

# London Underground Worksite safety & security induction – pre assessment learning material

May 2024



EVERY JOURNEY MATTERS

# Document history

## Approval of document

Owner/s of document:

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Date: 1<sup>st</sup> May 2024

Issue number	Date	Reason for change	Author	Revision / Review date
VI.0	March 2022	First release of booklet version for LU WSI – to be used where eLearning content is inaccessible	T Carter	Jan 2023 –  Inline with eLearning content.
VI.I	Dec 2022	Addition of Track definitions based on LU SHE FIR outcome	T Carter	June 2023 – other content reviewed along with SHE changes
V2.0	May 2024	Addition of operational security module based on DfT requirement.	T Carter / D Manners	May 2025 – other content reviewed along with SHE changes

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# Introduction

This learning module is for those directly employed by London Underground with a need to work on LU infrastructure.

## Prerequisite material

You must read and take in the information in this learning material to prepare you for the LU worksite safety and security induction assessment. There are five knowledge checks within this learning material. You won't be able to progress to the next section until you've answered the knowledge check.

Your eLearning profile includes settings that look for completion of this material before you are able to open the assessment. The settings look for the following condition:

- You've looked through at least 80% of the material in this document

Once you've completed the pre-learning you will be able to access the assessment. You can do that straight away using the information at the end of this document.

## Aim of this learning

The aim of this learning is to provide you with:

- Overview of the access arrangements for working on London Underground (LU) infrastructure
- Understanding of how to stay safe in the railway environment
- Understanding of the correct responses when face with operational security risks

## **Assessment**

You'll be assessed on the underpinning knowledge and understanding you have gained by reading this distance learning information. The assessment is computer based and consists of multiple-choice questions which require you to input the correct answers. In order to achieve the required standard in the assessment you must answer at least 18 questions correctly out of 22.

The time allowed for the assessment will be 60 minutes.

## **Achievement**

Once you have achieved the required standard in the assessment, you will be issued with a certificate valid for five years and an assessment record is entered onto your SAP record.

## **Support and advice**

If you require any support you should email:  
sentinel@tfl.gov.uk

Your question or query will be answered within 24 hours (excluding weekends and public holidays).

# Documentation

## London Underground rules

LU has rules and procedures in place for your health and safety.

The rules for working on LU infrastructure are contained in LU Rule Books 1 to 23 and supporting documents. The rules are mandatory and must be complied with at all times.

## Certification

When working on LU infrastructure you must have the correct certification for the activity you will be carrying out, for example to work on the track with trains moving under protection, you would need to have a track certificate endorsed basic track awareness (BTA).

There may be several other certification/licence/qualification requirements that you need to work on LU infrastructure, for example:

- first aid
- manual handling
- small plant
- power tools
- welding

You may also need documentation that is relevant for your certificate to be valid, for example type training for a piece of equipment that you may use. Any certification and associated licences should be carried with you at all times when working on LU infrastructure.

## Health, Safety and Environment bulletins

Health, Safety and Environment bulletins are issued to alert you of any issues relating to health, safety and the environment in the

workplace. Any bulletin relevant to the specific work activity you are involved in will form part of the pre-work safety briefing.

When you complete this course, you will be sent a 'Health and Safety essentials welcome email'. In this, there will be links to additional eLearning and to a library hosting all safety bulletins.

## Method statement and risk assessment

The site person in charge will have a method statement that describes how the work will be done. Risk assessments will identify any risks that can affect health, safety and the environment.

All work requires a method statement and risk assessment to be in place.

Before you start work you'll be briefed by the site person in charge on what you're going to be doing, any hazards associated with the work activities and how to keep yourself safe from these hazards.



Remember ... you must tell the site person in charge if you don't receive or understand the briefing.

## Check of knowledge...

How will you know about any hazards that may be present in the worksite?

Select one from the bullet points below:

- The site person in charge will brief on me on the details of the Method Statement including risks
- The customer service supervisor will tell me when I get to the station
- I will see them as I work
- I'll need to look up which hazards are present using the risk register



## Personal responsibility

Approved Personal Protective Equipment (PPE) must be worn at all times when working on LU infrastructure. PPE can consist of some or all of the following:

- high visibility garments
- hard hat
- protective footwear
- gloves
- ear defenders
- protective glasses
- dust mask
- 

PPE must be in good condition and worn as stated in the method statement.

### Drugs and alcohol

In order to start work with a zero alcohol level, you should not consume any alcohol at all in the 8 hours before starting work and, in the 16 hours prior to that, you should not consume more than 7 units of alcohol.

A unit of alcohol is (as a general guide only) half a pint of normal strength beer, a single measure of spirits or one glass of wine. If required you must undertake a drugs and alcohol test. Random tests can be carried out at any time. If you refuse to be tested you will be deemed to have provided a positive sample.

It is an offence to work under the influence of drugs or alcohol on LU infrastructure and may lead to prosecution. If you are taking medication you must always report it to your line manager or the site person in charge before the start of your shift.



Remember...many over the counter drugs can cause drowsiness, which can affect your ability to work. Always read the label and follow the advice given.

## **Fatigue management**

If your work schedule is not managed it can have a negative effect on your physical and mental well-being. You must inform your line manager or the site person in charge if you are aware that you have a medical condition that could make you more liable to fatigue at work. When you book on for work, you are declaring that you are fit for duty. If you believe fatigue is, or may become an issue you should raise this with your line manager or the site person in charge as soon as possible.

## **Restricted items**

There are some items that can contribute to accidents and incidents, therefore the following items are restricted:

- radios
- personal audio devices,
- mobile phones with ear pieces
- the use of metal ladders (including towers) near live track

## **Serious and imminent danger**

If you believe that you are in serious or imminent danger, you must stop work, move to a place of safety and report the incident to the site person in charge. You should not resume work until action has been taken to address the incident.

## **Reporting incidents and near misses**

A near miss is an incident which could have caused harm, loss or damage, but did not on this occasion. An incident should be reported as soon as possible through the appropriate incident

reporting process. If there is a near miss in a worksite the incident must be reported to the site person in charge.

To report incidents and near misses by phone, you need to call 0800 092 5995 or auto number 1558.

The online e-form to report incidents, is not effected.

## Confidential Incident Reporting Analysis Service



The Confidential Incident Reporting Analysis Service (CIRAS) is a reporting function which gives you the option to report safety issues when you are unable to report them in the normal way.

This system:

- Is strictly confidential and
- Is independent of LU
- Ensures that a response to the issue is provided

We encourage everyone to register with CIRAS - using the sign up option on their website. You can do this using your work or personal email address.

CIRAS can be contacted on:

Phone: 08004101101

Text: 07507285887

## Track and station equipment

Care should be taken when you come into contact with track or station equipment. For example:

- Cables
- Signalling equipment
- Aerials
- Antennas
- Cameras

Any damage to track or station equipment must be reported to the site person in charge.



