

GE/RT8000 - G2  
Rule Book

# Module G2

## Personal safety when walking on or near the line, or when on the lineside

Issue 1

June 2003

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1	June 2003	Initial issue	6 December 2003

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You will need this module if your duties require you to:

- go on the lineside
- go on or near the line.

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# 1 Definitions

*The people responsible: all employees* 

## 1.1 On the lineside

You are on the lineside if you are:

- between the railway boundary fence and the point that is called on or near the line (see 1.2 below), **and**
- in view of the driver of any approaching train or movement.

You are not on the lineside if you are on a station platform.

## 1.2 On or near the line

You are on or near the line if you are:

- within 3 metres of the nearest rail
- on the line itself.

You are not on or near the line if you are on the other side of a permanent fence or structure, even if it is less than 3 metres from the nearest rail.

If you are on a station platform, the only situation where you are considered as being on or near the line is when you:

- are within 1.25 metres of the platform edge, **and**
- are carrying out engineering or technical work (for example, painting white lines) on the platform within that distance.

Special arrangements must be put into place on platforms where the line speed is more than 125 mph.

You are not on or near the line if you are crossing the line at a level crossing.



In this module the term 'all employees' means anyone whose duties takes them on or near the line.

## 2 Responsibilities

*The people responsible: all employees*

You must not go on or near the line or on the lineside unless it is absolutely necessary and your duties require you to do so.

If your duties do require you to go on or near the line, you must be:

- authorised to go on or near the line
- aware of the expected hazards at the location.

You must also:

- know what arrangements have been made for your safety while you are on or near the line, or
- have been trained and certified as competent to make arrangements for your own safety.

You are responsible for your own safety when you are on or near the line or on the lineside. You must make sure you understand when and where you can go on or near the line or on the lineside.

Some work on or near the line can be carried out by a person working alone. Where this is permitted, you must be trained and certified as either a controller of site safety (COSS) or an individual working alone (IWA).

If you are a lookout, driver, guard, shunter, signaller or crossing keeper, you do not need to be certified as a COSS or an IWA.

In this case, you are responsible for arranging your own safe system of work so that you are not put in danger from approaching trains or movements.

# 3

## Terms used to describe positions on or near the line and a 'position of safety'

*The people responsible: all employees*

### 3.1 Positions on or near the line

The following terms are used to describe the different positions on or near the line.

The terms shown are **not** exact measurements.

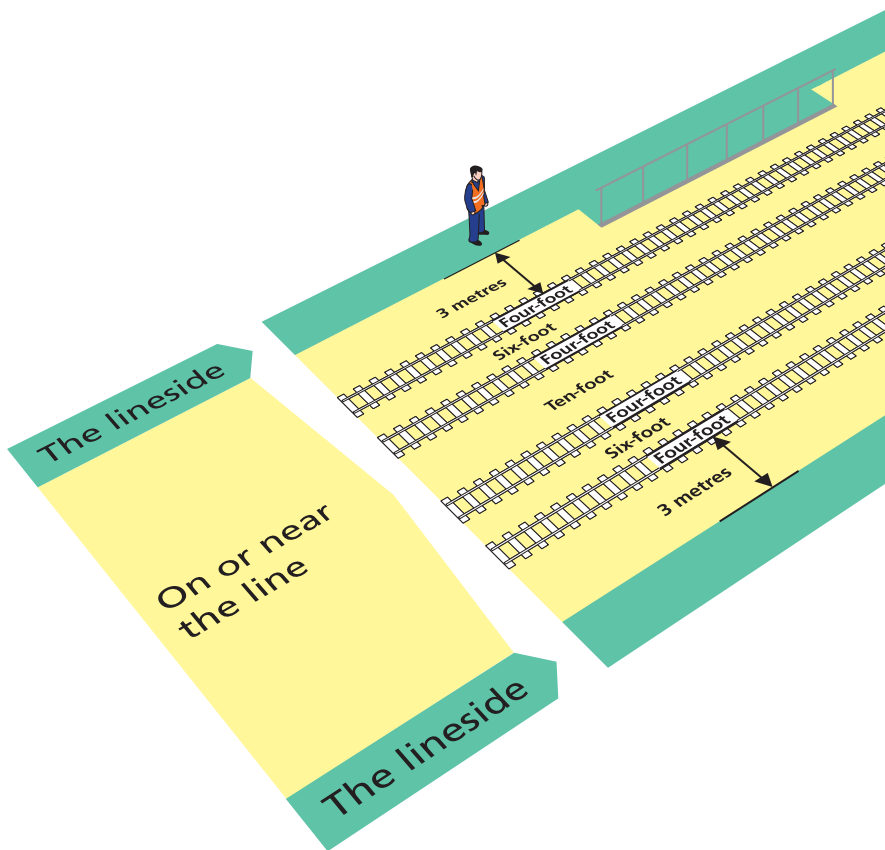
**The cess** is the space alongside the line or lines.

