



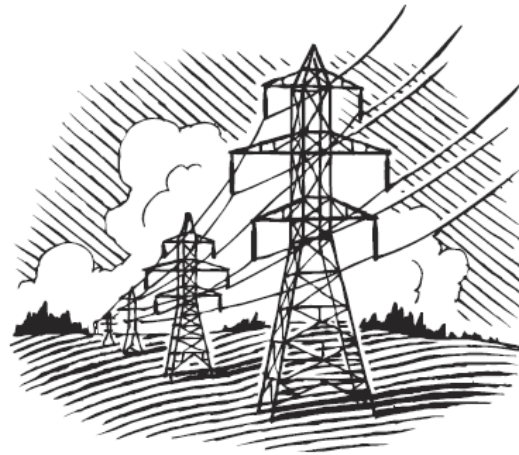
DANGER
High voltage

“The overhead power glove box guide”

“Your guide to staying safe when working in
the vicinity of overhead power”



Danger
of death



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A general guide to keeping safe when working with or near OH power

This guide is for engineers working in the external overhead network who encounter overhead power. It's designed to give you the information you need to keep yourself safe when working in the vicinity of overhead electric power or on Joint User Poles (JUPs). **Important:** This guide **does not** replace formal training.

First rule when working with overhead power is to fully understand what voltage you are dealing with.

DON'T GUESS! It could cost you your life.

If you aren't sure **DO NOT START WORK.** Contact someone, either your FMA/Coach/Manager, safety services via the HR service desk (0800 181 4321) or refer to ISIS documents listed in this guide.

Joint user poles refers to both BT **and** Distribution Network Operators (DNO) owned poles. The voltage on these pole should be **LOW VOLTAGE ONLY.**

DO NOT attempt to access any cables or BT line plant that's on a pole which carries **HIGH VOLTAGE** until you've permission to do so from the DNO and have contacted your manager. (Section 4 which details the safe working distances from HV)

If you find any situation you consider unsafe or breaches current guidance concerning BT line plant and its proximity to overhead power you **must** raise an **A1024** either online or via the mobile app.

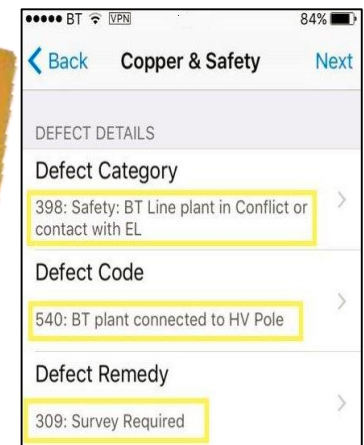
Under the category **389 Safety: BT line plant in conflict or contact with EL** choose the relevant defect code:

536 – Contact with power LV **537 – Proximity to power LV**

538 – Contact with power HV **539 – Proximity to power HV**

540 – Dropwires, cables or blocks directly on HV poles (added July 17)

The **REMEDY CODE** is **309 – Survey required.**

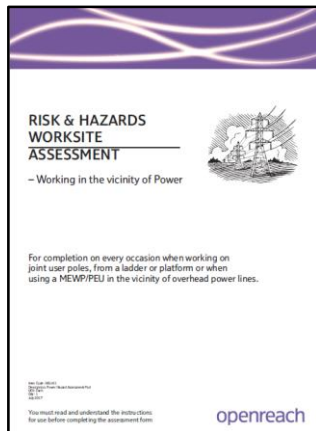


A general guide to keeping safe when working with or near OH power

Remember 1:

You must complete the RISK ASSESSMENT form every time when working on Joint User Poles and **LV**, EITHER from a ladder or MEWP.

ALSO when using a MEWP/ PEU within 25m of **HV**



Remember 2:

A Ladder 7A (blue ladder) **MUST** be used on **ALL** Joint User Poles and occasions where there is a risk of contact with overhead power.

When working from a blue ladder you should always use your harness **AND** Lanyard



Remember 3:

Wherever there is a risk, however slight, of any contact between BT plant and power conductors, you **MUST** wear gloves IR.

They **must** also be worn if you are using ropes or sash lines which may come into contact with power lines.

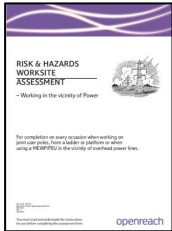


Did you know?

These gloves have a set shelf life. They should be on your EYP **AND** checked visually for any signs of cracking and for any holes/splits by inflating them before use.

Blue ladder myth buster: It's a myth these can't be carried on top of vehicle as they might degrade in sunlight. **But** prolonged road vibration **will cause damage** and reduce the lifespan of the ladder, so minimise this risk by checking they are tightly secured and **always** check them thoroughly before you use them.

How/when do I fill in the Risk and Hazards worksite assessment form?



You need to fill in one of these **BEFORE** you start work **when working on a JUP or within 25m of HV**. Go down the form and tick any control measures that you have checked for or put in place. If you need to add other information, put your notes in the lower box.

This form helps you to think about what hazards exist on your site and record what you've considered and put in place to keep you safe.

(I/C 061461)

RISK - FALLING FROM HEIGHT FROM LADDER - CONTROLS		INCREASED RISK		
Safe Access	Secured	1:4	Wired focused on the task	Windy
Lined & free from obstructions	Top & bottom	1:4	Wired focused on the task	Windy

SECTION 1 - To be completed before work commences on a joint user pole with **LV from an insulated ladder**
SECTION 2 - To be completed **BY THE MEWP OPERATOR** before work commences on a joint user pole with **LV from a MEWP**
SECTION 3 - To be completed **BY THE MEWP/PEU OPERATOR** before work commences for **ALL MEWP /PEU work within 25m of HV**
 Completed forms must be retained for a minimum of 6 months and be available for inspection