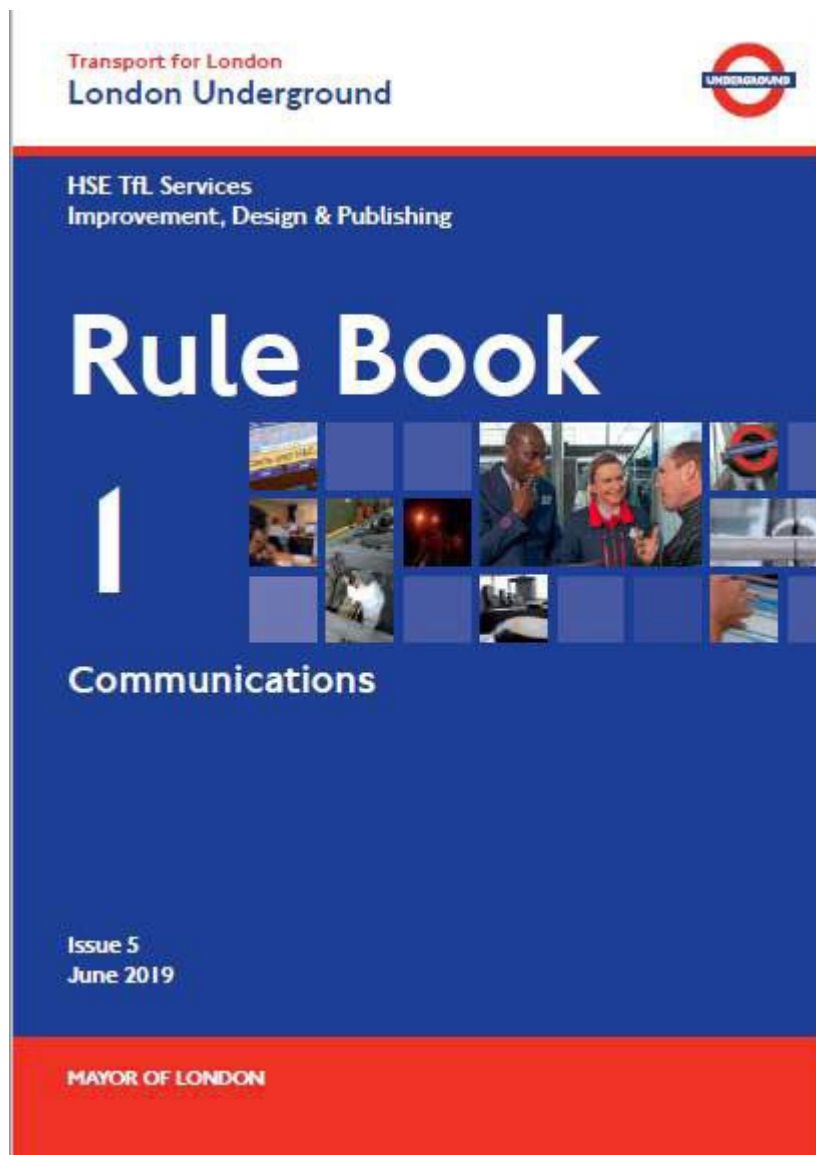
It's the overall responsibility of your employer/line manager to provide you with the necessary information and key safety training. This will support you with your specific role & responsibilities when working for or on behalf of London Underground.

You'll receive links to further useful training after completing the worksite safety induction.

# Communication

Operational communication is key to how we function safely as an organisation. Rule book 1 focuses on all aspects of communication. There's a link to Rule Book 1 under the front cover image below.

Operational communications sets out the protocols and responsibilities for effective and efficient communication. Feel free to explore Rule Book 1 further if you want; we will focus on the key points here and now.



Operational Communications information has been taken from Rule Book 1

When communicating safety critical information, you must communicate clearly so that any message you are giving is understood. When giving a message make sure:

- you plan what you are going to say
- you use the phonetic alphabet
- you are talking to the right person, and that person knows who you are
- your message is:
  - accurate
  - brief
  - clear and
  - professional
- you understand the information and any action that is required
- that you know how to make contact again (if required)
- you record any details in a logbook or your notebook (where applicable)
- you repeat back any message you are given

You should start your message by:

- stating who you are
- asking who you are talking to
- stating where you are
- stating why you are calling

## Phonetic alphabet

The phonetic alphabet is used to identify letters of the alphabet in order to spell words and place names that are difficult to pronounce.

A - Alpha  
B - Bravo  
C - Charlie  
D - Delta  
E - Echo  
F - Foxtrot  
G - Golf  
H - Hotel

N - November  
O - Oscar  
P - Papa  
Q - Quebec  
R - Romeo  
S - Sierra  
T - Tango  
U - Uniform

I - India  
J - Juliet  
K - Kilo  
L - Lima  
M - Mike

V - Victor  
W - Whiskey  
X - X-ray  
Y - Yankee  
Z - Zulu

## Using numbers

If you are using numbers 10 and over in your message, you must say them one at a time. For example, 'Train 123' must be spoken as 'Train one two three' not 'Train one hundred and twenty three'.

You must also say the number '0' as 'zero'. You do not need to quote numbers separately when you refer to time, for example, the time 13.17 should be stated as 'thirteen seventeen'.

## Check of knowledge...

Why do we want you to use the phonetic alphabet when passing Operation Communication?

Select one from the bullet points below:

- To help people where English isn't their first language
- To allow us to share information with the emergency services
- To help support London Underground's corporate identity
- It ensure that words and letters that are hard to pronounce are correctly understood by the receiver

# Locations

## Work locations

You may have to work in the following areas depending on the activity you will be carrying out:



Example of a worksite on a station platform

## Stations

You can work at a station providing the proposed work has been approved and does not cause inconvenience or risk to customers.



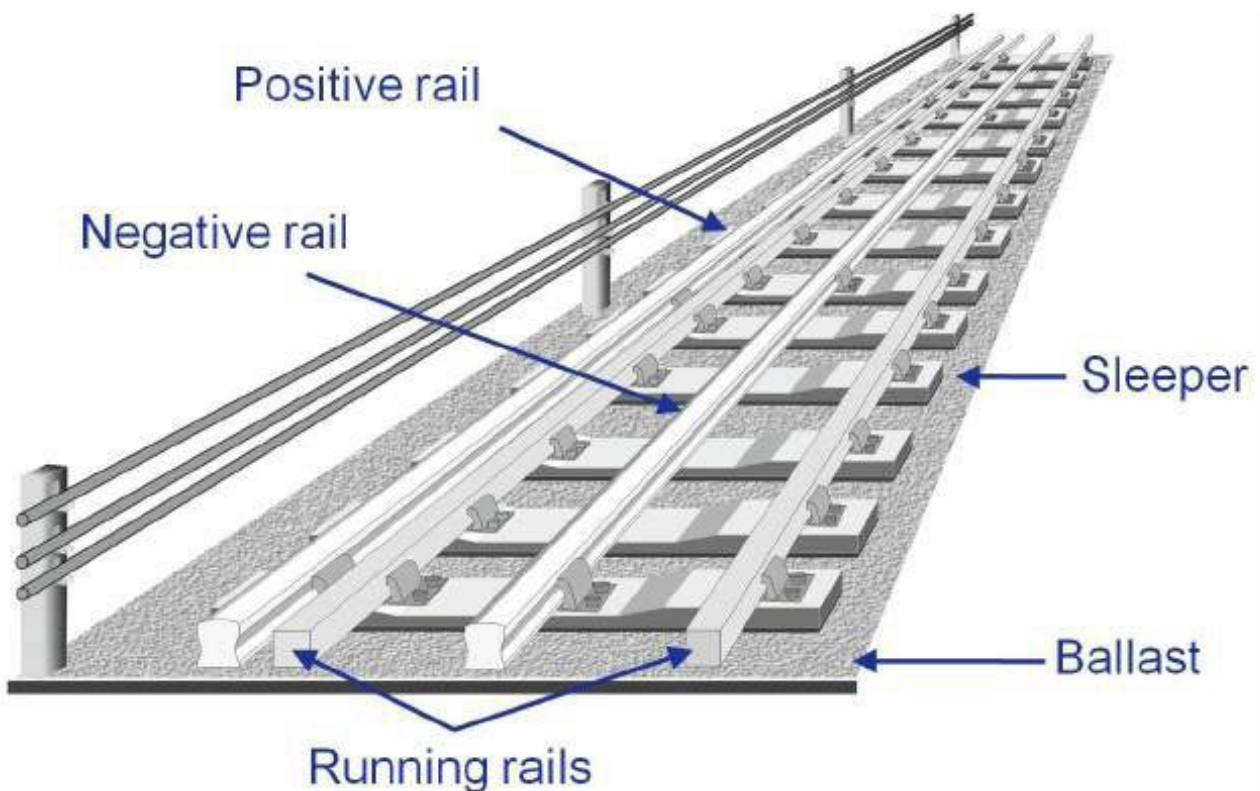
## Platforms

You can work on a platform providing the work has been pre-planned and approved.



If you are working on a station platform you must consider that trains are running and traction current is on.

## Track location



Example of track components

## Track

You can work on the track when trains are running and traction current is on providing you are correctly certificated and protection is in place.



Remember ... you must not step on any rail. The safest place to walk when on the track is in the cess whenever possible.

