SAFETY FROM ELECTRICITY OVERHEAD POWER LINES

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Call the national telephone number ‘105’ to automatically connect to your Electricity Distribution Network Operator.
Contact with overhead power lines is **extremely dangerous**

And it occurs too often

Some are very lucky and escape without injuries

But when luck has run out, the consequences are frightening…

5 YEAR PERIOD 2012 – 2016

- **Over 3000** Haulage and Transport vehicles reported coming into contact with overhead power lines in the UK
- **59** people received injuries

**IN THE LAST 2 YEARS**

- 8 people were **killed**
- Death is **not always instant**
OVERHEAD POWER LINE EXAMPLES

- Typical voltages range from **230 Volts** up to **400000 Volts**
- Lines can be bare wire, fully insulated or partially insulated
Overhead power lines can sometimes be very difficult to distinguish from telephone lines.
Electric shock is the effect of current flowing through the body.

- It causes muscle contractions, tissue damage, and internal burning.
- It can cause cardiac arrest and respiratory failure.

Electricity can **JUMP** or ‘flashover’ – you **don’t need to touch** electrical conductors to draw a current.

- **Rubber boots will not protect you**
The energy created by a network contact is equivalent to at least 30,000 single bar electric fires. To put that in context…

- The Japanese H11A Rocket only delivers an energy equivalent of 20,000 single bar electric fires
- This level of energy can vaporise metals and cause life changing injuries
VEHICULAR CONTACT – EXAMPLE 1

- Delivery Lorry contacts 33,000 volt line
- Driver killed
Delivery Lorry contacts 11,000 volt line – Operator killed
VEHICULAR CONTACT – EXAMPLE 3

An expensive and disruptive incident
As employers, you have a **duty** to ensure the safety of your own employees and subcontractors.

You also have to ensure the **safety** of the **general public** from the activities you undertake.

Distribution Network Operators have a duty to ensure public safety from its networks and take measures to provide safety advice to those that need it.

For more information refer to the following legislation

- Health & Safety at Work Act 1974
- Electricity at Work Regulations 1989
- Management of H&S at Work Regulations 1999
- Electricity Safety, Quality & Continuity Regulations 2002 (as amended)
The costs of an incident can be frightening — this can include:

- Loss of earnings
- Legal costs and fines (deaths can be £1 million upwards)
- Replacement of equipment
- Compensation
- Costs of investigation
- Reputational damage
HOW TO AVOID DANGER

- **Look out, Look up!** Take extra care in poor light conditions
- **Plan ahead** where possible. Set up your plant with care to reduce the chance of contact
- **Train** machinery and plant operatives appropriately in how to avoid danger and how to act in an emergency
- **Find out** and record the max height and vertical reach of your vehicles
- **Remember** that electricity can jump gaps
- **Respect** all overhead power lines and treat them as live
- **Contact** your electricity company for:
  - Site specific advice on appropriate ‘exclusion zones’ and ‘safe stand off distances’ to apply – these will vary according to the voltage of the overhead line and its construction
  - Possibility of temporarily making the line dead for duration of works
WHAT TO DO IN AN EMERGENCY

If you strike an overhead line:

1. Drive well clear, if safe to do so, and call 105
2. If NOT safe to drive clear – stay in the cab, call 105 and warn others to stay away
3. If NOT safe to stay in the cab – JUMP WELL CLEAR if you need to get out
4. Make no contact between you, the vehicle and the ground at the same time
5. Keep away and don’t return to the vehicle and call 105

WARNING

• Never try to disentangle equipment until the owner of the line has confirmed that it has been de-energised and made safe
• Contact with an overhead power line may cause the power to 'trip out' temporarily and it may be re-energised automatically, without warning
• Its important to remember that the vehicle may also become live if still in contact with an over head power line.
IN SUMMARY

- Avoid being a statistic
- Coming into contact with overhead power lines is extremely dangerous with potential for life changing consequences
- Overhead power lines can be very difficult to distinguish from telephone lines
- Always assume lines are live
- Electricity can jump gaps
- Train your staff in how to avoid dangers and how to act in an emergency
- Call 105 in an emergency
- Contact your local electricity distribution network operator for general advice if needed
- And remember to LOOK OUT AND LOOK UP!