**The four-foot** is the space between the rails of one line.

**The six-foot** is the space between one line and another (where the lines are the normal distance apart).

**The ten-foot** is the space between one line and another where there is a wide space between a pair of lines and there are three lines or more. This distance may be less than 10 feet.

See diagrams G2.1 and G2.2.



Positions on or near the line  
Diagram G2.1

## Personal safety when walking on or near the line, or when on the lineside

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section

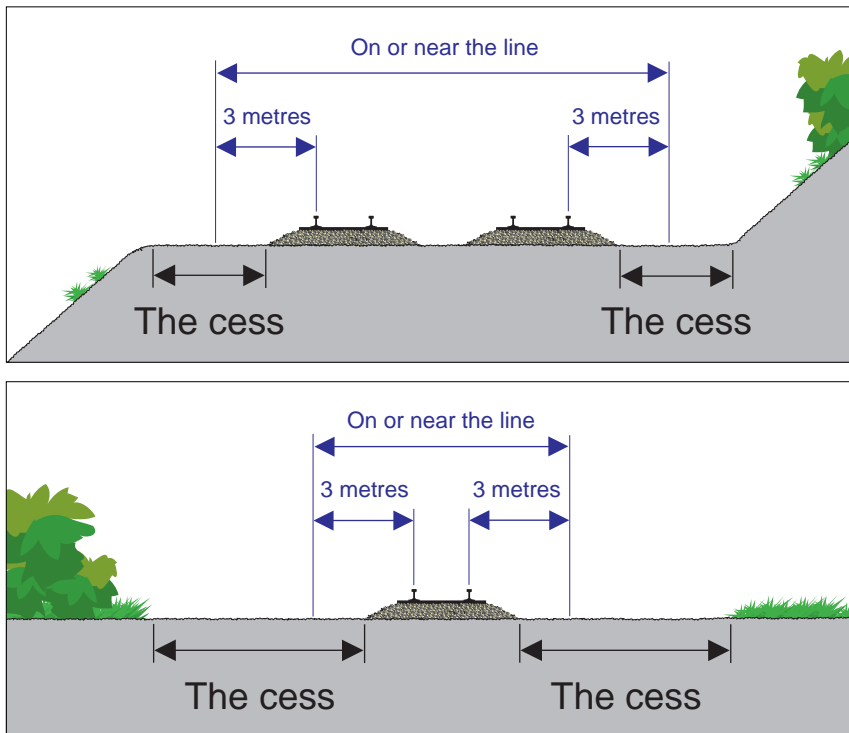
**Refuge** is an area where it is safe for you to stand when a train passes. There may be a refuge:

- in the wall of a tunnel, bridge or other structure
- in a bridge parapet
- in the side of a cutting
- on a specially constructed platform which has been built out from the track over the slope of an embankment.

**Authorised walking route** is a route that has been identified for your use and may include made-up paths. You must use and keep to authorised walking routes (if they are available) when:

- walking to your place of work or carrying out your duties, or
- going to or from a booking-on point.

Details of authorised walking routes are published locally.



