

TOUCH & GO

Briefer's notes



Buried Services

Buried services are widespread on infrastructure owned by Network Rail. They can be very dangerous and can cause damage to personnel and infrastructure if handled incorrectly.

ALWAYS ASSUME THEY ARE PRESENT AND IN USE UNLESS THERE IS PROOF TO THE CONTRARY.

Avoidance of buried services

- carry out a site survey, even if the response from the buried services information investigation does not indicate that buried services are likely to be present
- carry out a visual inspection of the work site and surrounding area for indications that buried services may be present
- even if there are no such indications, do not assume that buried services are not present
- use and refer to relevant Standard Maintenance Procedure (SMP) or Standard Projects Procedure (SPP) which will give you guidance on the avoidance of buried services

Cable avoidance equipment

- a search should be made of the work site by competent and trained staff using a Network Rail approved cable avoidance equipment (e.g. CAT Scanner and Genny)
- the equipment must not be damaged or defective and the service date shown must not have expired. The equipment must be supplied with suitably charged batteries
- plastic or concrete pipes, ducts and drains etc. are unlikely to be successfully detected unless a tracer wire is inserted and appropriate equipment used in conjunction with it
- cable avoidance equipment should be used frequently throughout the course of the work on site

Route identification

When the route of any service is confirmed, it should be marked across the work site. Do not assume that buried service routes follow a straight line or are at a constant depth.

Permit to dig

A permit to carry out ground disturbance work is required for each work site. Before commencing work on site, the Supervisor must ensure that he has briefed the Works Package Plan/Task Briefing for the work and has obtained the appropriate authorised 'Permit to Dig' form.

Ground disturbance work

All people working on or around buried services must be trained and competent. All personnel must be briefed at the start of site work and every day thereafter. A typical briefing should include:

- location of services
- types of services
- hazards associated with the services
- method of marking the services
- safe digging practice that will be used
- the risk that other buried services may exist that have not been previously identified

Safe digging practice

Ground disturbance work must be carried out carefully, using the appropriate recognised safe digging practice. See HSE booklet HS(G) 47.

Causes of damage to buried services

Examples of ground disturbance work that may cause damage to buried services:

- excavation using hand tools, mechanical excavators and augers; surface skimming
- driving into the ground Emergency/Temporary Speed Restriction (E/TSR) boards, fence posts, spikes, bars, thrust bores, piles, moles, augers, earth rods, road pinning
- vehicle and plant access
- 'Wacker' plate compactors

Damage

Damage to any buried service must be reported immediately to the supervisor and via established procedure to the relevant Infrastructure Fault Control. People on site must take the action as detailed in the contingency plan.

Overhead Line Equipment (OLE)

Hazards of the system

OLE work can generally be broken down into three types of isolation:

1. **Planned Isolations** – preplanned and booked
2. **Short Notice Isolations** – required to rectify a fault
3. **Emergency Isolations** – which switch off an area from one Neutral Section to the next, All Lines

The contact for all of these is the Electrical Control Operator (ECO).

The OLE equipment must be treated as live at all times unless it has been isolated and a Permit issued.

Traction Return Equipment/Return Conductor

Cables can be either Black or Red.

The Return Conductor and any associated Booster equipment must also be treated as live. If bonding for the Return Conductors is detached, this must be reported to the ECO. If they are Red in colour, this must be reported to the ECO without delay and not approached. If necessary, stay on site until staff attend.

Cables feeding the OLE can either be insulated or bare cables.

Personal safety

Unless you have confirmation that the OLE is isolated NEVER:

1. come within 9ft of the OLE
2. allow clothing, tools, equipment or any object you are carrying to come within 9ft of the OLE
3. come within 9ft of the OLE wire if it is hanging down or on the ground
4. disturb cabling that runs alongside or across the track – it may be live at 25Kv
5. direct any jet of water or any liquid towards the OLE
6. work on the OLE system unless you have a valid Permit to Work
7. work closer than the permitted distance without a Safe System of Work

If in doubt, contact the ECO for guidance.

If you are attending an accident site, be aware of the possible hazards from live cables or OLE and contact the ECO.

When reporting any fault

Give your name, job, employer, telephone number, location (place name, station, signal, or other structure), OLE structure number and the line that you are ringing about.

When reporting defects, be clear and concise. The ECO will ask for any other details required. Speak slowly and clearly.

