

**LOOK UP**  
IT'S  
**LIVE!**

**NORTHERN  
POWERGRID**



**Overhead Power Line Safety**



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# Who is Northern Powergrid and what do we do?



## Welcome

We have created this document to keep you and your colleagues safe whilst near our overhead power lines.

Please read it and share it to anyone who needs to know this information. It is important that you regularly keep yourself up to date with this information.

## Who we are and what we do

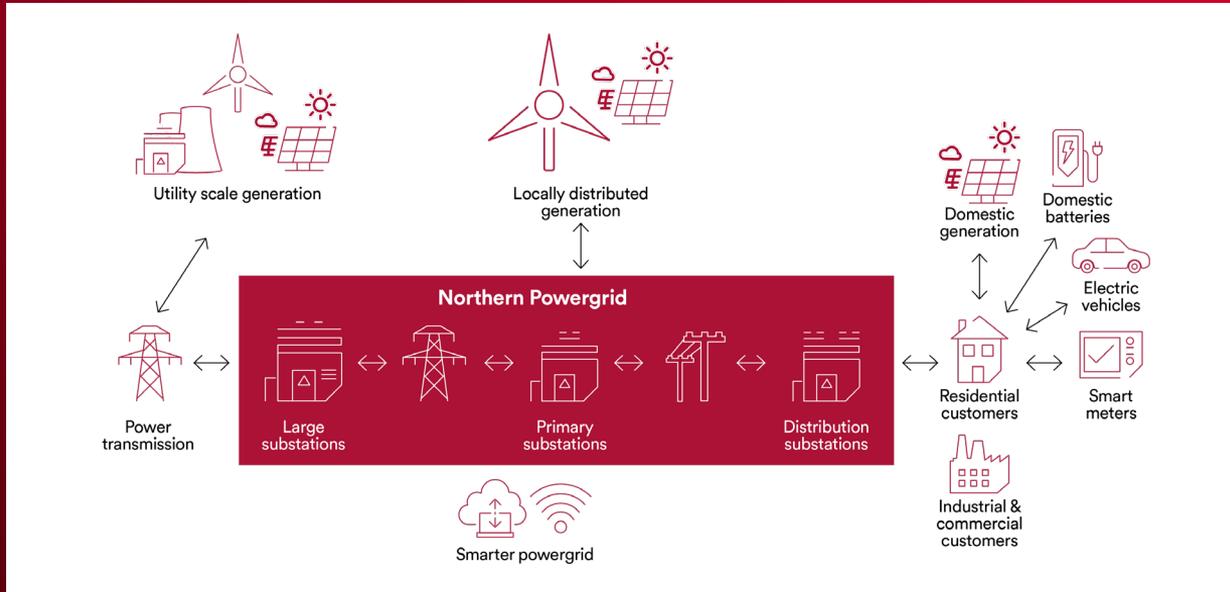
We manage the electricity network that **powers everyday life** for more than **8 million people** across **3.9 million homes** and businesses in the North East, Yorkshire and northern Lincolnshire.

We take electricity from National Grid's transmission network (which connects the larger power stations) and from smaller generators (such as wind farms) that are directly connected to our network.

Our network consists of more than **63,000 substations**. This also includes **17,312 miles** of overhead powerlines and **43,037 miles** of underground cables spanning **9,650 square miles**.



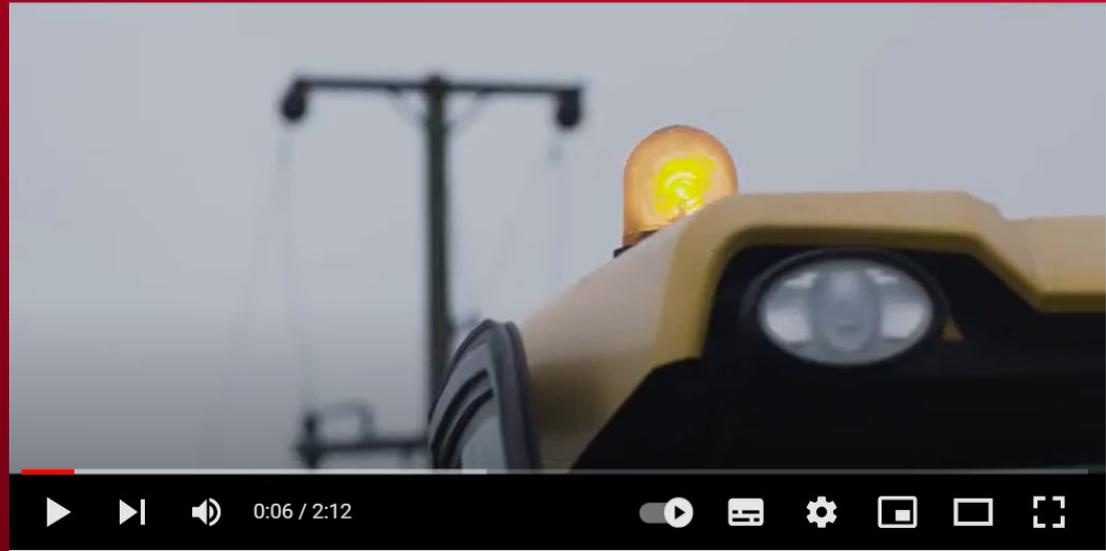
# Where we fit in the electricity industry