You are on or near the track, if you are:

- within two metres of any rail
- on the permanent way
- on a platform end ramp

You are not on or near the track, if you are:

- on a station platform  
in an area guarded by a physical barrier



The level part of a platform which is separated from the public area by a barrier, despite not being for public use is part of the platform and not part of the track.

## Depots

You can work in a depot providing you have the correct certification.

## Signing in at LU premises



**Example of a Staff Assembly Point indicator**

You must always sign in when entering LU premises, this is:

- To allow you entry on to LU infrastructure
- So that you can be located in the event of an evacuation

When signing in you must ensure you:

- Sign the visitors book and/or the Person in Charge Evacuation Register (PICER)
- Obtain a visitors pass or sticker (which must be worn at all times)
- Are aware of where the Staff Assembly Point (SAP) is located, and
- The emergency procedures for that location

If you have to access a station that is unstaffed or closed you will have to make the necessary arrangements to get signed in, and collect any keys for the relevant location. If you are working in a depot you must sign in at the gatehouse, and report to the duty depot manager's office.

## **Signing out of LU premises**

When you have finished work you must sign out and return your visitors pass. If you do not sign out of the visitors book and/or the PICER, it will show you as still on the premises.

You must not sign out on behalf of a colleague.

## **Heathrow Express and London Overground**

Your line manager must brief you on the safety procedures before working in these areas.

## Roles and responsibilities

When working on LU infrastructure you may come in to contact with:

A customer service supervisor/manager (CSS/CSM) who is responsible for:

- Managing the station
- Signing people in and out of a station
- Evacuating people from the station in the event of a fire or other emergency

A Site Person in Charge of the work (SPC) who is accountable for:

- Ensuring there is a safe system of work
- The work in progress and the programme of work
- The discipline of the workgroup
- Briefing the workgroup
- Signing in and out with the station supervisor
- Checking certification of the workgroup
- Plant and materials
- General health and safety
- Liaising with the station supervisor, depot duty manager and the person providing protection

A Site Person in Charge of the work is usually identified by a white armband with orange lettering, worn on the left arm above the elbow.



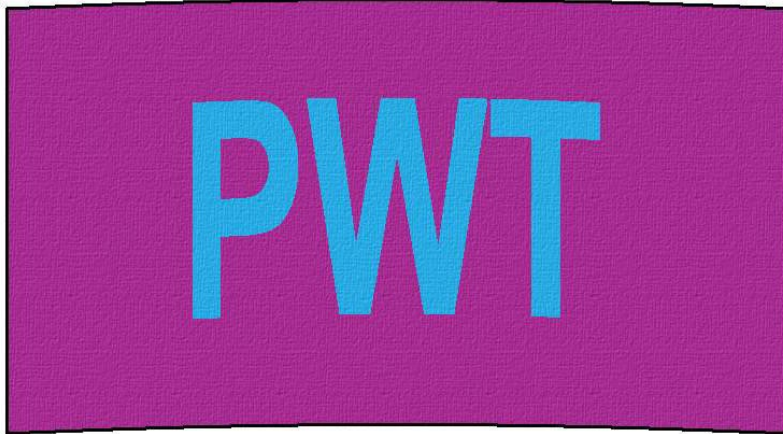
Example of an armband worn by a site person in charge of the work

## Protecting Workers on the Track (PWT)

A person protecting workers on the track is identified by a claret armband with blue lettering, worn on the right arm above the elbow.

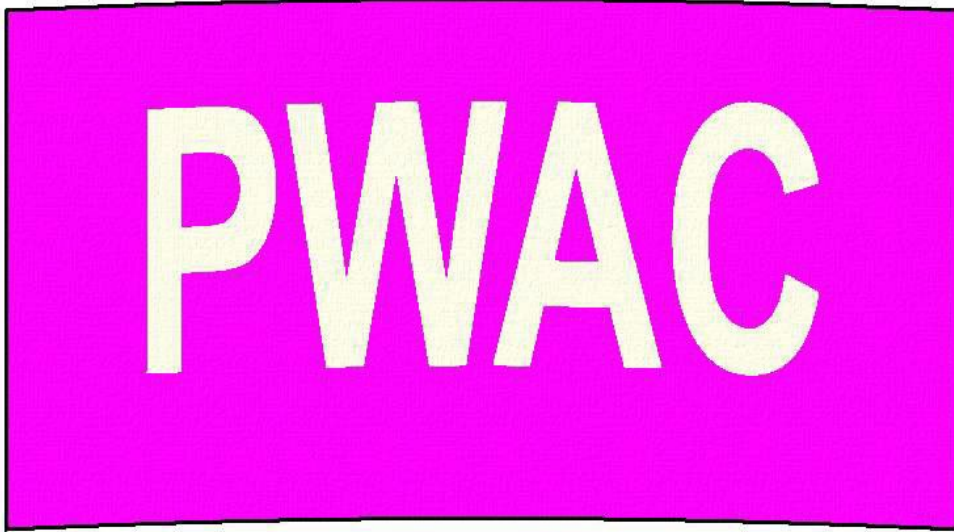
A person protecting workers on the track is needed when a workgroup accesses the track during both traffic and engineering hours. They're responsible for:

- Safely managing worksites and providing protection when a workgroup is working on or about the track
- Protecting the workgroup during traffic hours
- Protecting the workgroup and safely managing the worksite in engineering hours
- Protecting the workgroup and safely managing the worksite in depots (when safe to do so)
- Testing the Track to see that traction current has been switched off by using a current rail indicating device (CRID) or permanent current rail indicating device (P-CRID) before allowing people to access the Track



**Example of an armband worn by a person protecting workers on the track**

## Possession Works Access Controller (PWAC)



### Example of an armband worn by a possession worksite access controller

A possession worksite access controller is responsible for safely managing the access and egress of a possession worksite.

A possession worksite access controller is identified by a pink armband with white lettering, worn on the left arm above the elbow.

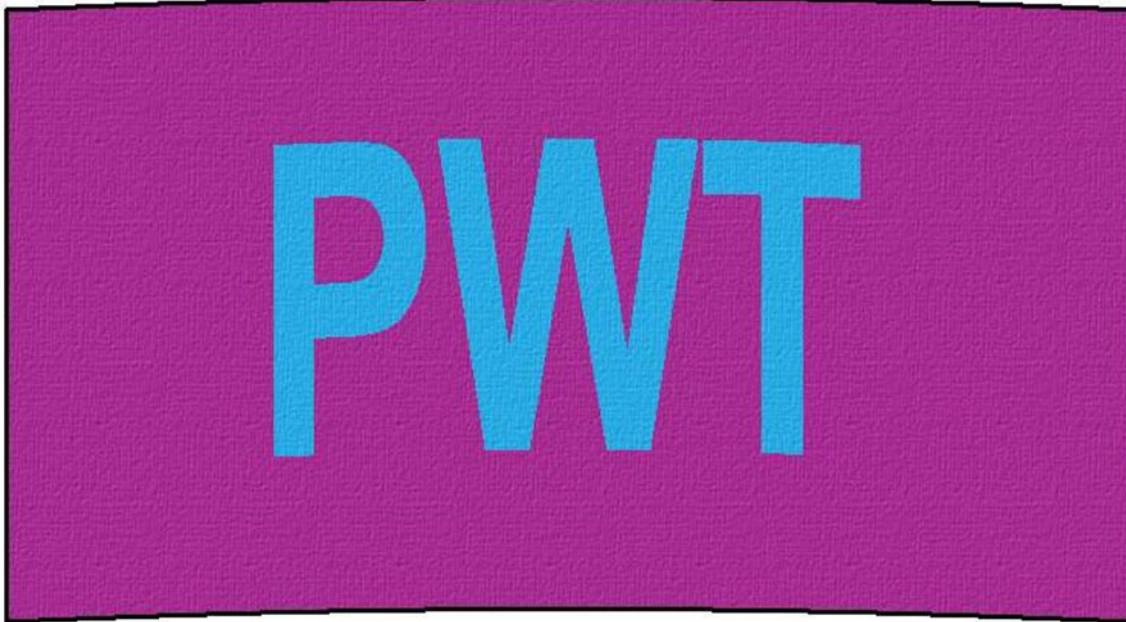
## Depot Duty Manager/Maintenance Manager (DDM)

A duty depot manager/maintenance manager operations who is responsible for managing a depot.