The cess  
Diagram G2.2

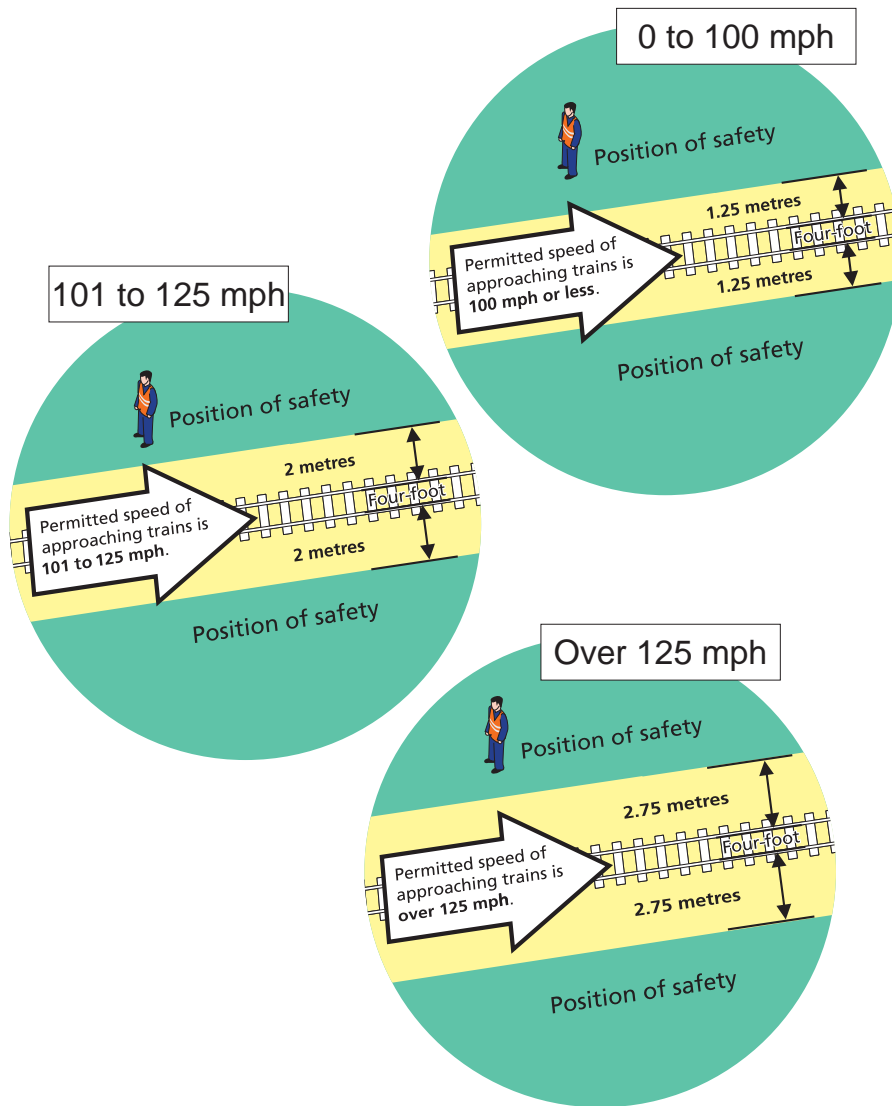
Personal safety when walking on  
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### 3.2 What a 'position of safety' means

You are in a position of safety if there is **at least** the distance shown below between you (including anything you are wearing or carrying) and the nearest rail of any line on which a train can approach.

<b>Speed at which trains are allowed to travel on the line concerned</b>	<b>Distance</b>
100 mph or less	1.25 metres (4 feet)
101 mph to 125 mph	2 metres (6 feet 6 inches)
Over 125 mph	2.75 metres (9 feet)
See diagram G2.3.	



Positions of safety  
Diagram G2.3

# 4

## If your duties require you to go on the lineside

*The people responsible: all employees*

You must **not** go on the lineside unless your duties require you to do so.

If your duties require you to go on the lineside, you must:

- wear clean high-visibility clothing of an approved type in the correct way
- obey any warning indications (for example, lights or bells) and notices
- look and listen for approaching trains or movements
- raise one arm above your head to acknowledge the audible warning from an approaching train.

You must **not** go on or near the line unless you meet the requirements in section 5 of this module.