Section 1

Section 2

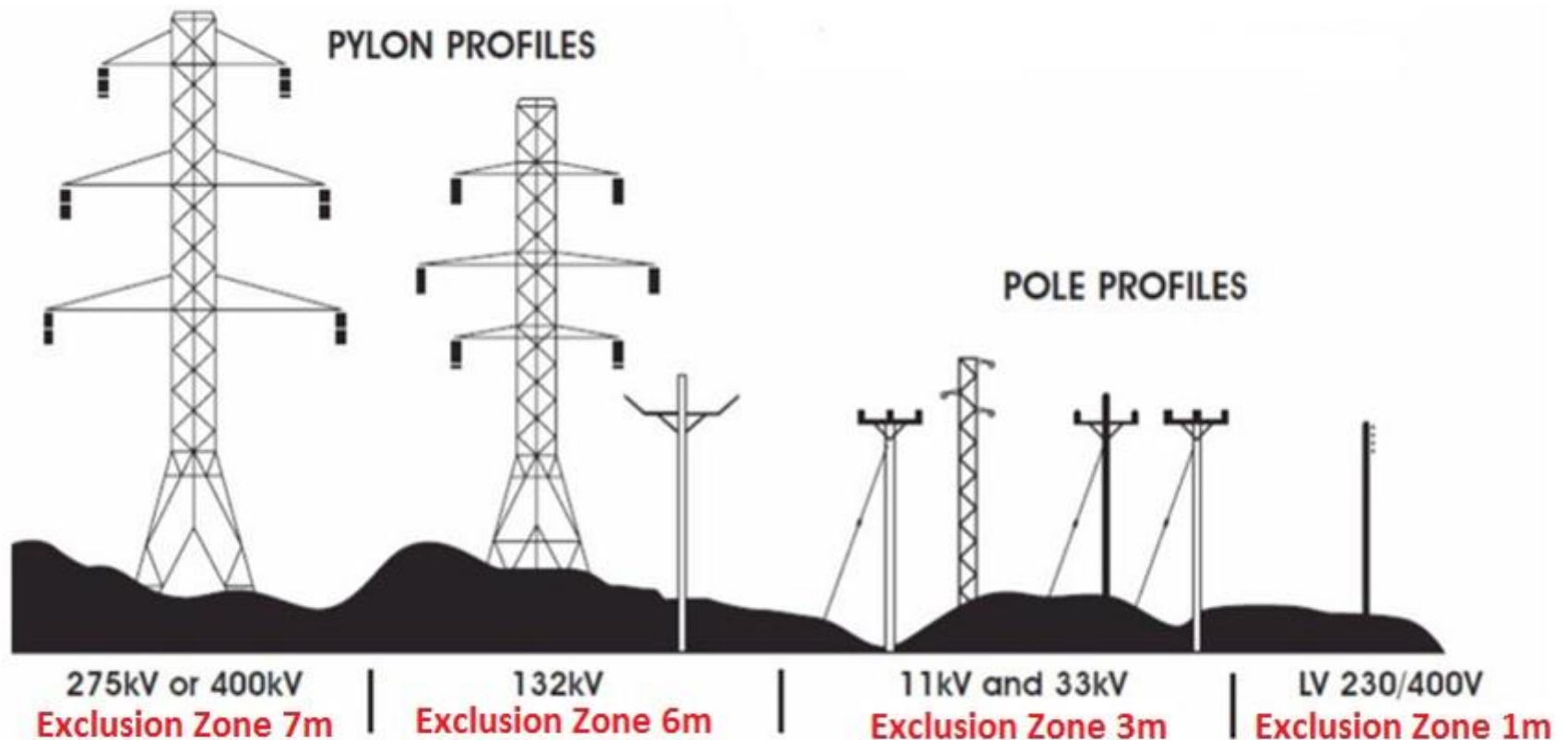
Section 3

Make sure you have latest version - the ones with the blue & green background



How do I know what the voltage is on this pole or pylon?

The picture below shows typical types of overhead lines and provides a guide to help you assess the line voltage of lines on steel pylons or wooden poles



How do I measure wire heights/separation distances on Low & High voltage?

Unless you know with absolute certainty that the power line is Low voltage, use an ultrasonic device

LOW voltage (less than 1,000 volts /1kV)

Rods Telescopic 7m (item code 008874) or Rods Clearance Complete, (item code 116121) can be used to get a direct height measurement of the conductors. To determine the clearance between a power line conductor and a BT wire or cable, measure the height above ground of each cable separately and take the difference.

Important: NEVER measure LV overhead power lines by this method when it is raining.

[EPT/PPS/B046 Sect. 8](#)



[EPT/OHP/C022 Sect.4](#)

Remember: always to use Gloves IR –They'll provide protection against contact with LV conductors.

(They **aren't** designed to protect against HV)



HIGH voltage (greater than 1,000 volts /1kV)

DON'T attempt to measure HIGH voltage with any type of rod or measuring tape.

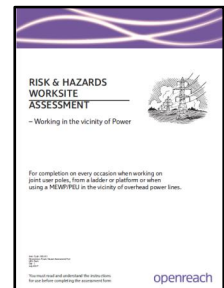
The **ONLY** safe method is with an Ultrasonic measuring instrument (available by local purchase)



Looks similar to this

How do I keep safe when working on a Joint User pole (JUP)?

- ✓ Before you work on a JUP you must have had the relevant instruction, have the skill recorded and have been checked by your supervisor within the last 2 yrs
- ✓ Always have a second person present – this applies to both electricity company and BT owned poles (this needs to be an Openreach person and not a member of public or the property owner)
- ✓ Always use a ladder 7A (blue ladder)
- ✓ Think about the hazards – Use the **RISK & HAZARD WORKSITE ASSESSMENT** sheet to identify the hazards and record your control measures (Item code 061461)
- ✓ When your role is to act as a Ground Support Person (GSP), your responsibilities are:
 - ✓ To look out for hazards from the ground and warn the engineer working on the JUP or in the Mobile Elevating Work Platform (MEWP) of any danger.
 - ✓ To bring the MEWP to a low level in the event of an emergency.
 - ✓ To complete the handshake sign off.



You **do not** leave site, work on another task or do any part of the active task.



Did you know:- That all new fixings to E/L poles require a licence before attachments are made and there is no exception to this rule.

Important: Joint user poles refers to both BT and DNO owned poles. The voltage on these pole should be **LOW VOLTAGE ONLY**.

NEVER attempt to access any BT cables or line plant that is on a pole which carries **HIGH VOLTAGE** until you've permission to do so from the DNO and have contacted your manager. (Section 4 covers safe working distances from HV)

How do I keep safe when working on a Joint User Pole – Pole labels

Part of your safety assessment when working on joint user poles is always inspecting the pole before you decide to work on it. Check you know your markings and labels. Here are a couple of things worth knowing:

There should be a 3m mark - Poles dated prior to 1958 cannot have their depth confirmed and must be treated as Defective for "Depth". Poles dated 1958 onwards have the 3 metre mark at the same point as BT supplied poles. If there's no 3m mark, **YOU CANNOT** work on it from a ladder. You can access it using a platform or scaffold.

Other labels – a quick guide:

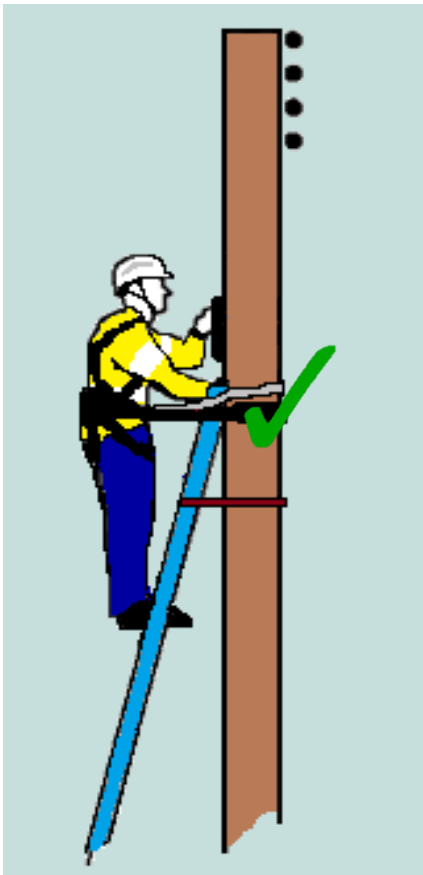
- J** Standard marking indicating there is a joint use agreement. It might also have a number by it, this number indicates the maximum number of dropwires permitted on this pole.
- C** If you see this it indicates that cables larger than dropwires are allowed.
- L** Indicates that work on this pole is limited – **YOU CANNOT** work on it from a ladder
- S** Some (but not all) suppliers use "S" to indicate "suspect". You should not attempt to access this pole until you have checked with the supplier.
- D** DNOs normally use a red coloured 'D' label similar to BT's but if you are in any doubt treat the pole as 'D' and report the problem to your manager.



Important: Not all suppliers use all of these labels. To keep safe **always** test the pole before you work on it and if in doubt, contact the supplier and find out more information on the markings.

Joint User poles – What's the safe working position when working from a ladder?

Your ladder position is really important and will improve your lateral stability if you get it right



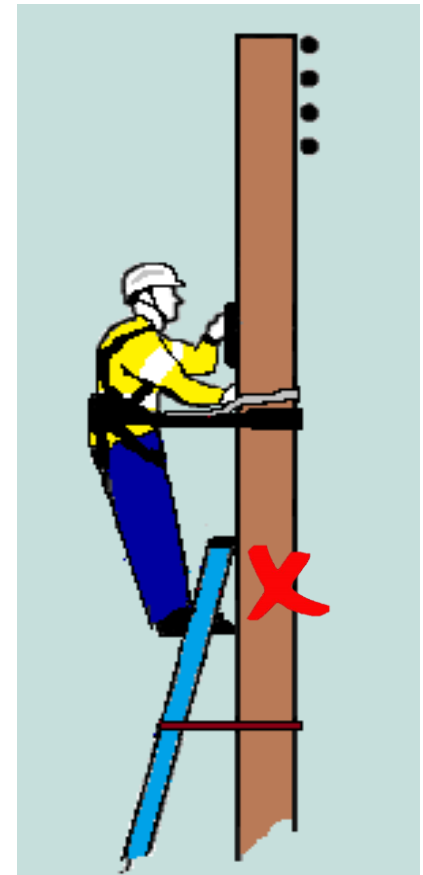
As a rule of thumb – See if you can get a hold of a rung from your working position – if you can, you've got it right



Why? – because as you're working from a ladder your feet are closer together than they would be if they were on pole steps, so it's important to have an additional fixed structure to hold onto should you require it.