There may be other people that you could come into contact with depending on the activity or task you are carrying out.

## Check of knowledge...

What is the person who wears this armband responsible for providing?



Select one from the bullet points below:

- Controlling the movement of engineering trains
- Protecting the workgroup during engineering and/or traffic hours
- Controlling access to a possession worksite
- Booking people on and off LU station premises



# Emergency evacuation and Fire

## Triangle of fire

For a fire to start, the three elements of a fire have to come together at the same time, this is known as the triangle of fire.

The three elements of the triangle of fire are:

- Heat
- Oxygen
- Fuel

If any one of the three elements is removed the fire will go out. Each of the elements can be removed by:

- Cooling to remove the heat
- Smothering to remove the oxygen
- Starving to remove the fuel





Remember ... you must not re-enter the premises until you are told to do so by an authorised person (eg. someone from the Fire Brigade).

## Fire prevention

To help prevent a fire you must:

- remove rubbish from the worksite
- keep flammable liquids in sealed metal containers
- switch off electrical equipment when not in use

## Discovering a fire

If you discover a fire you must:

- raise the alarm
- go to the SAP when the evacuation alert sounds
- contact the emergency services

If you are working on a station, the customer service manager/supervisor will evacuate the station and call the Fire Brigade.



### **Fire call point**

If you discover a fire you must:

- raise the alarm
- go to the SAP when the evacuation alert sounds
- contact the emergency services

If you are working on a station, the customer service manager/supervisor will evacuate the station and call the Fire Brigade.

## **Responding to a fire alarm**

If the fire alarm sounds you must:

- Immediately follow the instructions given to you at the safety briefing
- Evacuate
- Walk and not run
- Go to the SAP
- Not delay to collect your belongings
- Not use lifts
- Close doors and windows behind you

## **Tackling a fire**

You should not attempt to tackle a fire. It should be left to trained personnel, for example the Fire Brigade.

## **Fire blanket**

You may find a fire blanket in locations where fire fighting equipment is stored.

## Fire extinguishers



### Types of fire extinguisher

There are three types of portable fire extinguisher that can be found on LU stations:

- Water
- AFFF (foam)
- CO<sub>2</sub>

The colour coding on a fire extinguisher is:

- Red – Water
- Cream – AFFF (foam)
- Black – CO<sub>2</sub>

## **Unattended items**

Unattended items left on LU infrastructure could be treated as a suspect package. If you find an unattended item you must:

- Ask people in the immediate area to check if it's theirs
- Not touch or move it
- Immediately report it to station staff, depot staff or the site person in charge
- Not use a radio or mobile phone in the area

## **Electrical equipment**

You must not work on electrical equipment unless you are competent to do so.

# Operational security awareness

## Security Culture

Security continues to be of paramount importance and on the railway it is regulated by the Department for Transport (DfT).

- Your vigilance is key to preventing security incidents. In order to maintain a good security culture, the following principles need to be adhered to:
- The Supervisor will provide you with a visitor pass and this should be worn at all times when you are on the station
- At staffed stations you will need to make contact with and sign in with the relevant Customer Service Supervisor for the station. They will inform you where the station RVP and Staff Assembly Points are situated and where the nearest hospital is in case of emergency
- Establish a line of communication with the station supervisor so that you know how and who to report incidents to
- If your work requires you to gain access into non-public areas of the station, please make sure that you check that the door is secure behind you and challenge anyone trying to follow you through the door (tailgating)
- Report anyone apparently loitering or acting suspiciously - don't ignore it
- Whilst you are on the station be on the lookout for any unattended items. If any items are seen, immediately report this to a member of station staff

## Potential types of attack

DfT requires you to be aware of - and prepared for - a number of different types of attack.

The following sections provide further information.

1. **Firearms Attack / Bladed Weapons Attack (Run Hide Tell)**
2. **Unattended Items**
3. **Suspicious or Unusual Behaviour (WHAT protocol)**
4. **Hazardous Materials (Chemical Release)**
5. **Bomb Threats**

### 1. Firearms Attack / Bladed Weapons Attack (Run Hide Tell)

Attacks involving firearms or bladed weapons (knives/axes/machetes etc) are extremely rare but it is important that you're prepared for every eventuality.

The following advice will help you respond appropriately.

In the event of an attack:

#### **RUN –**

If there is an accessible escape path, evacuate the area.

- Under immediate gunfire – take cover initially but then leave the area as soon as possible and when it is safe to do so. (e.g. if the attackers are no longer a threat to you or others in your immediate vicinity)
- Nearby gunfire / attacks with bladed weapons - leave the area immediately, if possible, and it is safe to do so

Be aware of the location and direction of travel of the threat and evacuate away from danger. If possible tell operational station staff so they can commence their evacuation procedures.

Do not congregate immediately outside the station at nominated evacuation points. Rapid dispersal away from the area is vital.

Contact your work supervisor as soon as you can, so they are aware of your safety and location.

## **IF YOU CAN'T ESCAPE –**

Find a place to **HIDE** where the attackers are less likely to find you.

In some extreme situations it may be necessary to consider locking yourself, and others, in a room.

Are you working in a non-public / back-of-house area? If so use this to your advantage.

Barricade the door then stay away from it.

If possible, choose a room where escape or further movement is possible.

Silence any sources of noise, such as mobile phones, that may give away your presence.

Be prepared to move quickly if the threat changes or if directed by a police officer in uniform.

## **TELL –**

Report the incident through your normal processes to the Station Supervisor, they will ensure that the Police are notified.

Use the phrase “**Active Shooter**” or “**Bladed Weapon**” to describe the incident.

If you are unable to speak to the station supervisor then contact Police using 999.



Think about the following:

### **Details about the attackers:**

How many people are involved; What they were doing or saying; Types of weapons seen (If a firearm is being used is it long-barrelled or a handgun) and anything else they were carrying; Their physical description (including what they are wearing); Were they moving in a particular direction?

### **What is happening at the scene:**

Are people self-evacuating? Were shots heard? Are there any casualties?

How many people are left at the scene? Are you aware of any disabled or mobility-impaired customers at the scene who will need additional support with evacuation?

### **When the police arrive:**

If you are still in the area when the police arrive, be aware that:

- They may not initially be able to distinguish between you and the attackers
- They may be armed and point guns at you
- They may have to treat you and other public / staff very firmly

You should:

- Follow their instructions
- Keep your hands in the air, in view
- Avoid quick movements towards the officers
- Avoid pointing, screaming or shouting

## 2. Unattended Items

Unattended items, on railway premises, are relatively commonplace. Figures from railway lost property offices indicate that each year approximately a quarter of a million items are lost by passengers.

The overwhelming majority of scenarios are dealt with promptly by LU operational staff conducting an assessment utilising the **HOT protocol**.

The HOT protocol involves trained staff considering the following criteria:

**H - Hidden** - Has an attempt been made to hide the item from public view.

**O - Obviously Suspicious** - Does the item/bag display any obviously suspicious characteristics.

**T - Typical** - Is the item typical of what you expect to find in that specific location.

The HOT protocol is best carried out by a person who has a sound knowledge of the specific railway environment and the type of property normally found at that location.

Therefore, you're not being asked to conduct the assessment of the items, but we do want you to be constantly aware of your surroundings and on the lookout for any unattended items.

If you find an unattended item:

- Ask if it belongs to anyone in the immediate vicinity

If no owner can be found, immediately report the item to station staff or police so that they can carry out an assessment of the item.

If you are working in an area that is currently unstaffed, you should report the situation to the London Underground Control Centre (LUCC) via phones (Auto: 47300, Freephone 0800

616031) or help points as appropriate.

### 3. Suspicious or Unusual Behaviour (WHAT protocol)

After you have worked on London Underground on a regular basis, you'll begin to understand the look and feel of the normal range of behaviours amongst the customers and fellow travellers.