# 5

## If your duties require you to go on or near the line

*The people responsible: all employees*

### 5.1 Going on or near the line

You must **not** go on or near the line unless your duties require you to do so.

If your duties require you to go on or near the line, you must wear clean high-visibility clothing of an approved type in the correct way, and meet at least one of the following conditions:

- You have been passed as competent in PTS.
- You are using an authorised walking route that you have authority to use and have been made aware of any safety hazards involved.
- You have been issued with a Track Visitor's Permit and you are accompanied by a COSS and have been briefed about the safety arrangements.
- You are under the direct supervision of a COSS who is giving you formal training in PTS and you have received a briefing about the safety arrangements.

## Personal safety when walking on or near the line, or when on the lineside

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### 5.2 Going on or near the line in an emergency

If it is safe for you to do so, you can go on or near the line to prevent death or injury without being qualified in PTS.

You must take extra care and not touch any rail or electrical equipment.

### 5.3 Certificate of competence in Personal Track Safety (PTS)

When you are on or near the line, you must carry your certificate of competence in PTS at all times. This must be endorsed (where appropriate) for ac or dc electrified lines.

If you are a train driver, guard, shunter, signaller or crossing keeper and your competence includes relevant elements of PTS, you do not have to carry a separate PTS certificate when you go on or near the line to carry out your duties.

# 6 Walking on or near the line

*The people responsible: all employees*

## 6.1 When you are permitted to walk on or near the line

You must only walk on or near the line if:

- you meet the requirements of section 5 of this module
- it is necessary to do so to get to or from a place of work
- there is no other safer route for you to use.

You must use a cress walkway or other defined path if one is available.

You may carry light tools or equipment with you. However, this must not affect your ability to walk safely or to see or hear and acknowledge approaching trains.

If you are walking alone and you see another person walking in the same direction on or near the line, you must keep at least 20 metres (approximately 20 yards) away from that person. This is to prevent you or that other person becoming distracted.

If two or more people are to walk together on or near the line, they must **not** separate. Instead, a COSS will be appointed to take charge of the group as shown in module T6 *Walking as a group and working on or near the line*.

The only exception to this is when a designated person (DP) has been appointed to take charge of the group as shown in module T10 *Protecting personnel when working on rail vehicles and in sidings*.

You must not start walking until a COSS or DP has been appointed and you have been briefed about the safety arrangements.

## 6.2 Before you start to walk on or near the line


### a) Hazards that you must find out about

Before you start to walk on or near the line, you must find out:

- the approved points of access to the site of work
- the speed at which trains are permitted to travel on each line
- the direction from which trains normally approach on each line
- the locations of any area where access is not allowed while trains are running.

You should also find out about any other particular hazards such as:

- limited sighting conditions of approaching trains (such as curves, bridges or other structures)
- limited clearances
- poor underfoot conditions.

You can find this information in the *Sectional Appendix* or the *Network Rail Hazard Directory*. 

If you do not have this information, you must not go on or near the line. Instead, you must tell your employer or supervisor.



You may need to refer to both the *Sectional Appendix* and the *Network Rail Hazard Directory* to find this information.

### **b) Responsibility for your own safety when walking alone**

You are responsible for your own safety when walking alone on or near the line.

You must remember:

- single line working may be in operation during the time you have to walk on or near the line, so trains could approach you from either direction
- if a line is under possession, trains could approach you from either direction
- not to rely on any possession as protection
- not to rely on protection as shown in module T12 *Protecting personnel carrying out activities on the line that do not affect the safety of the line* unless it has been arranged specially for your protection
- not to rely on protection as shown in module T2 *Protecting engineering work or a hand trolley on a line not under possession* unless it has been arranged specially for your protection
- a temporary or emergency speed restriction could be withdrawn while you are walking.

## Personal safety when walking on or near the line, or when on the lineside

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### 6.3 When you are walking on or near the line

When you are walking on or near the line, you must:

- wear clean high-visibility clothing of an approved type in the correct way
- wherever possible, walk facing the direction from which trains normally approach
- take a handlamp with you during darkness and when you are walking in a tunnel.