# Energy Networks Association - Overhead power lines safety video



Your safety is our priority and we'd like to introduce our Overhead Power Line Safety Pack by sharing this informative video:



# Overhead power lines safety



Each year people are killed or seriously injured when they come into contact with live overhead electricity power lines.

These incidents often involve:



## Machinery

(e.g. cranes, lorry-loader cranes, combine harvesters and tipping trailers)



## Equipment

(e.g. scaffold tubes and ladders)



## Work Activities

(e.g. loading, unloading, lifting, spraying and stacking)



## Leisure Activities

(e.g. fishing, camping, outdoor DIY)



# What you need to know



If a machine, scaffold tube, ladder, fishing rod, kite or even a jet of water touches or gets too close to an overhead power line, then **electricity will be conducted to earth**. This can cause a fire or explosion and electric shock and burns and even death to anyone touching or in close contact to the machine or equipment.

Remember an overhead power line does not need to be touched to cause serious injury or even death because electricity **can jump, or arc, across small gaps**.

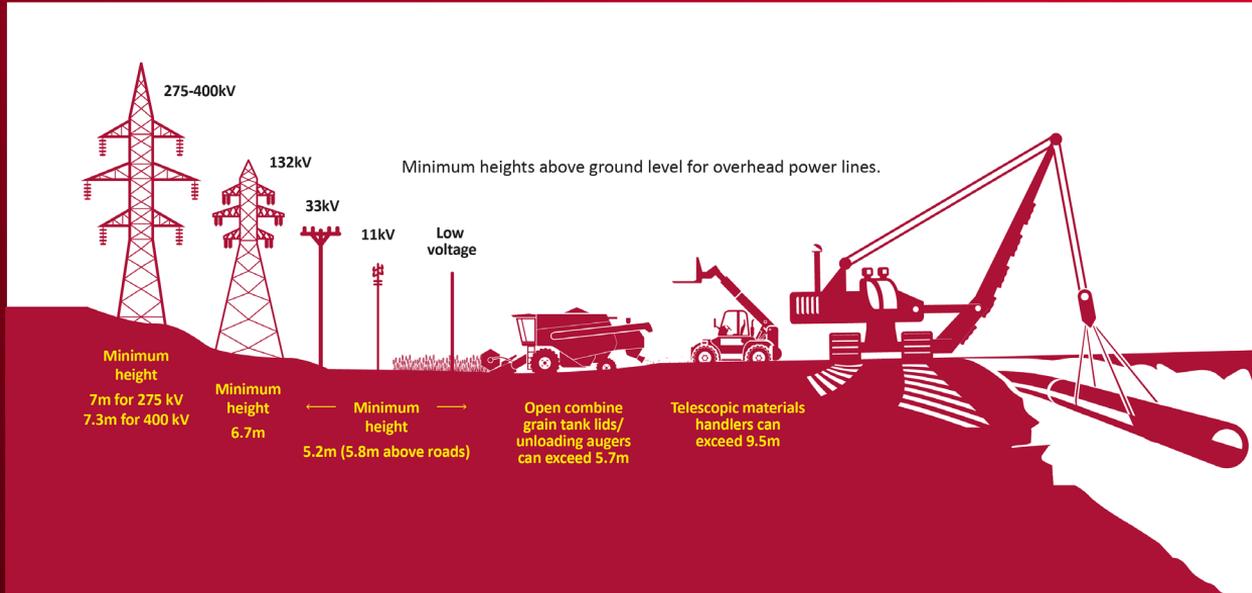
One of the biggest mistakes is that people simply do not notice overhead lines when they are tired, rushing or cutting corners.

They can be difficult to spot especially during poor weather conditions or at dusk or dawn, when they blend into the surroundings at the edge of woodland, or when they are running parallel to, or under, other lines.