Therefore you'll also have an appreciation of when a person's behaviour is unusual or "out of the ordinary".

If you are worried about someone's behaviour or you see something that is "out of place" then please report your concerns to a member of LU operational staff or a police officer, utilising the **WHAT protocol**.

The **WHAT protocol** has been developed to serve two purposes:

1. Help you to evaluate behaviour deemed as being unusual and thereby establish by what means it could be suspicious
2. To provide a reporting format for the passage of information

The evaluation comprises of four interrelated groups of questions:

**What** is the person doing?

**How** are they doing it?

Whether they are **Alone** or with possible accomplices?

And, what is the nature of the **Threat** that they are believed to pose?

## **What are they doing?**

Are they being violent or are they just doing something that seems out-of-place?

Are they attempting to hide/conceal something?

Are they following someone?

Are they taking unusual interest in security arrangements, for example trying to see key codes, checking locked doors, etc

## **How are they behaving?**

Do they seem calm or agitated?

Are they trying to avoid detection? (Are they obviously aware of their surroundings?)

Could they be influenced by drink or drugs?

Are they being confrontational?

## **Alone or acting with others?**

Are they with other people?

If so, do they seem to be acting with a common purpose (e.g., all moving together?)

Have they been with other people who have moved away?

Are they pretending not to be with other people?

## **Threat – What type do they pose?**

Are they carrying an obvious weapon?

Do they appear to be concealing a possible weapon?

Are they carrying a bag or other container?

Are they holding something that could be used as a weapon?

Have they made a verbal threat/comment (e.g. “I have a gun in my bag”)

How are people reacting to them? Is the behaviour consistent with the ‘threat’ that has been suggested?

The **W-H-A-T protocol** is not only useful in information gathering and reporting for possible security related activity; it could also be used as a format to help assess whether someone is behaving in a way that might lead to a crime being committed or suicide attempt.

1. If you feel it is safe to approach and engage with the subject then talk to them in an effort to resolve the situation. However...
2. If you do not feel it is safe or appropriate to approach the subject, immediately escalate the situation to a member of station staff.
3. If at any stage you believe a subject’s behaviour poses an immediate threat to yourself or others, then take immediate action to move people away and request an immediate response from BTP.



#### Contact details for

Emergency: 999

Freephone: 0800 40 50 40

Text: 61016

## 4. Hazardous Materials (Chemical Release)

Chemical materials act quickly and spread rapidly. They would be spread by the movement of trains or person to person contact.

In a mass-transit environment like London Underground, the first warning of a release of a hazardous chemical material would be through reports of increasing numbers of people collapsing for no apparent reason at a particular location.

Our top priority is to establish the nature of the incident – quickly, accurately and safely.

Although infrequent, other station incidents might be responsible for a number of casualties in one particular location such as: groups of passengers suffering heat exhaustion because of a train stalled in a tunnel or a major accident on an escalator.

Other characteristics like unpleasant odours or chemical smells, stinging eyes and coughing might be apparent. CS gas, pepper or mace spray can produce similar symptoms, but would be unlikely to cause people to collapse.

The release of a fast-acting hazardous material is unlikely to affect only a few people leaving most other people unaffected. Such hazards are likely to produce increasing numbers of similar casualties in close proximity to each other.




Therefore if you believe that a fast-acting hazardous material is present in your location you should:

1. Take all reasonable steps to move yourself and others away from the incident locus into fresh air, where the effects of the hazard will be lessened and people will be treated more quickly.
2. Immediately escalate the situation to an operational member of LU staff or a Police Officer, so they can take the steps to evacuate as appropriate.

Other quick-time options to be considered in advance of the Emergency Service response include:

- Once into fresh air, encourage others to discard their outer layer of clothing if believed that they are contaminated
- If there are contaminants on exposed skin, encourage blotting with a dry absorbent material.

## Summary

	<p>REMOVE people (including you) away from the hazard, towards fresh air and away from the scene. Once in fresh air</p>
	<p>REMOVE outer garments if you believe they are carrying contamination. This is an urgent priority action. Removing outer garments is a very effective means of achieving initial decontamination; but care</p>
	<p>REMOVE any visible contamination from skin. Blot any obvious contamination with a soft absorbent material. If the skin is itchy or painful, find a water source and then RINSE continually with water.</p>



This immediate decontamination activity is an individual responsibility



## 5. Bomb Threats

### Background

The vast majority of bomb threats are hoaxes designed to cause alarm and disruption. As well as the rare instances of valid bomb threats, terrorists may also make hoax bomb threat calls to intimidate the public, businesses and communities, to draw attention to their cause and to mislead police.

Whilst many of these threats involve a person-to-person phone call, an increasing number are sent electronically using email or social media applications.

Therefore any person with a direct telephone line, mobile phone, computer or tablet could conceivably receive a bomb or other threat; as could those who deal with the public face to face.

Many of these threats are communicated to a third party; i.e. a person or organisation unrelated to the intended target and identified only to pass the message. Therefore you are just as likely to receive a threat against a non-LU location as opposed to a threat directly to your specific work premises.

No matter how ridiculous or implausible the threat may seem, all such communications are a crime and therefore they must be recorded and escalated quickly to ensure the appropriate police response.

### Telephone threat

If you receive a telephone threat you should:

- stay calm and listen carefully
- record key information on the bomb threat form (Appendix A)
- if practical, keep the caller talking and obtain as much information as possible
- if displayed on your phone, note the number of the caller
- if the threat is a recorded message write down as much detail as possible

## Direct threats

If the threat is delivered face-to-face:

- record key information on the bomb threat form
- try to remember as many distinguishing characteristics of the threat-maker as possible

## Written form

If discovered in a hard copy written form such as a note, letter or as graffiti:

- treat as police evidence do not handle any further and stop other people touching the item to preserve forensics.
- If possible take a photo of the message on your mobile device and be prepared to forward this picture to Police, once the matter has been reported to them

## E-mail, text message and social media

If the threat is received via email, text or a social media application:

- If possible take a screenshot or photo of the message
- note the sender's email address or username/user ID for social media applications
- cease use of the device, but leave it switched on and await further instruction from police
- do not reply to, forward or delete the message and do not continue to use the device on which the message was received, except where specifically instructed by police (e.g. forwarding a copy of the message to police)

## Response measures

As soon as you have captured all the necessary information in relation to the bomb or other threat, you need to ensure that the station supervisor is aware and that the information is immediately passed to LUCC so that they can inform British Transport Police (BTP).

BTP will either deal with the assessment of the threat or pass the information to the relevant Police force so that they can make an

assessment and subsequently reply to the threatened location with a recommendation for an appropriate response.

You must not take pre-emptive action to evacuate premises, until you have received a specific recommendation from the police.

This is because the police may have further intelligence or information relating to the bomb threat, and can assess whether it is a hoax call or a specific tactic to move people from an area of relative safety (inside a managed premises) out into the unsupervised public arena.

# Safety signs

## British Standards safety signs

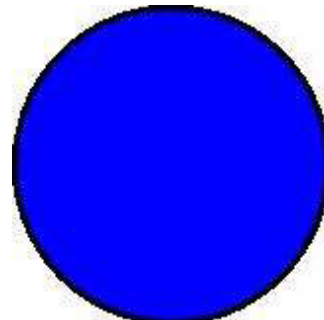
The British Standard European Number (BS EN) safety signs are in place for your health and safety, and must be obeyed at all times.



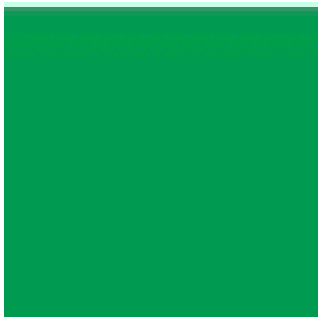
Warning - for example high voltage is present



Prohibition (must not do) - for example no smoking in this area



Mandatory (must do) - for example you must keep fire doors shut



Safe way - for example fire exits



Fire equipment - for example fire equipment is nearby

## BSEN sign examples



High voltage warning



Fire door - must keep shut



Fire exit - safe way



**NO SMOKING  
NO VAPING**

Must not sign - no



Fire equipment location - extinguishers

## Hazard symbols

Hazardous substances in the workplace are identified by the symbols shown below. The table also shows what each symbol means, what it can do if untreated and a workplace example.