If you have to cross the line, you must:

- **not** step on, but instead step over, rails and sleepers
- **not** step between the moveable parts of points.

You must always look out for obstructions or slippery conditions.

You must not use a mobile phone unless you are:

- in a position of safety, and
- required to do so as part of your duties.

### 6.4 Fixed warning systems

If you are walking on or near the line where a fixed Automatic Track Warning System (ATWS) or Train Operated Warning System (TOWS) is available, you must use that system if you are competent to do so.

When using this equipment, you must carry out the instructions in module T6 *Walking as a group and working on or near the line*.

## 6.5 Watching and listening for trains

When you are walking on or near the line, you must:

- watch and listen for approaching trains at all times
- not wear or use anything which makes you less able to see or hear approaching trains, for example, hoods, headphones, mobile phones or earmuffs
- not allow yourself to be distracted by anyone or anything.

You must also look up frequently (about every 5 seconds) to make sure you have enough warning of approaching trains so that you can reach a position of safety at least 10 seconds before a train arrives.

You must do this even if you are not expecting a train to approach because, for example:

- a signal is at danger
- a level crossing is open to road traffic.

You must not rely on anyone to give you warning about an approaching train other than a lookout who has been appointed by the COSS to carry out that task.

## 6.6 Action to take when a train approaches

When a train approaches, you must:

- immediately move to a position of safety clear of any line on which trains may approach
- if you are already in a position of safety, stay there
- watch out for other trains that might be approaching that you may have not noticed.

When you hear the audible warning given by the driver of an approaching train, you must raise one arm above your head to show the driver you have heard the warning.

## Personal safety when walking on or near the line, or when on the lineside

# 6 section

If necessary you must put any equipment you are carrying down on the ground clear of the line before the train passes.

You must stay in the position of safety and watch the train until either:

- the train has passed clear, or
- you are certain that you will not be in any danger by that train or any other train.

You must not assume that you know which line the train is approaching on. You must always stop, look and make sure.

If you hear a train sounding a series of short blasts on the horn, this means that the train may be making an unsignalled wrong direction movement.

### 6.7 When the train has passed

You must stay in the position of safety until you have checked to see that no other train is approaching, especially on another line.

You must not leave your position of safety until you are sure it is safe to do so.

### 6.8 Emergency action

If a train or trains approach and you are not able to reach a position of safety before the train or trains arrive, you must lie face down in the six-foot or ten-foot or in the cess at a place that is not obstructed. You must make sure you gather any loose garments under you.

You must not lie down in the four-foot.

# 7

## Limited clearances and related warning signs

*The people responsible: all employees*

### 7.1 Limited clearance between a line and adjacent structures

When you are on or near the line, you must:

- take special care at a location where there is only a limited clearance between the line on which trains or movements may approach and adjacent structures
- not stand at, or enter, a location where there is limited clearance when a train is approaching.

Personal safety when walking on or near the line, or when on the lineside

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Limited clearance is indicated as follows:

**Diagram                      Meaning**

**Limited clearance warning sign**



There is no position of safety on this side of the railway for the length of the adjacent structure. You must not enter or stand at that location when a train is approaching.

**No refuges warning sign**



There is no position of safety on this side of the railway for the length of the adjacent structure. However, there are positions of safety, or refuges, on the opposite side of the railway line.

**Prohibition sign**



**No safe access while trains are running**

You must not pass beyond this sign while trains are running unless you are carrying out emergency protection. This is because you would not be able to reach a position of safety or refuge safely. If you are carrying out emergency protection, you must take extreme care.

## 7.2 When you are in a tunnel

When you are in a tunnel, you must always make sure you know the location of the nearest refuge or where there is sufficient clearance for you to stand safely.

If you are not able to reach a refuge when a train is approaching, you must lie face down between the line and the tunnel wall, in the six-foot or ten-foot, depending on which is safer, at a place that is not obstructed. You must make sure you gather any loose garments under you.

You must not lie down in the four-foot.

## 7.3 Alongside vehicles where lines converge

You must take extra care and check you have enough clearance for your own safety when you are alongside vehicles on lines that converge.