Here are a few reminders on how to stay safe and reduce your risk when on a JUP

- ✓ Test /inspect the JUP pole before you start work
- ✓ Always use a insulated ladder
- ✓ Always use your belt and lanyard



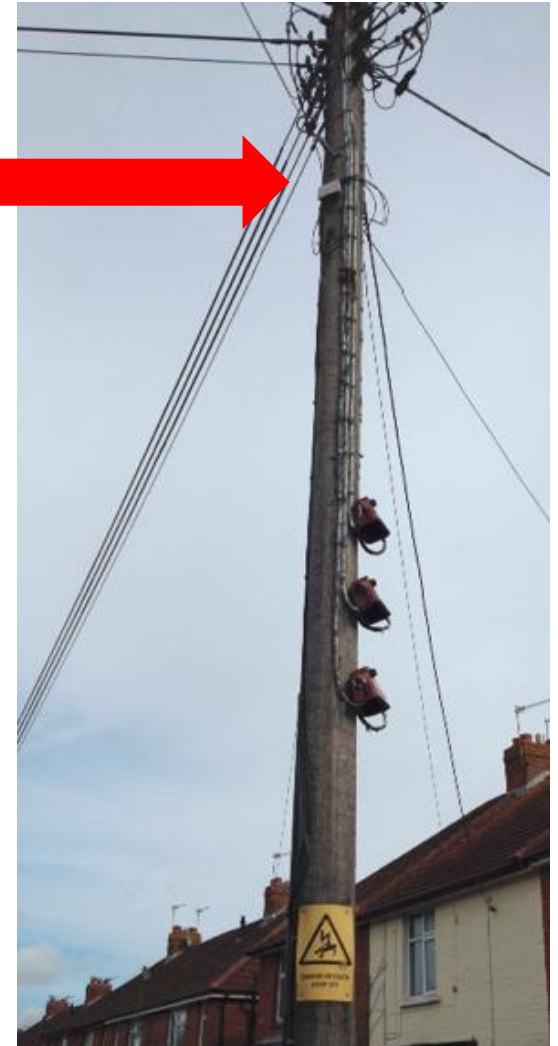
How do I keep safe when working on a Joint User pole (JUP)?

Sometimes you'll come across joint user poles that have other wires/conductors coming down them. Always take time to study the position of these. Assume they are LIVE unless you can prove otherwise.

-  To keep safe NEVER put any part of your ladder 7A in a position where they may come to contact with these as you could cause a short circuit and power discharge.
-  If you are working on a JUP with power conductors that cross the road they must be checked and should not be below 5.8m
-  Be aware, foliage on JUPs can hide conductors **AND** conduct electricity. As part of your risk assessment you should get this removed so that you can determine if the JUP is safe to work on.

This can only be done by the DNO

Damage to a ladder 7a due to contact with power cables running down a JU pole.



How do I keep safe when working on overhead power or a JUP?

FAQs for overhead power and joint user poles.

Q Can I /should I attach a A1024 or other label to a JUP?

A **No.** However you can still report the defect on a A1024.

Q Is there a minimum height for LV power cables that cross the road?

A **Yes.** Whilst it is unlikely, there may be low electricity wires which also cross the carriageway. The minimum installation height for electricity wires is 5.8m. If it is suspected that electricity wires MAY be low, in the first instance, make a visual comparison with BT wires that have been checked.

Q Can we use standard tools/equipment when working on a JUP?

A **Yes.** However under NO circumstances can aluminium ladders be used. You should always use a LADDER 7A (Blue ladder)

Q Can I climb a JUP in the hours of darkness using WITHOD?

A **No,** for your safety JUP's must **not** be climbed during the hours of darkness, or if there is low ambient light or thunderstorms.

Q Do I need to carry out my pre-climb checks on a JUP?

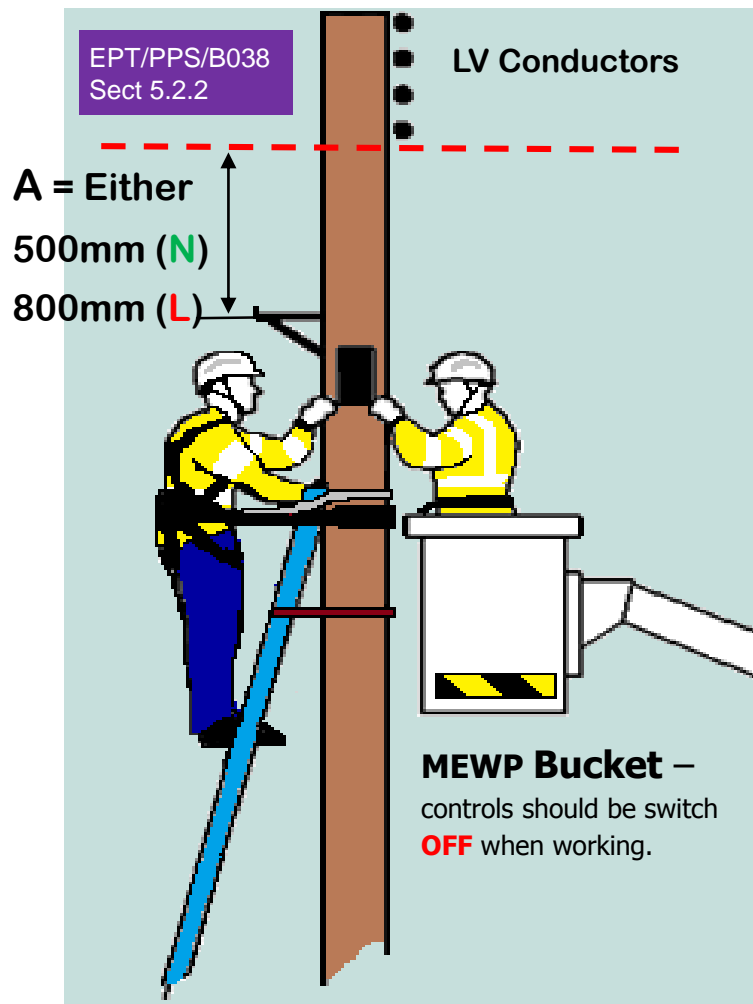
A **Yes always.** You should refer to the risk assessment form for the hazards you may encounter (item code 061461) – However you do not have to fix a pre-climb check label

Q What should I do if I encounter powered non BT equipment on a pole? e.g. lighting, sound equipment, CCTV or low voltage domestic supply?

A Contact your manager who will need to e-mail the National Notice Handling Centre @ nnhc@openreach.co.uk with the details. They'll contact the site owner and give notice for the equipment to be removed .

Joint User poles -LOW VOLTAGE safe working distances from a ladder & MEWP

Question – How close can I work safely from a LV conductor on a joint user pole?



A – BT plant must be either **500mm** from **NEUTRAL*** or **800mm** from **LIVE** conductor.* The **NEUTRAL** wire can be identified by the common drop off to each property.

The separating distances shown also apply when accessing overhead plant from a **bucket or ladder**.

You must not work on any line plant positioned closer than these distances

Keep your head and body below the lineplant at all times. (occasionally your hands may need to be a bit closer so you can carry out your work.)