What it means	What it can do	Workplace example
Corrosive	May destroy living tissue on contact	Sulphuric acid



What it means	What it can do	Workplace example
Caution - used for less serious health hazards like skin irritation	Can cause inflammation to the skin	Bleach



What it means	What it can do	Workplace example
Explosive	Can explode	Detonators



What it means	What it can do	Workplace example
Dangerous to the environment	May present an immediate or delayed danger to one or more components of the environment	Engine oil



What it means	What it can do	Workplace example
Toxic	Can cause damage to health	Lead paint



What it means	What it can do	Workplace example
Long term health hazards such as carcinogenicity	Can cause respiratory problems	Asbestos



What it means	What it can do	Workplace example
Oxidising	Can react with other chemicals	Chlorine



What it means	What it can do	Workplace example
Gas under pressure	Gas released may be very cold	CO2 fire extinguisher



What it means	What it can do	Workplace example
Flammable	Can catch fire	Gas

The site person in charge will brief you on any harmful substances that you may come into contact with.

# Chemical (including asbestos) hazards to health

## Asbestos

Asbestos is a natural mineral found in rock. You cannot tell if material contains asbestos simply by looking at it, as asbestos is often masked by other materials.



Remember ... products that contain asbestos can look identical to those that do not.

## The law

Asbestos is banned from use within the United Kingdom; this also includes second hand use of asbestos products, such as asbestos cement sheets. The Control of Asbestos Regulations

2012 requires those who manage non-domestic premises to protect persons from the risk of ill health and exposure to asbestos. Their duty is to:

- Take reasonable steps to find out if there are materials that contain asbestos, and if so the amount, where it is and what condition it is in
- Assess the risk of anyone being exposed to asbestos fibres from the material identified
- Prepare a plan that sets out in detail how the risks from these materials will be managed
- Implement the plan
- Periodically review and monitor the plan to ensure it is always up to date
- Provide information on the location and condition of the material to anyone who is liable to work on or disturb it
- Provide mandatory training for anyone liable to be exposed to asbestos



## Effects on your health

Generally, materials in good condition that contain asbestos are safe. They become dangerous when they are damaged or have deteriorated.

When asbestos is broken down it releases tiny fibres into the air. These fibres, when breathed in can get deep into the lungs. If the fibres get lodged in your lungs they cannot be broken down by your body's natural defences or coughed out, this can then lead to asbestos related diseases such as lung cancer and asbestosis.

These diseases will not affect you immediately; they can often take a long time to develop.

## Asbestos on LU infrastructure

We know that various materials used on LU infrastructure contain asbestos, for example:

- Sheathing for cables and washers
- Insulation
- Ceiling and floor tiles
- Pit blocks
- Tunnel ring caulking
- Noise Shelf within tunnel sections (Noise Reduction Equipment - NRE - Tunnel Remnants - link to safety bulletin No 6a in your 'H&S essentials' pack)
- Cable troughing
- Corrugated sheeting
- Cellactite sheeting
- Rope gaskets

# Photographic examples



Cable sheathing and washers



Insulation



Corrugated sheeting



Cable wrapping



Noise Shelf within tunnel sections (NRE)

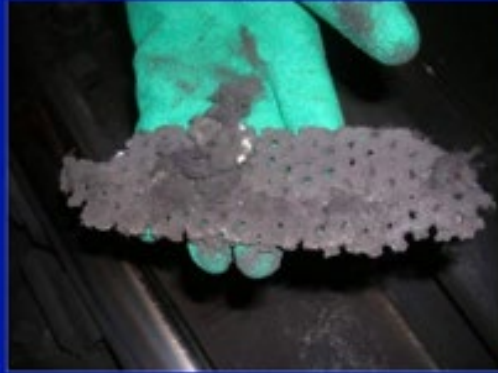


Noise shelf remnants

Cable sheathing and washers	Insulation
Corrugated sheeting	Cable wrapping
Noise Shelf within tunnel sections (NRE)	Noise shelf remnants



Noise shelf remnants - 2



Noise shelf remnants broken away - 3



Cement troughing



Cellatite sheeting - 1



Cellatite sheeting - 2

Noise shelf remnants - 2	1 Noise shelf remnants broken away - 3
Cement troughing	Cellatite sheeting - 1
Cellatite sheeting - 2	

## Asbestos surveys

London Underground have a legal requirement to undertake asbestos surveys. Outcomes from these surveys will be recorded on the 'TfL Hazardous Materials Register'.

The surveys are then used to produce risk assessments and set priorities for the appropriate managers.

## Your responsibilities

It is your legal duty to cooperate with the duty holder in managing asbestos. This means you must comply with any instructions regarding asbestos given to you in training and during safety briefings you receive onsite.

You must avoid disturbing or attempting to remove known materials that contain asbestos at all times. If you uncover anything that may contain asbestos, you must stop work and report it to the site person in charge.

You must not return to an area that contains asbestos until you are told it is safe by the site person in charge. Always ask the site person in charge if the building you are working in has been checked for asbestos.

## Accidental disturbance of asbestos

If you accidentally disturb asbestos, you must:

- Stop work immediately and leave the area
- Tell the site person in charge, line manager or customer service manager/supervisor
- Make sure the accidental disturbance is reported through the appropriate incident reporting process

## Storage of asbestos

If any waste is identified or advised as actual 'Asbestos containing waste', under regulations (Control of Asbestos Regulations - 2012) it cannot be stored at any time.

It must be removed under specific controlled processes and protocols using only licensed contractors. It must be removed to a specific 'Hazardous Waste Licensed Landfill' site.

## Further training

Once you've completed this LU Work Site Safety induction learning material, you'll be given access links to further Asbestos Awareness eLearning. Here you'll find in-depth guidance on identifying asbestos hazards, reporting concerns and safe-working practices.

This course provides an awareness of how to recognise and manage the risks associated with asbestos at TfL, including:

- What asbestos is and its properties
- Types of asbestos containing materials and uses within TfL/LU
- Potential health risks
- Legal requirements under the Control of Asbestos Regulations (2012)
- Emergency procedures

This course is aimed at those who are required to plan, coordinate and undertake work in areas where asbestos may be present, as well as those who manage and supervise staff in these roles.

**This additional training is optional and does not form part of the Worksite Safety Induction.**

## Lead

Lead is most commonly associated with plumbing or roof work, but it has also been used as a constituent of some paints. Any worksite where it is suspected that lead is present must be tested by the appropriate premises engineer before the work starts.

Lead usually enters the body by ingestion but can also enter by inhalation or via the skin. If you encounter any material that you suspect could be lead:

- stop work immediately and inform the site person in charge

- do not attempt to move it

## **Additional chemical hazard information**

Once you've completed this LU Work Site Safety induction learning material, you'll be given links to undertake further eLearning course relating to chemical risks that may be present in your place of work. This course covers -

- PCB's, Lead, Mercury and Diesel Emissions (DEEEs)

**This additional training is optional and does not form part of the Worksite Safety Induction.**

# Environmental hazards to health

## Leptospirosis

Leptospirosis (also known as Weils disease) is a bacterial infection which is transmitted by infected animals, most commonly from the urine of rats.

You can be infected by Leptospirosis through contact with sewage or water contaminated with rat's urine.

You can avoid infection by:

- Covering exposed cuts and abrasions with a waterproof dressing
- Using suitable ppe
- Washing your hands before eating

## Further training

Once you've completed this LU Work Site Safety induction learning material, you'll be given access links to further Hazardous Materials eLearning. The module is designed to:

- Outline the potential health and environmental risks and effects of these hazards
- Provide an awareness of the associated legal requirements and emergency procedures in relation to these hazardous materials

It will provide an understanding of the following potentially hazardous materials and their occurrence within LU/TfL environments:

- Horsehair in plaster
- Rats
- Pigeon Guano & Dander

**This additional training is optional and does not form part of the Worksite Safety Induction.**

# Additional risks to health

## Needle-sticks



**Discarded hypodermic syringe**

A needle-stick is a hypodermic syringe. If you find a discarded hypodermic syringe you must:

- Not touch it
- Report it to the site person in charge

If you suffer a hypodermic syringe injury you should immediately seek medical attention and report the incident to your line manager or the site person in charge.



