and seeks to re-create railway scenes of the past.
<b>Iarnród Éireann</b>	The infrastructure provider and train operator of the mainline railway.
<b>Industrial Railway</b>	Private railway used exclusively to serve a particular industry – the largest industrial railway in Ireland belongs to Bord na Móna.
<b>Luas</b>	Tramway in Dublin.
<b>Mainline railway</b>	Railway operated by Iarnród Éireann. Excludes tramways such as the Luas.
<b>Major Accident Prevention Document (MAPP)</b>	Document required under major hazard legislation made under the Seveso II Directive.
<b>Overhead line equipment (OHLE)</b>	Equipment suspended over the railway for supplying electricity to electric trains. Sometimes called the overhead conductor system (OCS).

<b>Overhead conductor system (OCS)</b>	Equipment suspended over the railway for supplying power to electric trains. Sometimes also called overhead line equipment (OHLE).
<b>Over-line bridge</b>	A bridge where the railway runs below another route (e.g. a road).
<b>Parapet</b>	Bridge side wall.
<b>Railway</b>	Means of transport where vehicles run on iron rails. In this booklet, the term includes both the mainline railway and tramways.
<b>Railway airspace</b>	The airspace above railway land.
<b>Railway company</b>	A company that is responsible for tracks and other railway infrastructure, or which operates trains/trams (or both).
<b>Railway infrastructure</b>	Fixed equipment and structures on and around the railway including track, bridges, signals, stations, platforms, buildings and level crossings.
<b>Railway Safety Commission (RSC)</b>	The body responsible for regulating/enforcing railway safety and investigating/reporting on railway incidents.
<b>Railway Procurement Agency (RPA)</b>	The company responsible for the design and build of the Luas.
<b>Running Rail</b>	The rail on which a train's wheels sit.
<b>Safety Report</b>	Document required under major hazards legislation for the sites with large quantities of major hazard materials.
<b>Signal</b>	Similar to a road traffic light. Used to control the safe separation of trains.
<b>Signal sighting</b>	Ability of the train driver to see the signal at the correct distance.
<b>Swept path</b>	The volume of space swept through by a train in motion. It takes account of overhang on curves, tilting, etc.
<b>Track formation</b>	The material underneath the track and ballast that provides support.
<b>Track destabilisation</b>	Loss of track support.
<b>Third Party</b>	Anyone not working for the railway company or travelling on the railways as a passenger.
<b>Under-line bridge</b>	A bridge where the railway runs over another route (e.g. a road or a river).
<b>Veolia Transport</b>	The company responsible for operating the Luas.
<b>Wayleave</b>	A wayleave gives a right to use the land of another for a special purpose. Unlike a lease, a wayleave does not give the holder a right of "possession" of the property, only a right of use
<b>Wheelbase</b>	The distance between the front and back wheels of a vehicle.

## 5

## REFERENCES

- [A] Statutory Instrument No. 31 of 2005, *Railway Safety Act 2005* and amending SI No 61 of 2008, European Communities Railway Safety Regulations.
- [B] Department of Transport, *Draft Guidelines for the Design of Railway Infrastructure and Rolling Stock: Section 5 Level Crossings*, 1<sup>st</sup> March 2002.
- [C] Statutory Instrument No. 476 of 2000, *Control of Major Accident Hazards Involving Dangerous Substances Regulations*, 2000, which give effect to European Directive 96/82/EC.
- [D] Department of Transport, *Draft Guidelines for the Design of Railway Infrastructure and Rolling Stock: Section 1 Permanent Way, Earthworks and Structures*, 1<sup>st</sup> March 2002.
- [E] Statutory Instrument No. 101 of 2004, *Light Railway (Regulation of Works) Bye-Laws 2004*, The Stationary Office Dublin.
- [F] Railway Procurement Agency, *Code of Engineering Practice for Works on, Near or Adjacent to the Luas Light Rail System*, 7<sup>th</sup> August 2004.
- [G] Iarnród Éireann, Infrastructure Departmental Standard I-DEP-0120, *Guidance on Third Party Works*.
- [H] Wildlife (Amendment) Act, 2000.
- [I] Veolia Transport, *Luas Safety Animation*, DVD, 2006.
- [J] Statutory Instrument No. 100 of 2004, *Light Railway (Regulation of Travel and Use) Bye-Laws 2004*, The Stationary Office Dublin.
- [K] Iarnród Éireann, *The Safe Use of Unattended Railway Level Crossings*, July 2001.
- [L] Iarnród Éireann, *Guide for Sensory and Mobility Impaired Passengers*.
- [M] Railway Procurement Agency, *The RPA's Luas Accessibility Newsletter: Keeping in touch with the whole community*.
- [N] National Disability Authority, *Recommended Accessibility Guidelines for Public Transport Operator in Ireland*, September 2005.
- [O] Health and Safety Authority, *Code of Practice for Avoiding Danger from Underground Services*, 1<sup>st</sup> Edition, February 2005.
- [P] Health and Safety Authority, *Code of Practice for Avoiding Danger from Underground Services*, 1<sup>st</sup> Edition, February 2005.
- [Q] Iarnród Éireann, Infrastructure Departmental and Multidisciplinary Standard, I-DEP-0121, *Third Party Works: Railway Safety Requirements*, draft.
- [R] Statutory Instrument 1998 No. 2456, *The Rail Vehicle Accessibility Regulations 1998*, ISBN 0 11 079652 7.
- [S] BS8501:2002, *Graphical symbols and signs. Public information symbols*.
- [T] BS8502:2003, *Graphical symbols and signs. Creation and design of public information symbols. Requirements*.
- [U] Department of the Environment, "A Framework for Major Emergency Management in Ireland", 2006.

