

Access

# London Underground Industry Common Induction



## Learning information booklet

Issue 1

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## **Aim of this booklet**

The aim of this booklet is to provide an:

- overview of the access arrangements for working on London Underground (LU) infrastructure
- understanding of how to stay safe in the railway environment.

When you have read and understood the contents of this booklet you will need to undertake the LU Industry Common Induction computer based assessment.

## **Support and advice**

For support and advice about any information described in this booklet please email [sentinel@tfl.gov.uk](mailto:sentinel@tfl.gov.uk).

## **Sentinel smartcard**

When you have successfully completed the LU Industry Common Induction computer based assessment you will be issued with a Sentinel smartcard. The Sentinel smartcard:

- allows you to access and work on LU infrastructure
- must be shown on demand
- must not be used for travel
- can only be used by you.

If your Sentinel smartcard is misused it could be withdrawn.

## London Underground Rule Books

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.

## Individual responsibilities

When working on LU infrastructure, you are responsible for your own health and safety, and that of any other individual who may be affected by your acts or omissions.

## Certification

You must have the correct certification for the activity you will be carrying out, for example;

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

All LU certification must be carried 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. You must read or be briefed on all bulletins that have been issued.

## 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.

You will be briefed by the site person in charge on what you are going to be doing, and how to keep yourself safe.

### **Remember**

You must tell the site person in charge if you do not receive or understand the briefing.

## Personal Protective Equipment

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.



*Examples of PPE*

## 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.

## **Confidential Incident Reporting Analysis System**

The Confidential Incident Reporting Analysis System (CIRAS) system is a reporting system which gives you the option to report a safety issue if you are unable to report it in the normal way.

This system:

- is strictly confidential, and is independent of LU
- ensures that a response to the issue is provided.

CIRAS can be contacted on 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.



## Communication

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 clear, accurate and to the point
- 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 start a 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	N	November
B	Bravo	O	Oscar
C	Charlie	P	Papa
D	Delta	Q	Quebec
E	Echo	R	Romeo
F	Foxtrot	S	Sierra
G	Golf	T	Tango
H	Hotel	U	Uniform
I	India	V	Victor
J	Juliet	W	Whiskey
K	Kilo	X	X-ray
L	Lima	Y	Yankee
M	Mike	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'.

### **Work locations**

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

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.

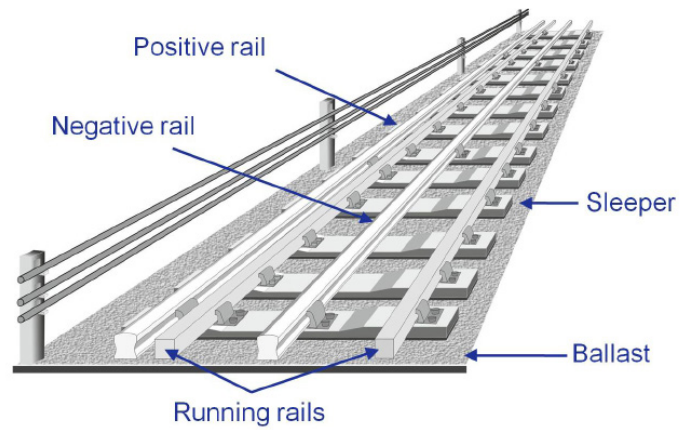


*Example of a worksite on a station platform*

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

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.



*Example of track components*

**Remember**

You must not step on any rail.

Depots

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

## Roles and responsibilities

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

- a customer service manager/supervisor who is responsible for:
  - *managing a 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 who is responsible for:
  - *the 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 customer service manager/supervisor*
  - *checking certification of the workgroup*
  - *plant and materials*
  - *general health and safety.*

A site person in charge is 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*

- a person protecting workers on the track who is responsible for.
  - *safely managing worksites and providing protection when a workgroup is working on or about the track.*

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



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

- a possession worksite access controller who 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.



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

- 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.

## **Signing in at LU premises**

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:

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



*Example of a Staff Assembly Point sign*

If you have to access a station that is unstaffed or closed, you will have to make the necessary arrangements to sign in and collect keys for the location.

If you are working in a depot you must sign in at the gatehouse, and then report to the duty depot manager/maintenance manager operations 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.

## Emergency evacuation

If the fire alarm sounds you must:

- immediately follow the instructions given to you at the safety briefing
- evacuate
- walk and not run
- not delay to collect your belongings
- not use lifts
- close doors and windows behind you
- go to the SAP.



### *Remember*

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

## Unattended items

Unattended items left on LU infrastructure could be treated as a suspect package.

If you find an unattended item you must:

- 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.

## Fire prevention

To help prevent a fire you must:

- clear 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.

## **Tackling a fire**

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

## **Electrical equipment**

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

## **Fire blanket**

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

## Fire extinguishers

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

- Water
- AFFF (foam)
- CO2.

The colour coding on a fire extinguisher is:

- Red – Water
- Cream – AFFF (foam)
- Black – CO2.



Types of fire extinguisher

## 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.

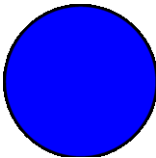


## British Standards safety signs

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



Fire equipment - for example fire equipment is nearby



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



Safe way - for example fire exits



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



Warning - for example high voltage is present



## Worksite hazards

A hazard is anything that has the potential to cause harm.

Before starting work you must check with the site person in charge that there are no known hazards that may affect you or the work, for example buried services.

## 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.

Symbol	What it means	What it can do	Workplace example
	Corrosive	May destroy living tissue on contact	Sulphuric acid
	Toxic	Can cause damage to health	Lead paint
	Oxidising	Can react with other chemicals	Chlorine
	Explosive	Can explode	Detonators
	Flammable	Can catch fire	Gas
	Dangerous to the environment	May present an immediate or delayed danger to one or more components of the environment	Engine oil
	Caution - used for less serious health hazards like skin irritation	Can cause inflammation to the skin	Bleach
	Long term health hazards such as carcinogenicity	Can cause respiratory problems	Asbestos
	Gas under pressure	Gas released may be very cold	CO2 fire extinguisher

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

## 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 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*

It is known 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
- cable troughing
- corrugated sheeting
- rope gaskets.



Cable sheathing and washers



Insulation



Corrugated sheeting

Asbestos surveys are undertaken at:

- stations
- depots
- rented properties
- other locations (for example the track).

These surveys are 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 at the briefings you receive on site.

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.

### **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.

### **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 rats urine.

You can avoid infection by:

- covering exposed cuts and abrasions with a waterproof dressing
- using suitable PPE
- washing your hands before eating.

### **Needle-sticks**

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
- 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.

### **Remember**

50% of slips and trips are caused by poor housekeeping.

## 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
  - 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.



*Example of Overhead Line Equipment*

## **Heathrow Express and London Overground**

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

### **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.

### *Remember*

Wildlife includes plants and animals.

## 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.

## Waste management

All waste has to 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.

## 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 checks 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 hand-hold.

## 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. 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 should 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.

**Avoid** working at height wherever possible.

**Prevent** falls by using the correct equipment.

**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 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.

## 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 watchperson must be present.



*Example of hot working*

## Exclusion zones

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.



*Example of an exclusion zone*

## 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.