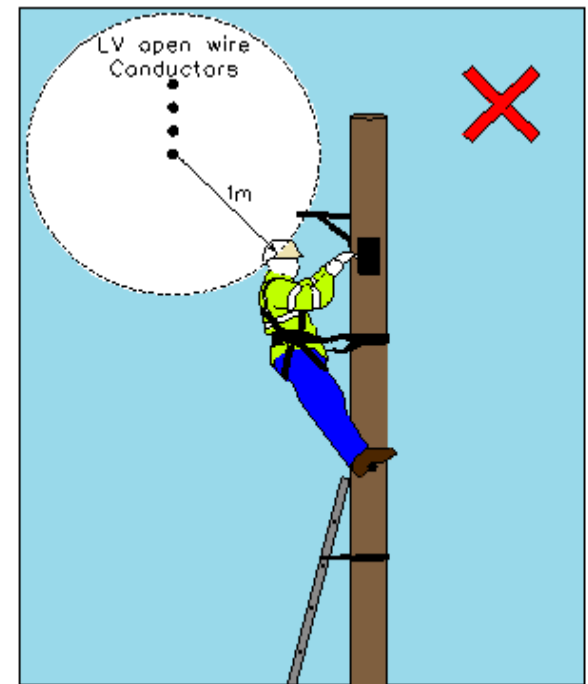
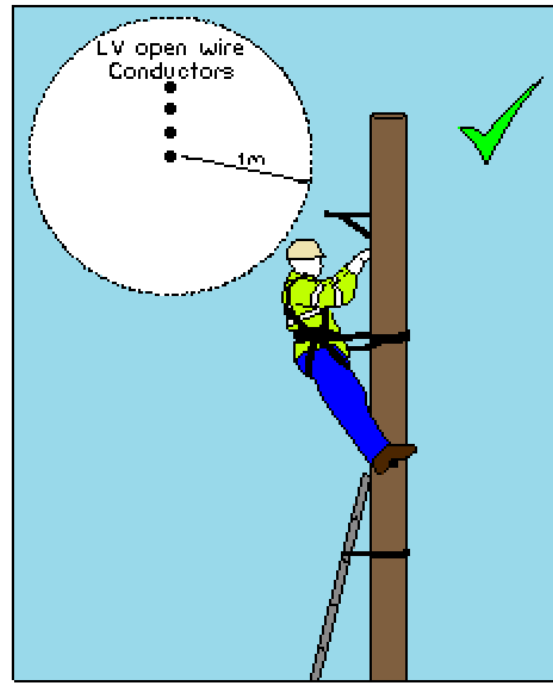
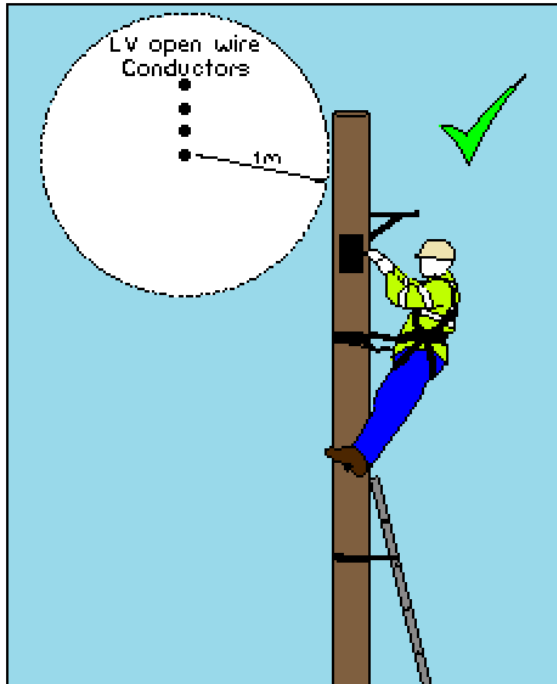
IMPORTANT NOTE - WHEN USING A MEWP

When manoeuvring or positioning the MEWP bucket it must never be closer than **1m** (in any plane) from any **LIVE** conductor/s

ALSO When you get the bucket to where you need to work, you **MUST** switch the bucket controls to **OFF**.

This stops you accidently getting too close to the power (if you inadvertently knock or move the controls vertically or horizontally)

Maintaining correct working clearance from "single wire" LV conductors in mid span



It is essential to maintain the minimum **1m clearance** from open wire LV conductors, which are in mid-span, but passing close to a BT pole.

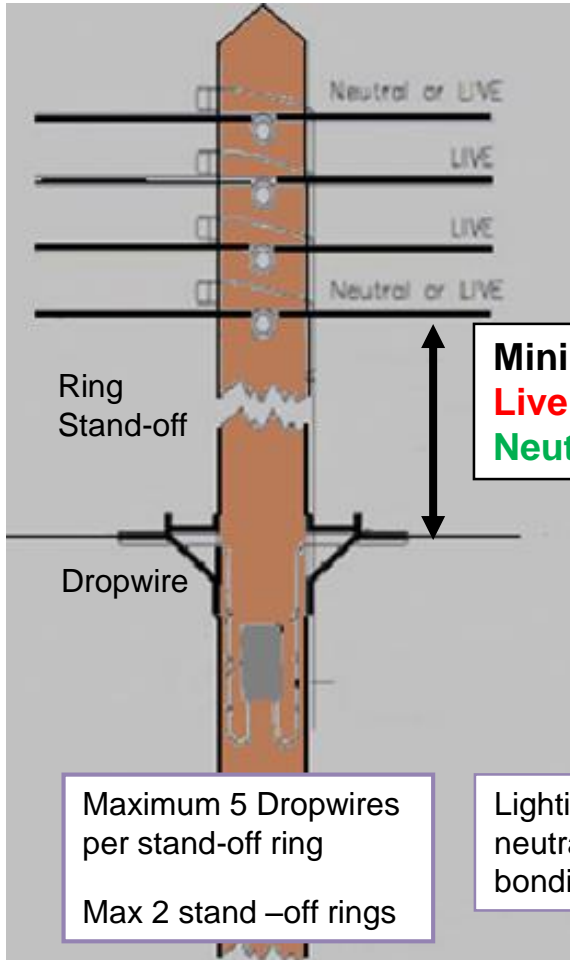
As shown in the pictures, this may determine which side of the pole can be accessed.

Always measure the **1m** 'on the ground', do not use rods /rulers aloft to check the distance.

However you should know that...

The 1m rules DOESN'T apply to ABC & Concentric Neutral cables in mid span.

Joint User poles -LOW VOLTAGE and lighting cable separation distances

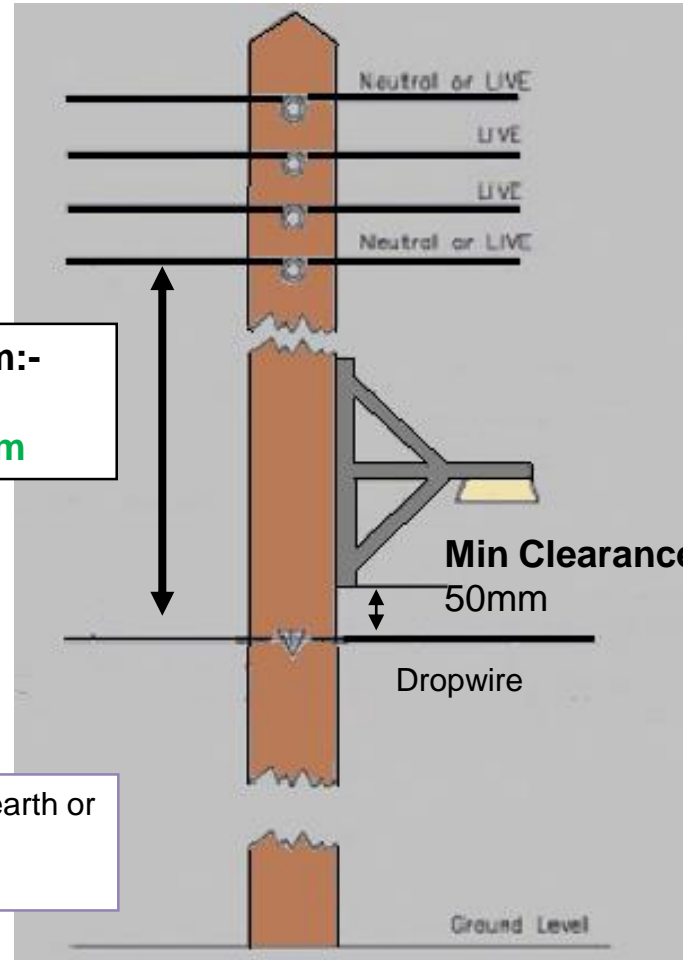


The **NEUTRAL** wire can be identified by the common drop off to each property

Minimum Clearance from:-
Live = 800mm
Neutral and ABC =500mm

Maximum 5 Dropwires per stand-off ring
 Max 2 stand-off rings

Lighting **MUST** be bonded to earth or neutral. **Note:** Visually inspect bonding strap.



LOW VOLTAGE - How do I recognise LOW voltage? (Less than 1,000 volts /1kV)

Low voltage lines come in 3 types.



Aerial Bundled Conductor (ABC) –Classed as insulated, electric companies bundle their cables/wires together. As a rule these are '**LOW VOLTAGE**'



Concentric Neutral service cable - An insulated single service cable with the neutral concentrically bound around the phase conductor.



Single Wires –Separate phase conductors and neutral. These must be assumed to be uninsulated irrespective of any covering which may be present.

**However you should
know that...**

At some sites around the country, **HIGH VOLTAGE ABC** has been identified.

These **SHOULD** have labels to that effect.