## 7.4 Limited clearance at telephones

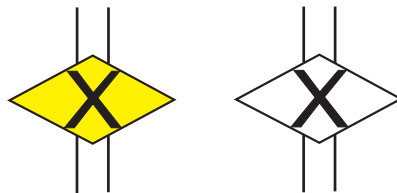
Some telephones are positioned where there is limited clearance between the telephone and the adjacent lines. You must only use these telephones in an emergency and if no other form of communication is available.

## Personal safety when walking on or near the line, or when on the lineside

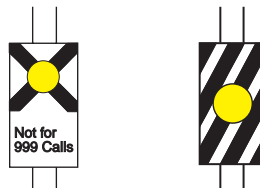
# 7 section

One or more of the following signs identifies these telephones.

A yellow or white diamond with the letter X displayed at the signal:



A yellow roundel on the telephone cabinet:



A red and white chequered board or labels with the words WARNING - LIMITED CLEARANCE displayed on the sign:



However, a driver of a train at a signal with any of the above signs is allowed to use the signal post telephone under specific arrangements.

# 8 Electrified lines

*The people responsible: all employees*

## 8.1 Lines electrified by the AC overhead line system

### a) How the system works

The overhead line equipment (OLE) and its attachments are electrified at a voltage of 25,000 volts AC.

The electric current is collected from the OLE by the pantograph on the train roof and returned to the feeder station through the wheels of the train to the running rails and the return conductors.



AC overhead line system

Diagram G2.4

## Personal safety when walking on or near the line, or when on the lineside



### b) Dangers of OLE

You must **not** go on or near a line with live overhead equipment **unless** you are competent in PTS for AC lines and your PTS certificate is endorsed to show this. You may however go on or near the line if you have been briefed on how to:

- get the electricity supply switched off in an emergency
- carry out electric shock rescue.

When you are on or near the line you must:

- always consider the OLE and its attachments (coloured red in diagram G2.4) as being live and extremely dangerous to life
- not touch or come within 2.75 metres of live OLE or anything attached to or hanging from it, or pantographs or roof-mounted equipment on trains
- not allow your clothing, any object you are holding or any tools or equipment you are carrying to come within 2.75 metres of live OLE, pantographs or roof-mounted equipment on trains.

## 8.2 Lines electrified by the DC conductor rail system

### a) How the system works

These lines have a conductor rail, sometimes called a third rail, which is energised at a voltage of between 650 volts DC and 750 volts DC.

The conductor rail is supported on insulators and is on the outside of one of the running rails.

At some locations there is a fourth rail which is connected to, and located between, the running rails.

On London Underground Ltd (LUL) lines, you must consider the fourth rail as being live.

The collector shoes on the train collect the electric current from the conductor rail and the current is returned to the substation through the wheels of the train, the running rails (and the fourth rail on a four-rail system).

#### **b) Dangers of conductor rails**

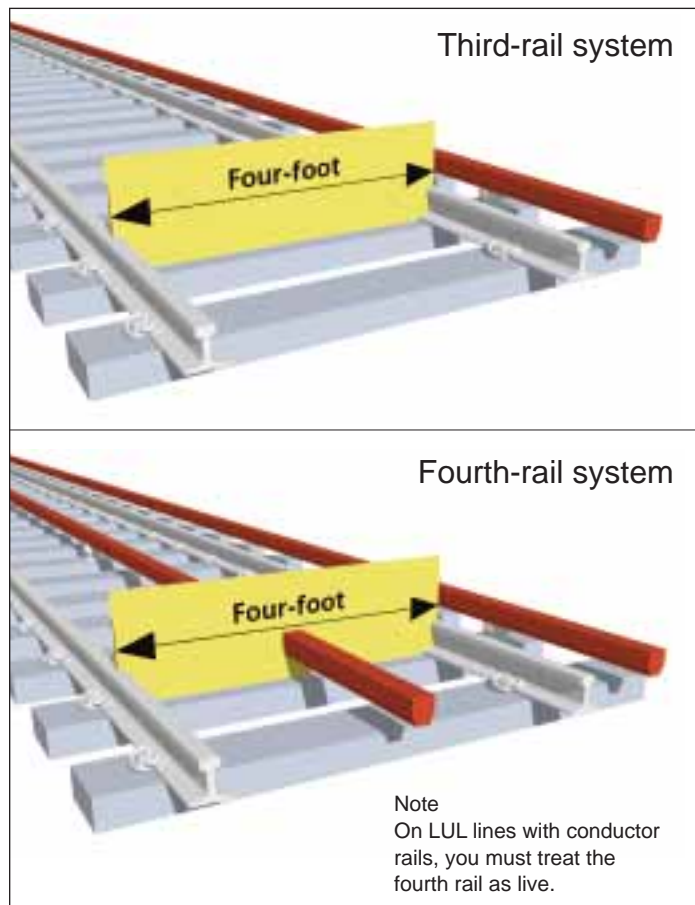
You must not go on or near a line with conductor rails unless you are competent in PTS for DC lines and your PTS certificate is endorsed to show this. However you may go on or near the line if you have been briefed on how to:

- get the electricity supply switched off in an emergency
- carry out electric shock rescue.

When you are on or near the line, you must:

- always consider the conductor rails (coloured red in diagram G2.5) to be live at all times and extremely dangerous to life
- not step on, touch or allow your clothing, tools or any equipment you are carrying to touch the conductor rails or its connections
- not put your foot between the conductor rail and the adjacent running rail
- whenever you can, cross the line at a gap in the conductor rail or where protective boarding is provided
- not step into flood water which may be in contact with the conductor rail
- not allow any object to come into contact with the conductor rail
- not direct a jet of water or other liquid onto the conductor rails
- not touch the collector shoes or their connections on any train including when the conductor shoes are not touching the conductor rails.

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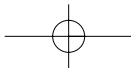
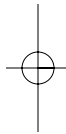
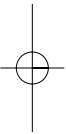
DC conductor rail system  
Diagram G2.5

## Glossary of terms and abbreviations

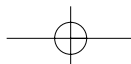
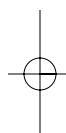
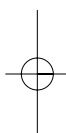
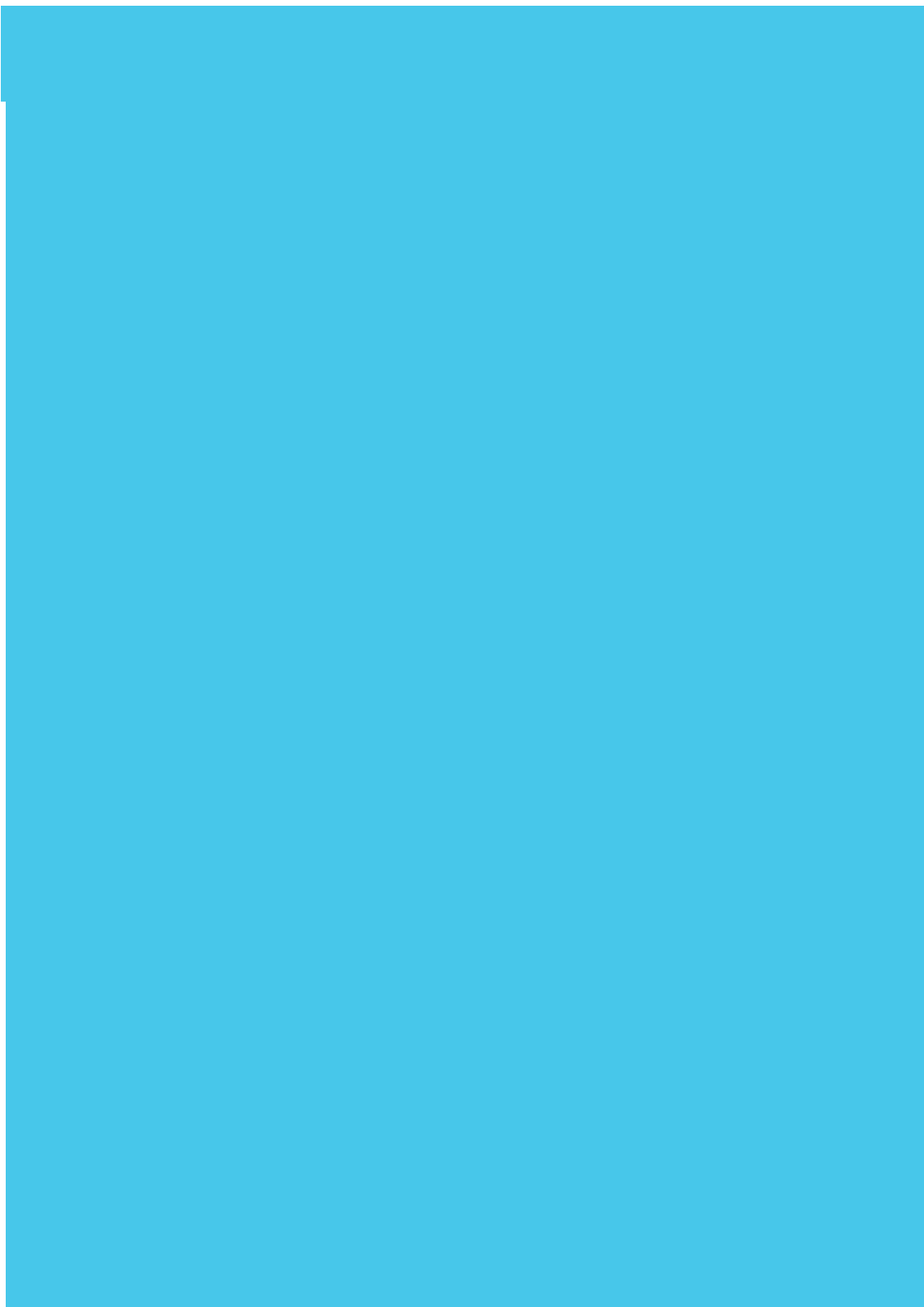
<b>The term</b>	<b>Includes or means:</b>
<b>ATWS</b>	<p>Automatic track warning system.</p> <p>An individual or lineside warning system that can be installed at a site of work to:</p> <ul style="list-style-type: none"><li>• detect an approaching train</li><li>• alert personnel who are on or near the line.</li></ul> <p>It may be installed temporarily for the period of work or it may be installed permanently at a location.</p> <p>This definition does not include TOWS or LOWS.</p>