## Slips and trips

You should take care to avoid anything that could cause you to slip or trip, for example:

- Walking through mud
- Walking over cables
- Walking on sleepers
- Working in areas with poor lighting
- Walking on uneven surfaces
- Using grease or oil

You can avoid slips and trips by:

- Following good housekeeping guidelines
- Keeping the worksite tidy
- Paying attention to what you are doing
- Not cutting corners when it comes to safety
- Not being distracted
- Walking in the cess or on ballast

## Overhead line equipment (OLE)



Example of Overhead Line Equipment

If you have to work adjacent to Network Rail lines electrified by the 25kV

Overhead Line Equipment (OLE) system, you should always:

- Consider the overhead lines and attachments to be live at all times
- Make sure clothing and any items you are carrying are at least 2.75 metres from:
  - anything attached to or hanging from the OLE
  - any broken or disconnected wire connected to the OLE equipment
- Make sure that items do not come within 2.75 metres by:
  - carrying long items horizontally
  - keeping paint, water and other liquids away from where they might be thrown, fall or splashed onto OLE
  - keeping tools and equipment clear of the OLE
- Make sure you do not come within 2.75 metres when you are:
  - on a structure of any kind

- o standing on a vehicle

Do not attempt to remove objects of any description from the OLE system.

Work must not be carried out above any OLE equipment, for example, on bridges and embankments, unless there is a physical barrier protecting the work area from the OLE, or the correct isolation and earthing arrangements have been made by Network Rail.

# Site working

## Arriving at site

For your own safety when arriving at a site you should:

- Park in well-lit areas (if in a vehicle)
- Ensure you take the necessary precautions when working alone

## Parking

When parking a vehicle, you must have consideration for neighbouring properties. You should:

- Park in a responsible manner
- Use authorised parking spaces where appropriate
- Switch off the engine when possible

## Loading and unloading a vehicle

When loading and unloading a vehicle you should:

- Be trained and competent
- Observe rules on manual handling
- Use designated routes to load and unload tools and equipment
- Keep noise to a minimum
- Check the surrounding area for people and obstructions, including areas overhead

## First aid

When you arrive at a worksite you will be told:

- Who the First Aider is
- Where the nearest first aid point is
- Where you can find the emergency contact numbers

Any injuries must be reported to the site person in charge.

## The environment

We all have a duty of care to protect the environment by:

- Controlling waste and pollution


- Respecting biodiversity, for example protecting the natural environment and its variety of life forms  
You will be told by the site person in charge if there are any environmental restrictions that may affect your work.

## Spillages

When using liquid substances, you must make sure you have a spill kit available and the appropriate PPE to deal with any spillages. You must inform the site person in charge or the local manager of any spillages at the worksite.

## Storage of tools and materials

Whenever you need to store materials or equipment on London Underground (LU) premises, you must apply for a storage licence. This must be submitted to the relevant LU landlord manager (station storage) or Track Manager (lineside storage) 21 days before the work takes place (for initial storage requests).

Storage Licence		
To:	Landlord's Ref:	
From:	User's Ref:	
Department:	Section:	
Date:	Tel No:	Fax No:
Reason for Storage		
Type of items to be stored (tick as appropriate): Maintenance <input type="checkbox"/> Strategic spares <input type="checkbox"/> Project <input type="checkbox"/> Scrap <input type="checkbox"/>		
Location at which to be stored:	Exact site	Size of area required
<b>TO BE SUBMITTED AT LEAST 21 DAYS PRIOR TO COMMENCEMENT OF STORAGE PERIOD</b>		
Storage period required	From Date: Inclusive	To Date:
Full description and quantity of materials/equipment to be stored. Indicate (a) = non-flammable (b) = not readily flammable (c) = flammable (d) = highly flammable (e) = risk of toxic fumes in fire situation (f) = extremely flammable		
Proposed method of storage: <input type="checkbox"/> Bagged <input type="checkbox"/> Caged <input type="checkbox"/> In Compound <input type="checkbox"/> In Bins <input type="checkbox"/> Loose <input type="checkbox"/> Secured <input type="checkbox"/> Stacked (mark as appropriate)		
User department responsible officials		
Day Emergency Contact:	Office	Telephone No.
Name:		
Night Emergency Contact:	Office	Telephone No.
Name:		
Night Emergency Contact:	Office	Telephone No.
Name:		
Bakerloo, Victoria, Metropolitan, Hammersmith & City, Central and District line applications (for Lineside and Station fit only; not Stations or Depots) to be submitted to the line TISM.	Eclipse WO Number	
SIGNED	Date	
For and on behalf of the user department		
Name	Position	Signature
Conditions of licence to store		
1. The user accepts accountability to use the storage area only as detailed above		
2. The user accepts accountability for keeping the storage area in a safe and proper condition		
3. The user must vacate the storage area on or before the date shown or must apply for and receive an extension at least 7 days prior to expiry		
4. The user accepts accountability for the cleanliness of the storage area when the site is vacated		
5. Special conditions		
<div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>The licence, which can be withdrawn without notice, is granted for the period shown subject to the above conditions</p> </div>	Copies distributed by Applicant (tick as appropriate)	
	Fleet Manager	<input type="checkbox"/> CSS / CSM <input type="checkbox"/>
	Area Manager	<input type="checkbox"/> Line Safety Adviser <input type="checkbox"/>
	Service Control Manager	<input type="checkbox"/> Fire Safety Engineer <input type="checkbox"/>
	Train Crew Manager	<input type="checkbox"/> User Department <input type="checkbox"/>
	Trains Operations Manager	<input type="checkbox"/> Other (specify) <input type="checkbox"/>
<p><b>STORAGE CONTAINER AND/OR MATERIALS MUST BE SUITABLY FIXED AND SECURED AS PER LU STANDARD S1158, SECTION 3.9 (Track Inspection and Maintenance) and LF14 (Applying for a Storage Licence)</b></p>		
Corporate F-10819 A4		

Storage Licence

### Types of materials that can be stored

Any materials or equipment necessary for the maintenance or renewal of the operational railway can be stored on LU premises subject to the granting of a storage licence. Materials must be shown on the storage licence in accordance with the following definitions:

- Non-flammable, eg - metals
- Not readily flammable, eg - timber, some greases and oils (flash point above 55°C)
- Flammable, eg - diesel fuel, white spirit, paraffin (flashpoint between 21°C and 55°C)
- Highly flammable, eg - methylated spirits (flash point between 0°C and 21°C)
- Extremely flammable, eg - petrol (flash point below 0°C)





Check that the materials / equipment that need to be stored are not prohibited before applying for a storage licence.

Rule Book leaflet I4 will give you more details and links relating to the application and management of storage licences.

When storing anything lineside you must check that the items do not:

- Obstruct the line in a way for the movement of trains or other rail mounted vehicles
- Affect the sighting of and signal or lineside signage
- Present a slip or trip hazard to people working on the track
- Affect any places of safety or limited clearances
- Are properly secured in the way described on the storage licence
- Are stored in a location that minimises the opportunity of theft or vandalism

## Waste management

All waste must be stored away from drains and disposed of correctly. Hazardous waste and non- hazardous waste must always be kept segregated. You must inform the site person in charge or the local manager of any storage issues at the worksite.

### Specific arrangements for the storage of asbestos

If any waste is identified or advised as actual '**Asbestos containing waste**', under regulations (Control of Asbestos Regulations 2012) it cannot be stored at any time.

It must be removed under specific controlled processes and protocols using only licensed contractors. It must be removed to a specific '**Hazardous Waste Licensed Landfill**' site.