ALWAYS check for signage on the pole before you start work.

LOW VOLTAGE Aerial bundled conductors (ABC)



LOW VOLTAGE Concentric Neutral service cable







LOW VOLTAGE - single wires



How do I recognise **LOW** voltage? (LV - less than 1,000 volts /1kV)



-  **LOW** voltage (LV) is generally mounted **VERTICALLY** on Electricity poles and has a voltage of less than 1000v A/C and 1500v D/C.
-  It is equally common to see single wires bundled together in a single black sheathing known as ABC (**A**erial **B**undled **C**onductor).
-  Generally **LOW** voltage is seen going from pole to pole with individual feeds to houses/buildings.
-  All joint user poles carrying **LOW** voltage should have a label attached displaying "**DANGER OF DEATH**".

IF IN DOUBT CONTACT YOUR MANAGER/SUPERVISOR



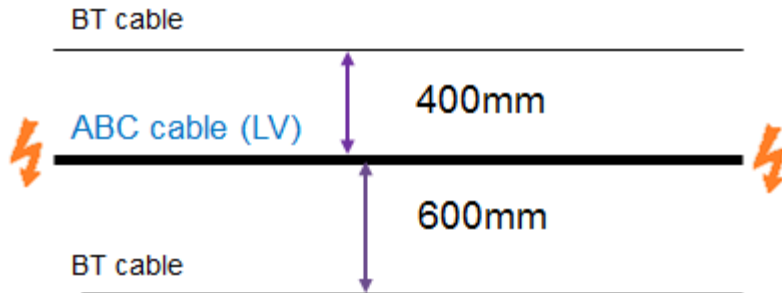
Example of **LOW** voltage joint user pole sign "**DANGER OF DEATH**"

LOW VOLTAGE - Non insulated power cables. What are the minimum overhead separation distances?

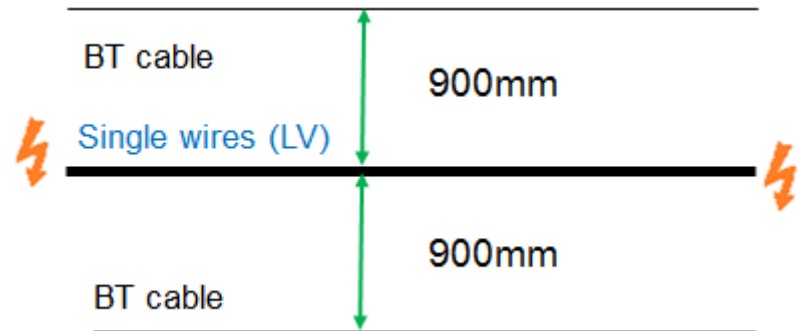
Question - Can I put a dropwire or aerial cable above or below LOW voltage ?

Ans. Yes you can, so long as you maintain the correct separation distances from the LIVE and NEUTRAL conductors.

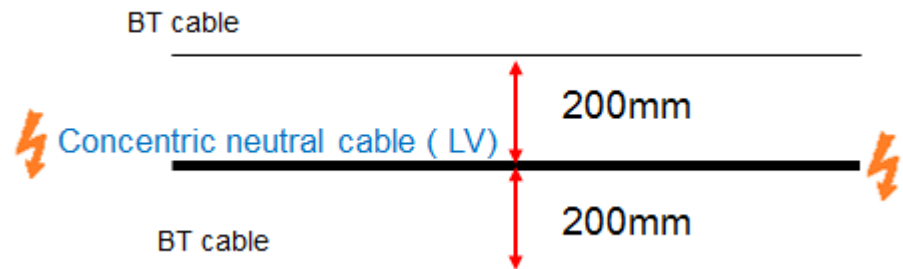
Where electricity and BT cables **CROSS** or run **IN PARALLEL** the minimum **IN SPAN** clearance is determined by **the type of cable** and whether the BT cable is run **ABOVE** or **BELOW**.



AN EXCEPTION TO THIS RULE - At crossing points which are close to the support points, (e.g. respective poles or house / building fixing points) where movement due to temperature is unlikely then the vertical clearance **can be reduced to 400mm**



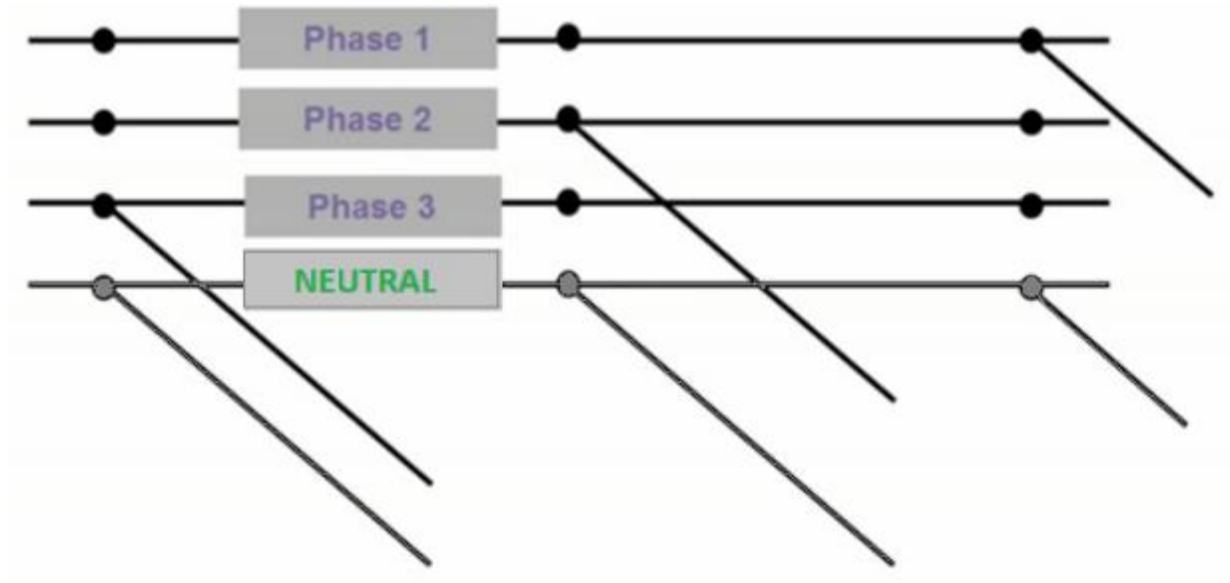
EPT/PPS/B026 Sect 10.D1.4 Code of practice



On **LOW** voltage how do I recognise the LIVE and NEUTRAL conductors?

On a vertical stack like this, look for the conductor that has a common drop-off to each property on the power route – This is the **NEUTRAL** .

The **LIVE** will come individually from each of the phase wires.



NOTE: The **NEUTRAL** conductor can be on the TOP OR the BOTTOM of the stack.



LOW Voltage – What are the separation distances on buildings?

Where BT cables and power lines **are attached to the same buildings**, then the minimum clearance between the points of attachment are as follows:-

Cable type	Clearance from BT cables
Concentric neutral service cable	200mm
ABC & Single wires service cables	600mm



Example of a concentric neutral service (a single cable) separation at attachment of 200mm.

The clearance for the cables cleated in PARALLEL along the wall is **50mm**.

If you have to bridge over an electric cable use a piece of **Protector Cable Abrasion PCA** (tree guard) over the BT cable with cleats 140mm apart and give 25mm clearance.



PCA comes in packs of 10 or 20 x 1m lengths and in five sizes for different cable diameters.
Dropwire / CAD55 PCA has item code of 048987



Where power attachments are present at a customer's premises the use of blue ladders 7A is **not** mandatory, but you should consider the risk – the type, how close you are working to them, as well as the weather conditions as you may decide you need to use them.

HIGH Voltage – the dangers

Information on the effects of HIGH voltage - Accidents involving **HIGH** voltages can result in severe injuries and death. When an electric current passes through the body, it generates heat and can extensively damage internal tissues and organs as well as produce serious burns.

In some cases, the entry and exit wounds are so severe that a foot or hand may have to be amputated.

You don't even have to come in direct contact. If anything touches a **HIGH** voltage power line or if a power line falls to the ground, electricity will flow to the ground, energizing the tree or equipment and anything in contact with it. The surrounding ground may be extremely hazardous. The voltage gradually decreases from the point of contact until it reaches zero - for example at 60,000v this can be up to 10m (33ft) - or even greater depending on ground conditions.