Work on the OLE

You must be familiar with the area you are to work in. A site visit should have been carried out to determine what equipment and/or plant is required.

Preparation work should include the location of DEP's (Designated Earthing Points).

Identification of any potential hazards

- ensure adequate safety briefings are carried out
- always test before applying earths
- if the area has more than one Form B, establish the location of the other work site and earths
- check the access point is inside the work area
- carry isolation details forms, diagrams and instructions
- if this is a project, ensure it has a Works Package plan/Method Statement
- before any work commences, exchange details with the ECO
- carry out a briefing for those holding Form C (Permit to Work)
- do not make late changes
- do not take short cuts

BE AWARE!

**OLE IS A KILLER AND MUST BE TREATED WITH RESPECT.
IF YOU ARE NOT SURE, STOP IMMEDIATELY AND SEEK GUIDANCE.**

**THE ONLY SAFE WAY TO WORK ON THE OLE IS WITHIN AN
EARTHED AREA AND HOLDING A PERMIT TO WORK.**

The Third Rail

Hazards of the system

Live Conductor Rail Equipment (CRE) is a danger to life. You must treat CRE as live at all times, unless it has been isolated.

In an emergency you must receive an assurance from the Electrical Control Operator (ECO) that the CRE has been made safe.

Any work carried out on a DC electrified lines area must be risk assessed in accordance with Conductor Rail SMP

Personal safety

Unless you have confirmation that the CRE is isolated or protected NEVER:

- come within 300mm of the CRE
- touch broken or displaced CRE
- allow clothing, tools, equipment or any object you are carrying to come within 300mm of the CRE unless they are intended for this purpose
- step between the conductor rail and the adjacent running rail
- touch the collector shoes on any train, whether or not the collector shoes are touching the conductor rail
- step into flood water which may be in contact with the CRE
- direct a jet of water or any other liquid onto the CRE

**ALWAYS TREAT CABLES RUNNING ALONGSIDE AND CROSSING UNDER LINES AS LIVE.
WORK ON, OR WORK WHICH IS LIKELY TO AFFECT, HIGH VOLTAGE OR FEEDER CABLES MUST ONLY BE CARRIED OUT AS SHOWN IN NETWORK RAIL INSTRUCTIONS.**

Traction return current

Traction return current passing through the running rail is not normally a danger to life. However, you must take care not to touch the running rail at the same time as touching any metalwork nearby that is not directly connected to the running rails.

ALWAYS TREAT CABLES RUNNING ALONGSIDE AND CROSSING UNDER LINES AS LIVE — DO NOT INTERFERE WITH THESE CABLES OR THEIR PROTECTIVE COVERS.

Reporting damage and defects

You must immediately tell the ECO about any:

- damage to cables, cable routes or connected equipment
- flashovers or electrical explosions seen or heard in any electrical equipment
- burning, smoking or excessive arcing of conductor rails or cables connected to them
- damage to a conductor rail
- defect in a conductor or running rail that affects its electrical continuity, for example, a broken or parted rail
- broken or defective bond
- leakage of oil from a cable or cable oil tank

Give the ECO as much information as possible about the location, including the line concerned and any identification markings on the equipment. When reporting the problem, first make sure you are speaking to the correct person.

Then state:

- your name, job title and employer
- the line or lines concerned
- the location (for example, the nearest bridge, station, signal or other structure), or the mileage from a known/given location
- the telephone number or radio call number (whichever you are using), so that the ECO can contact you if necessary

Briefer's notes – Touch & Go

Key points raised in the film:

- **Electricity is all around you on the network:** in buried cables, overhead lines, the third rail
- **It's vital to get a good quality brief** and to listen to it carefully
- **Make sure you have the correct PPE**, in good, clean order
- **Remember the importance of the job you are doing** (for example, CAT scanning in this film) – demand the correct equipment and don't rush it
- **Think about whether you should be using Netlon fencing held by driven-in metal spikes.** (Some parts of Infrastructure Investment Group have banned its use)
- **For ground-breaking activities is there permit to dig?** Have trial holes been dug?
- **Flammable liquids** (make sure there's a fire extinguisher)
- **Disposal of waste** (for example, paint canisters)

Get an up-to-date, correct, concise and clear briefing

Don't be afraid to ask for clarification

SAFETY

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