## Flammable liquids and gases

To minimise the risk of fire or explosion from the storage, transportation and use of flammable liquids and gases you should:

- Store them in approved storage areas
- Use the correct method for disposing of empty containers as detailed in the Site Waste Management Plan
- Have the necessary licence to transport liquid or gas

## Buried services

Buried services can be cables or pipes that carry, for example, gas, electricity or water under the ground. If you damage any buried service there is always a risk of explosion, electrocution, flooding or contact with hazardous substances.

The risks are mitigated by detailed pre-work surveys and investigatory work.

Remember:

- Always treat buried services as LIVE until proven otherwise
- Under no circumstances should you try to repair a damaged buried service
- Report any damaged buried service to the site person in charge
- Do not use exposed buried services as a convenient step or handhold

## Confined spaces

Confined spaces are locations that are enclosed, for example:

- A chamber
- A pit
- A tank
- A platform invert

There are additional risks for working in a confined space and those working in confined spaces must have had specific training. Arrangements for your safety will be put in place by the site person in charge.



## Using a lift, escalator or moving walkway

To use a lift, escalator or moving walkway to move tools or equipment you must have a valid movement of materials licence listing the tools and equipment to be moved. There must also be a certificated operator in attendance.



Remember ... you must report any damage to the lift, escalator or moving walkway to the site person in charge.

## Working at height

Before any work at height is undertaken it will be planned by a competent person who will use the following steps to make sure there is a safe system of work in place.

1. **Avoid** working at height wherever possible.
2. **Prevent** falls by using the correct equipment.
3. **Minimise** the distance of a fall.

Any individual involved in the work must be trained, competent or supervised by a competent person as detailed in the method statement.

All work equipment must be regularly inspected and, where applicable, erected by competent persons in accordance with industry or company standards and compliant with current legislation.

Arrangements for working at height will be detailed in the method statement and put in place by the site person in charge.

## Lifting equipment

Lifting equipment can only be used by trained and competent persons. If you find any lifting equipment out-of-date or damaged, you must report it to your line manager or the site person in charge and remove the equipment from use.

## **Electrical equipment**

All electrical equipment has the potential to be hazardous. If the electrical equipment is defective, you should report it to the site person in charge and remove it from use. As soon as you've finished with any electrical equipment you should make sure that it is switched off, isolated and stored away safely.

## **Vibrating tools**

Hand Arm Vibration Syndrome (HAVS) or Vibration White Finger is a condition caused by the prolonged use of vibrating tools. Symptoms include pins and needles in the hand and fingers, wrist pain and loss of grip strength. If you have any symptoms you must inform your line manager or the site person in charge.

Only use tools you are trained to use and make sure they are properly maintained.

## **Dust and dust control**

There may be dust in tunnels or from the use of tools and equipment that can irritate the nose, throat, lungs and eyes.

If your work is going to create dust it will be detailed in the method statement. You will be provided with the correct PPE which will include a correctly face-fitted mask specific to your face type.

## **Noise at work**

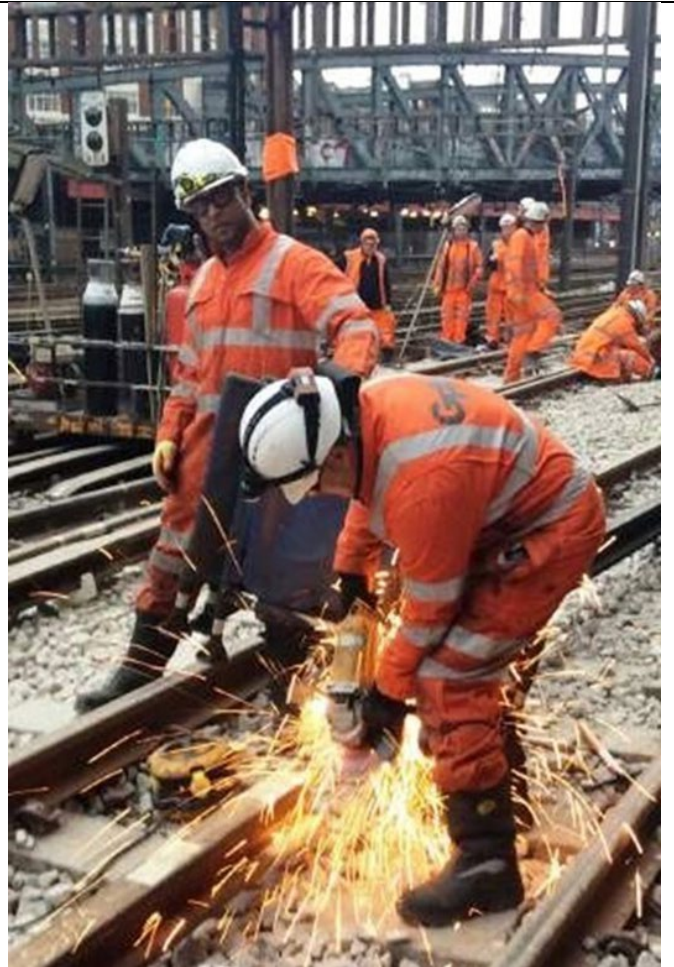
Exposure to excessive noise must be identified in the method statement. The site person in charge will make sure all necessary controls are put in place.

## Hot work

Hot work is described as:

- Cutting
- Welding
- Grinding
- Operation of bitumen boilers
- Use of blowlamps
- Braising and soldering

Before hot work is carried out you must have a hot works permit and a fire watch person must be present.



Example of hot working

## Moving machinery and 'Exclusion zones'



Example of an exclusion zone

When you are working in an area where machinery is moving, you must not enter the exclusion zone(s) kept around the machinery.

Before you pass or work near any machinery make sure you have the permission to do so from the machine/crane operator, banksman or site person in charge.

The exclusion zone(s) will be included in the worksite briefing carried out by the site person in charge.

## Leaving the worksite

You should always make sure that the worksite is left clean and tidy. It is the responsibility of the site person in charge to arrange for the removal and storage from the worksite of any:

- Equipment
- Materials
- Plant and tools

# How to book onto the 'LU worksite safety induction' assessment.

## Assessment

### Well done!

You've got to the end of the pre-learning content for LU worksite safety. You now have all the information you need to be safe on site and to challenge situations you feel may be unsafe. If there's a situation that you believe could present a risk to yourself or others, we want you to speak up.

## Additional learning

By completing this module, you now have a good idea of how to access and work safely in a TfL or LU worksite. You also know how to respond to any issues you may have around safety on site and how to report any safety concerns.

We'd like to draw your attention to some additional LU environment specific safety related courses.

Although not mandatory, doing these courses is recommended. The courses give you more in-depth detail on the differing types of asbestos containing materials and other hazardous materials found within the London Underground environment. You'll find out about the safety and control measures in place to manage these hazards.

The courses are free to access and support the safe working practices:
















- Hazardous Material (PCB and horsehair)
- Asbestos Awareness

You can access these courses at-

[www.professionalcommunities.org.uk](http://www.professionalcommunities.org.uk)

You'll need to set up your own account and then you'll find both modules under the Safety, Health and Environment section as shown below:

### ▾ Safety, Health and Environment

 Urban Safety	 
 Hazardous Materials Awareness	 
 Asbestos Awareness	 
 InfoExchange - Creating an Incident Report	 
 Health and Safety CDM DataStore	 

#### Screen shot from Professional Communities learning site

These courses will give you a greater awareness of additional hazards that you may encounter when working on our infrastructure.

Reports relating to safety incidents on our infrastructure are published in Safety Bulletins and Alerts. You can access all current and historic documents here:

- Safety Alerts/Bulletins

<https://rise.articulate.com/share/IL0LAJ8o66Dnzxwm2qOr8Vkp4VlaZkwF>

### Booking your LU Worksite Safety Induction

Let your line manager/company know that you've completed your pre-learning and you're ready to take the Worksite Safety Induction assessment.

Once your manager/company has your confirmation, you'll be booked onto an invigilated assessment at one of London Underground assessment centres.

**Good luck!**





## Contact

LU Skills Development

email: [LUSDdesign@tfl.gov.uk](mailto:LUSDdesign@tfl.gov.uk)



UNDERGROUND

EVERY JOURNEY MATTERS