Under some fault conditions it is even possible for the wooden pole to become live (known as leakage).

For this reason you should not work on **HIGH** voltage poles/ structures unless the power has been switched off.



How do I recognise **HIGH** voltage? (greater than 1,000 volts /1kV)

Typically **HIGH** voltage can be identified by some of the following characteristics...

- Horizontal, triangular configuration or large vertical formation.
- Steel Towers/pylons
- Anti climb devices (these can also appear on LV)
- **DANGER HIGH VOLTAGE** notices.
- Large insulators /Glass dish type insulators
- Longer spans over 45 metres.



IF you are in ANY doubt as to the voltage you are dealing with:

Before you start work speak with your manager / supervisor / planner or local power distributor and arrange to get the voltage verified from the utility prints.

Don't guess....

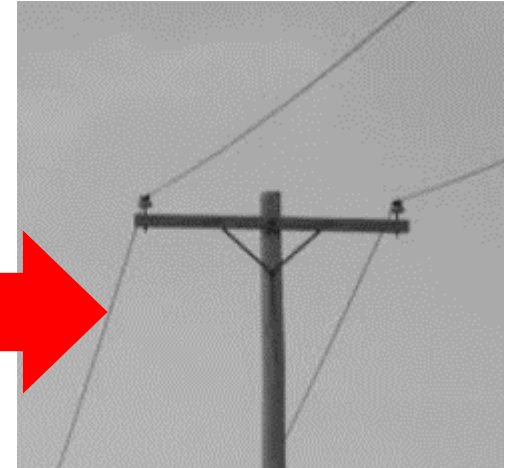


How do I recognise **HIGH** voltage? (greater than 1,000 volts /1kV)

11kV lines have two or three small shed insulators. 33kV lines have large three shed insulators.



Note: Not all HV routes have three wires, some may just have two.



Rule of thumb:

11kV insulator approx. 150mm (6 inches)

33kV insulator approx. 300mm (12 inches)



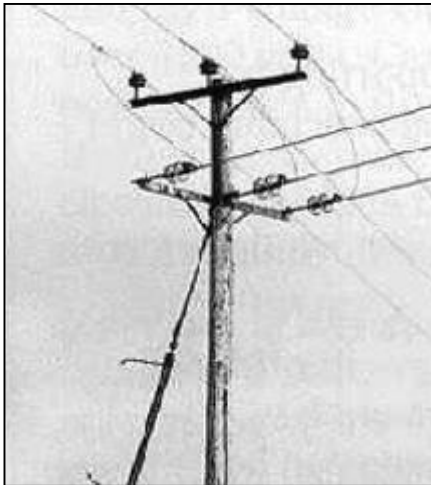
The 33kV insulator is generally much larger than the 11kV (colours may vary)

How do I recognise **HIGH** voltage? (greater than 1,000 volts /1kV)

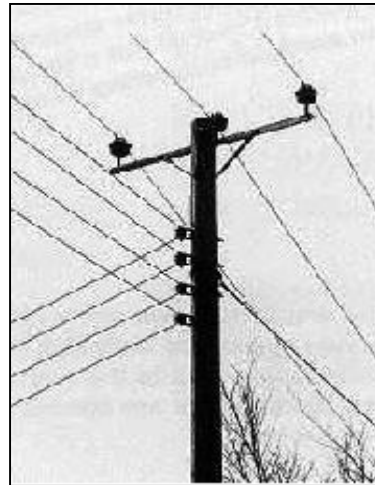
BE AWARE

Some poles may have BOTH - **HIGH VOLTAGE** 11kV 3 phase AND **LOW VOLTAGE**

If you find this, **ALWAYS** treat this as a **HIGH VOLTAGE** situation.



Tee-off pole, 3 phase 11kV
HIGH voltage line
NOTE – **HV** is now running
HORIZONTAL.



11kV **HIGH** voltage
AND
LOW voltage line.



33kV **HIGH** voltage
AND
LOW voltage line on the same pole

UNDER or OVER ? - Safety standards when working with **HIGH** voltage

Question - Can I run dropwires or aerial cable under or over HV?

	UNDER HV	OVER HV
11kV	✓*	X
33kV & above	X	X

* Insulators are required on aerial cable.

- You must **NOT** fly wires under/over a **HIGH** voltage railway line, even if the wires cross on a bridge.
- You cannot attach any wires or cables to poles carrying **HIGH** voltage
- If you are working **within 25m of HIGH voltage** you must use the safe sector method.

EPT/PPS/B046

Sect. 4.3

Crossing & proximities of BT lines & HV power lines

EPT/PPS/B026 Sect7.A2.6 4

Protection of Telecommunication Lines from Power Lines

EPT/PPS/B023 Sect.3

Electrified Railways



IF you're not sureDO NOT GUESS !

STOP WORK and find out the information.

How far should I stay away from **HIGH** voltage?

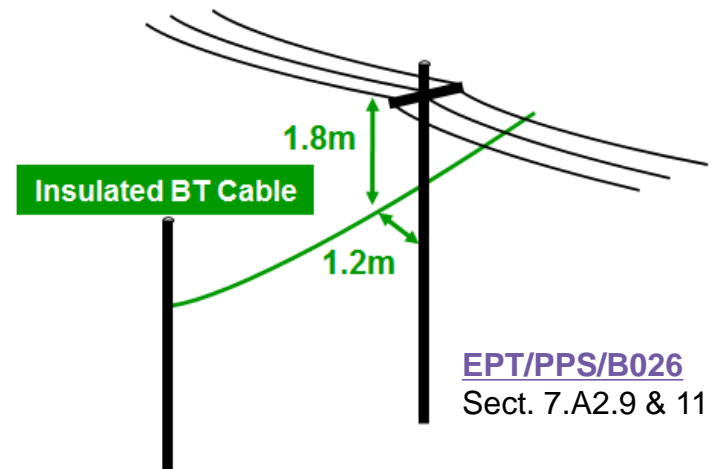
If you are working on poles, or accessing BT line plant from a ladder or scaffold close to **HV**, the minimum safe distances are shown in the information below. It is important to note that you should not take equipment or work in this zone: **If you cannot achieve the minimum safe working distance from the HV you should contact your manager and the safety team** before you start ANY work.

HIGH VOLTAGE	MINIMUM safe working distance
11kV & 33 kV	3 metres
132 kV	6 metres
275 & 400 kV	7 metres

The diagram shows a central HV pole with a ladder on the left. A red shaded area, labeled 'RED ZONE', extends horizontally from the pole. The minimum safe distances from the HV pole are:

HV Voltage	Minimum Safe Distance
11 & 33kV	3 METRES
132kV	6 METRES
275 & 400kV	7 METRES

BT LINE PLANT. Where BT O/H wires and cables cross **UNDER** an **HV** route (11kV or below only) the minimum separation distance between them and the **HIGH** Voltage are:



[EPT/PPS/B026](#)
Sect. 7.A2.9 & 11

IMPORTANT NOTE: You should **NEVER** attach wires or cables to **HV** poles. If you find, or need to work on, existing BT line plant on **HV** poles you should contact your manager **AND** the Openreach safety team who will advise on a safe system of work . See [ISIS SFY/HSB/D043](#)