<b>Conductor rail</b>	<p>A rail through which electricity is supplied to electric-powered trains.</p>
<b>Electrified line</b>	<p>A line that is electrified either by 25,000 volts AC overhead lines or by 750 volts DC conductor rails. Local instructions are issued for certain sections of route electrified by 1500 volts DC overhead lines.</p>
<b>Level crossing</b>	<p>Any manned, automatic or open crossing shown in Table A of the <i>Sectional Appendix</i>.</p>
<b>LOWS</b>	<p>Lookout operated warning system. A lineside warning system, used to warn personnel on or near the line about an approaching train. It is operated by a lookout.</p>

## Glossary of terms and abbreviations

<b>The term</b>	<b>Includes or means:</b>
<b>Overhead line equipment</b>	Wires, suspended over the railway line for supplying electricity to electric trains. This includes associated: <ul style="list-style-type: none"><li>• fittings</li><li>• insulators</li><li>• feeders</li><li>• switches</li><li>• jumpers</li><li>• return conductors.</li></ul>
<b>Protection</b>	Ways of making sure that a line is protected. This includes keeping signals at danger, placing detonators on the line, using a track circuit operating clip and showing a hand danger signal.
<b>Single line</b>	One line is available for movements in both directions.
<b>Station</b>	Terminal, depot, yard or halt.
<b>TOWS</b>	Train operated warning system. An audible warning system at locations listed in the <i>Sectional Appendix</i> . When switched on, it is used to warn personnel on or near the line about an approaching train.
<b>Train</b>	Light locomotive, self-propelled rail vehicle or road-rail vehicle in rail mode.
<b>Your employer</b>	The company, or subsidiary of a larger organisation for whom you work.



Notes





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