**Always assume that a power line is live unless, and until, the owner of the line has confirmed that it is dead.**



# Types of power lines and heights



# The legal requirements



## What the law requires

That work may be carried out in close proximity to live overhead lines only when there is no alternative and only when the risks are acceptable and can be properly controlled.

You should use this guidance to prepare a risk assessment that is specific to the site. Guidance on how to carry out a risk assessment is available at [www.hse.gov.uk](http://www.hse.gov.uk).

## Managing the risk

Businesses and employees who work near to an overhead line must manage the risks. Overhead line owners have a duty to minimise the risks from their lines and, when consulted, advise others on how to control the risks. The line owner will usually be an electricity company, known as a transmission or distribution network operator, e.g. Northern Powergrid, but could also be another type of organisation, e.g. Network Rail, or a local owner, e.g. the operator of a caravan park.

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Risk assessments should be prepared on each and every occasion when working near power lines, checking that ground movements have not reduced clearance distances.



# How to prevent overhead line contact accidents



## Removing the risk

The most effective way is to stay away and not carry out work where there is a risk of contact with, or close approach to, the power lines. If this cannot be avoided and there is a risk of contact, consult its owner to find out if the line can be permanently diverted away from the work area or replaced with underground cables.

## Selecting your equipment

By carefully selecting your equipment and machinery so it cannot come into contact with power lines.

## Careful stacking

Do not store or stack items close to overhead power lines. Ensure that safety clearances cannot be infringed by people standing on them.

## Working near but not under

Where there should be no work or passage of machinery or equipment under the line, you can reduce the risk of accidental contact by erecting ground-level barriers to establish a safety zone to keep people and machinery away from the power lines.



# How to prevent overhead line contact accidents



## Risk assessments

In some instances (such as road works, pipe laying, grass cutting, farming, and erection of structures, and where there is no risk of accidental contact or safe clearance distances being breached), a risk assessment must take into account any situations that could lead to danger from the overhead wires. Consider whether someone may need to stand on top of a machine or scaffold platform and lift a long item above their head, or if the combined height of a load on a low lorry breaches the safe clearance distance.

## Establishing exclusion zones

This includes any other equipment that may be fitted to the pole or pylon. The minimum extent of these zones varies according to the voltage of the line, as follows:

- Low-voltage line – 1 m; - 11 kV and 33 kV lines – 3 m; - 132 kV line – 6 m; - 275 kV and 400 kV lines – 7 m; - under no circumstances must any part of plant or equipment such as ladders, poles and hand tools be able to encroach within these zones. Allow for uncertainty in measuring the distances and for the possibility of unexpected movement of the equipment due, for example, to wind conditions.
- Carry long objects horizontally and close to the ground and position vehicles so that no part can reach into the exclusion zone, even when fully extended. Machinery such as cranes and excavators should be modified by adding physical restraints to prevent them reaching into the exclusion zones.
- Ensure that workers, including contractors, understand the risks and are provided with instructions about the risk prevention measures.



# What to do in an emergency



**If someone, or something, comes into contact with an overhead power line, it is important that everyone involved knows what action to take to reduce the risk of anyone sustaining an electric shock or burn injuries.**

Never touch the overhead power lines; - assume that the power lines are live, even if they are not arcing or sparking, or if they otherwise appear to be dead; - remember that, even if lines are dead, they may be switched back on either automatically after a few seconds or remotely after a few minutes or even hours if the line's owner is not aware that their line has been damaged.



# What to do in an emergency



If you come too close or hit power lines you should

## 1. Drive well clear

If safe to do so drive clear and call 105.

## 2. Not safe to drive clear

Stay in the cab - call 105 - warn others to stay away.

## 3. Not safe to stay in cab - jump well clear

Ensuring you do not make contact with the ground and the vehicle at the same time - do not step down.

## 4. Leaping strides

Try to land with both feet together and continue to jump clear making leaping strides, so that one foot is off the ground at all times.

## 5. Warn others

Warn others to stay clear, report the incident immediately, always assume power lines are live - call 105.



# What to do in an emergency



Shock video



# Where to find more information



## To access our safety pack

Please visit [northernpowergrid.com/safety](http://northernpowergrid.com/safety)  
or call Northern Powergrid General Enquiries  
on **0800 011 3332**.



For more additional information you can visit:

[hse.gov.uk](http://hse.gov.uk) and see:

- Managing risks and risk assessment at work
- HSE document Guidance Note GS6 (4th edition) Avoiding danger from overhead power lines

or [energynetworks.org](http://energynetworks.org)