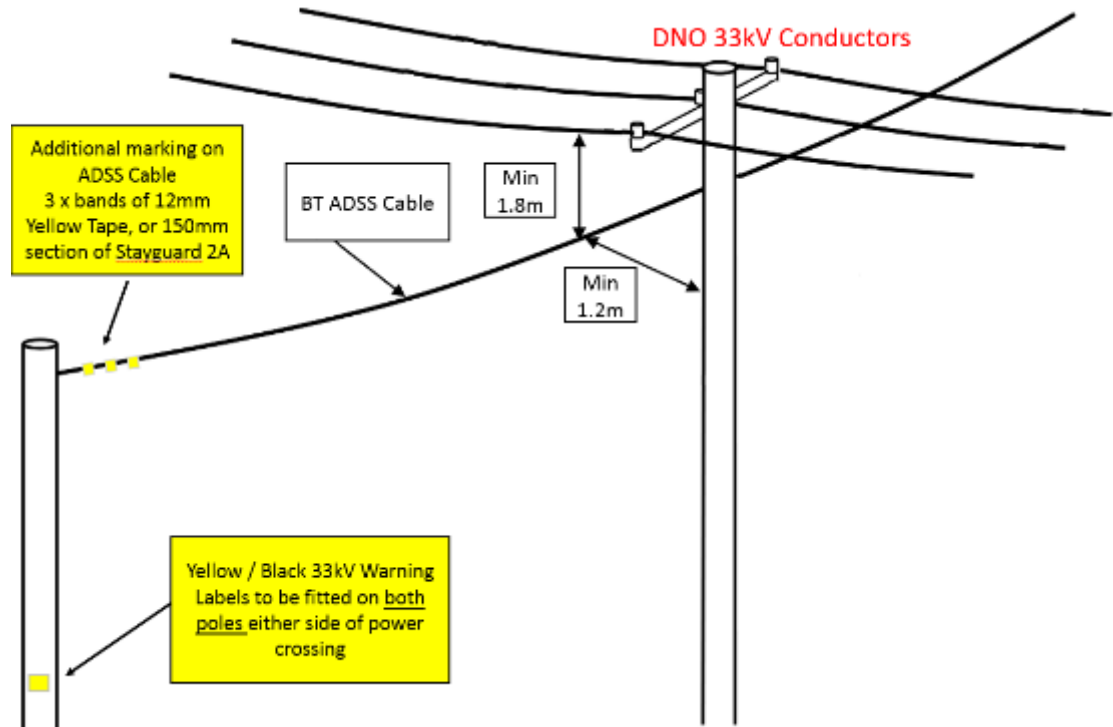
How far should I stay away from **HIGH** voltage?

New ADSS Cables are now approved for use under High Voltage Power, up to and including 33kV - Subject to the following conditions:

- ✓ ADSS Cables only are permitted under voltages >11kV – No metallic cables!
- ✓ Min safe clearances must be met
- ✓ Yellow Warning Labels (i/c 093534) must be provided on the two poles either side of the crossing.

The ADSS cable should also be marked just beyond the Clamp position, using either a 150mm piece of Stay Guard 2A (Item Code 016321) or 3 bands of Tape Plastic Adhesive Yellow (Item Code 071298)

Joint / CBT Positions may not be located any closer than the second pole back, either side of the crossing



Caution!

33kV Power Crossing
Only ADSS Type cable to be used
No metallic cables permitted

Keeping safe when working in the vicinity of power from a MEWP/PEU

Before you start work:

Be confident that you know the difference between **LOW** voltage and **HIGH** voltage.

Understand the difference in safe working practices between **LOW** and **HIGH** voltage.

- Understand the safe sector method.
- Know how to measure the separation distances.
- Have a Risk Assessment form and fill it in
- Have all of the safety equipment that you may need – gloves IR, sash lines, measuring rods, spray paint, cones etc.

Remember only **LV** can be measured with rods.

For **HV** the ultrasonic device is the **ONLY** safe method you can use.

Finally ...ask yourself **“Have I done enough to keep myself and others safe?”**

If you can't answer YES to these questions stop work and seek further guidance.

Your life could just depend on it.

MEWP in the vicinity of Power - **LOW** voltage

ALWAYS.....

- ✓ Be 100% confident that you know the voltage of the overhead power BEFORE you start work. **If you're not sure then check.**
- ✓ Complete the Ground Support Person (GSP) handshake sign off.
- ✓ Complete your risk assessment and record what you find on the RA pad.(JUP's)
- ✓ Be aware of the safe working distances and separation distances.
- ✓ Make sure you have, and can maintain, a communications link between you and the GSP.
- ✓ Be confident that the GSP is able to bring the bucket down in the event of an emergency.



[SFY/ HSH/D039](#)

O/H Network using a MEWP

The GSP should not leave site whilst the MEWP is in operation.

The GSP should NEVER go up in the bucket.

The image shows the cover of a 'RISK & HAZARDS WORKSITE ASSESSMENT' form. The title is in bold, uppercase letters. Below the title is a small illustration of a person working on a ladder near power lines. The text on the cover includes: '- Working in the vicinity of Power', 'For completion on every occasion when working on joint user poles, from a ladder or platform or when using a MEWP/PEU in the vicinity of overhead power lines.', and the 'openreach' logo at the bottom right. There is also a small note at the bottom left: 'You must read and understand the instructions for use before completing the assessment form.'

MEWP in the vicinity of Power - **LOW** voltage

Question - Is there a safe method for putting a wire OVER overhead low voltage?

- Yes, there are two methods to first provide a sashline no2 over the low voltage power conductors

You must be aware that this practice should be restricted to a number of nominated platform teams/operators within each patch. Line Managers / supervisors of those teams/operators must ensure that they go through the content of **ISIS EPT/OHP/B011** to ensure full understanding **before any work is carried out.**

There is a safe system of work for using either 1 or two MEWP's detailed in the ISIS [EPT/OHP/B011](#).

Both involve a sashline No2 being attached/through a plastic tube (Stay Guard High Visibility i/c 013612)

(the ISIS also details how to safely recover wires that are above LV lines)



You should NEVER attempt to throw a sashline over power cables



[EPT/OHP/B011 - Overhead Distribution](#)

MEWP/PEU working in the vicinity of power - **HIGH** voltage

You don't have to be working on HV poles to get an electric shock. Just working in the vicinity puts you at greater risk and you need to do something different to minimise this.

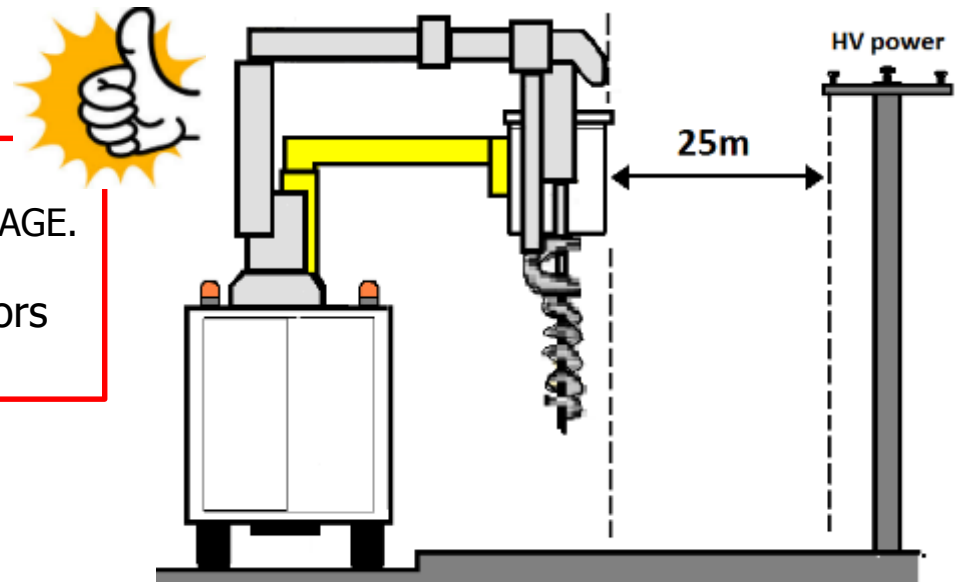
So how close is too close?

If **ANY PART** of the MEWP or PEU goes within **25m** of High voltage you need to employ the **SAFE SECTOR METHOD** and document your findings and actions on the Risk Assessment form.

Then, depending on the voltage you've identified, your assessment will establish your **MINIMUM safe working** distance.

Remember:- When operating a MEWP within 25 metres of overhead **HIGH VOLTAGE**.

TWO FULLY MEWP TRAINED operators **MUST** be in attendance.



MEWP/PEU working in the vicinity of Power - **HIGH** voltage

Question - What is the safe sector method?

It's simple, it's about identifying the minimum safe working distances from the **HV**, marking out a **RED ZONE**, and making sure you don't go into it.

Step 1. Decide the **RED ZONE** distance from the chart below - no part of the MEWP /PEU must enter this zone.

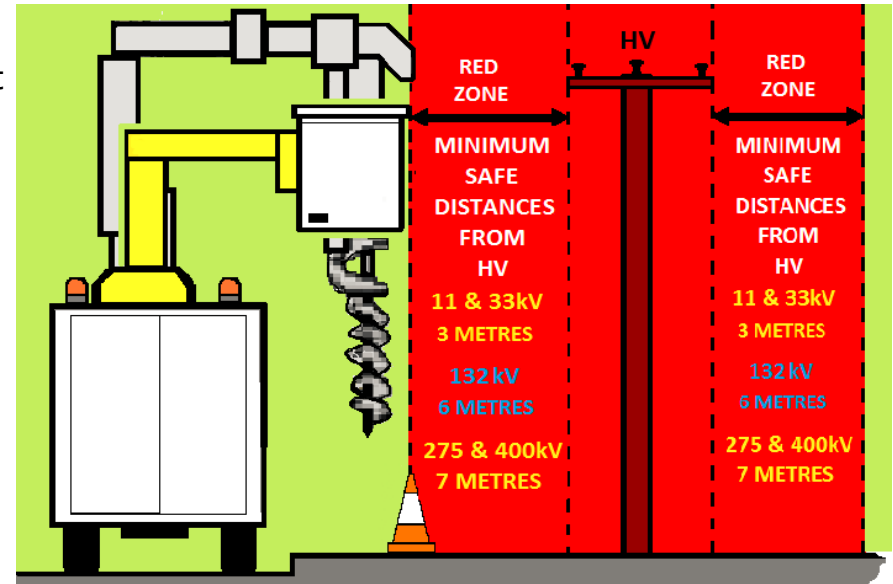
Step 2. Use cones or temporary spray paint to mark the **RED ZONE** so that it can be seen from above when you are working (make sure that if you use cones that you won't be confusing any traffic or pedestrians)

Step 3. Use the **fully trained operator** acting as a GSP to make sure that you do not enter the **RED ZONE**.

To mark out the **RED ZONE** use cones or **PAINT LINE MARKING TEMP. GREY** Item code 087454



HIGH VOLTAGE	MINIMUM safe working distance
11 & 33 kV	3 metres
132 kV	6 metres
275 & 400 kV	7 metres



IMPORTANT NOTE: You should **NEVER** attach wires or cables to **HV** poles. If you find, or need to work on, existing BT line plant on **HV** poles you should contact your manager **AND** the Openreach safety team who will advise on a safe system of work . **See ISIS SFY/HSY/D043**

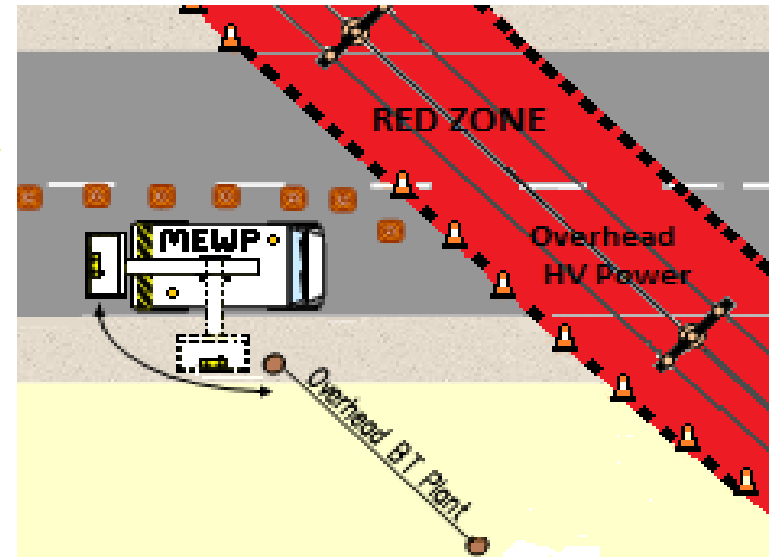
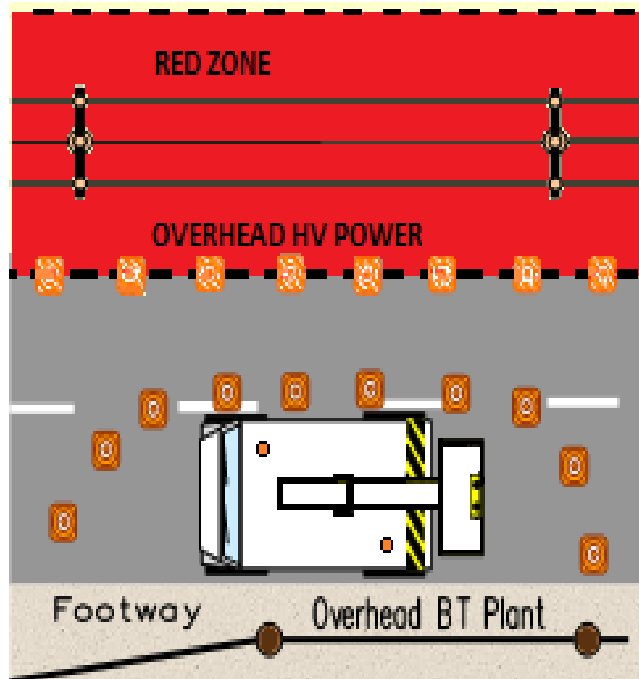
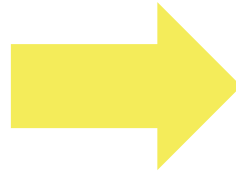


Think of the **RED ZONE** like a curtain that goes from the edge of the conductors to the ground. **DON'T** even park in this zone.

MEWP/PEU working in the vicinity of Power - **HIGH** voltage

Safe Sector method – Alternative layouts

Position your vehicle so that when you move the boom around to access BT line plant you do it AWAY from the **RED ZONE** and avoid any part of the boom encroaching into the zone.



Make sure you mark out the **RED ZONE** clearly with spray paint or cones so that you can see clearly the extent of the **RED ZONE** when you are working aloft.

THINK! If you're using cones in the road, advanced RWG is needed. Refer to **the Safety at street works & road works code of practice** for details.

What should I do in an emergency?

What do you do where power cables have fallen across BT wires or vice versa?

- Keep clear unless a casualty is in contact.
- Warn the public to keep away.
- Stop traffic unless there is room to drive past safely.
- Contact the electricity supply company immediately. (Dial 105)



What if it is a **HIGH** voltage contact?

You cannot do anything, even for a casualty, until the power is cut off - so call the emergency services and the electricity supply company.

What if it is a **LOW** Voltage contact?

If possible wait for the power to be turned off but if any BT wire threatens the public or traffic, and you wear Gloves IR, you can move the BT wires away or cut them back whichever is most practical. Stand on a dry insulating material, such as a rubber car mat if possible.

What if a casualty is in contact with **LOW** voltage?

Do not touch any wire or the casualty with bare hands, damp gloves or any damp article. Using Gloves IR or insulated tools while standing on insulation try to remove the live wire or using a stick, rope or article of clothing (they must be dry) and try to drag the cable or the person clear.

Distribution Network Operators emergency contact numbers

From November 2016 power companies have introduced a new service. By simply dialling 105 they will put you through to your local network operator who can give you help and advice. Or you can go to the website below and enter your post code and it will show you all of the contact detail .

Area	Company	Contact Telephone Number
1 & 9	SSE Power Distribution	Central southern England 0800 072 7282 North Scotland 0800 300 999
2 & 6	SP Energy Networks	C &S Scotland 0800 092 9290 North West 0800 001 5400
4	Electricity North west	0800 195 4141
5	Northern Powergrid	NE England 0800 66 88 77 Yorks. & N Linc 0800 375 675
7	Western Power distribution	0800 678 3105
8	UK Power networks	0800 316 3105
	Energy Networks Association	http://www.energynetworks.org/info/faqs/electricity-distribution-map.html
ALL	JUST DIAL 105	www.powercut105.com



Work on overhead BT lines in the vicinity of power - Precautions against electrical accidents	EPT/PPS/B046
Working on Joint User Poles	EPT/OHP/C032
Code of Practice - Protection of Telecommunication Lines from Power Lines	EPT/PPS/B026
Electrified Railways - Electrical Guarding	EPT/PPS/B023
Joint User Poles - Technical Requirements for Attachment on Joint User Poles	EPT/PPS/B038
Joint User Poles - attachments	EPT/PPS/B037
O/H Network using a Mobile Elevating Work Platform	SFY/ HSH/D039
Non BT pole attachments	EPT/OAM/F070
https://hr.bt.com/en-wish_3rdParty/safety-wellbeing/safety	Health & Safety handbook
Safety services via HR shared service	0800 181 4321

Where can I find more information on power?