

# Overhead Wire Safety Meeting Kit

## THE DANGERS

When setting, moving, or removing a power pole near any exposed live conductor, the pole could contact the conductor and energize the pole and/or damage the conductor, creating multiple hazards for a work crew.

Electricity can arc out from a point of contact and the area around a conduction point, such as a crane that has touched a live power line, can become electrically charged. This means electrocution can occur even if a worker is not in direct contact with the power line.

## RISKS/PRECAUTIONS

If you are working within a distance of 10m (measured at ground level horizontally from below the nearest wire) you are classed as working in close proximity.

- Risks are assessed by a competent and experienced person;
- Safety precautions are always followed;
- Overhead line wires should never be touched;
- It is always assumed that the wires are live.
- If working in proximity to broken lines, they are to be isolated and earthed at a safe distance.

## PREVENTION

### 1. Plan and Prepare

The first step is to find out whether there is any overhead power line within or immediately next to the work area, or across any access route.

If there are any overhead lines over the work area, near the site boundaries, or over access roads to the work area, consult the owners of the lines so that the proposed plan of work can be discussed.

## 2. Eliminate the Danger

- **Avoidance** – find out if the work really has to be carried out under or near overhead lines, and can't be done somewhere else. Make sure materials (such as bales or spoil) are not placed near overhead lines, and temporary structures (such as polytunnels) are erected outside safe clearance distances;
- **Diversion** – arrange for overhead lines to be diverted away from the work area; or Isolation: arrange for lines to be made dead while the work is being done.

If the danger cannot be eliminated, you should manage the risk **by controlling access to, and work beneath**, overhead power lines.

## 3. Control the Access To Work

Where there is no scheduled work or requirement for access under the lines, barriers should be erected at the correct clearance distance away from the line to prevent close approach. The safe clearance distance should be ascertained from the Distribution Network Operator (DNO).

## 4. Control the Work – Precautions

If work beneath live overhead power lines cannot be avoided, barriers, goal posts and warning notices should be provided. Where field work is taking place it may be impractical to erect barriers and goal posts around the overhead lines.

- **Clearance** – the safe clearance required beneath the overhead lines should be found by contacting the Distribution Network Operator (DNO);
- **Exclusion** – vehicles, plant, machinery, equipment, or materials that could reach beyond the safe clearance distance should not be taken near the line;

- **Modifications** – Vehicles such as cranes, excavators and tele-handlers should be modified by the addition of suitable physical restraints so that they cannot reach beyond the safe clearance distances, measures should be put in place to ensure these restraints are effective and cannot be altered or tampered with;
- **Maintenance** – operators of high machinery should not carry out any work on top of the machinery near overhead power lines;
- **Supervision** – access for plant and materials and the working of plant should be under the direct supervision of a suitable person appointed to ensure that safety precautions are observed.

## WHEN ACCIDENTS HAPPEN

The following are crucial points to follow if you find yourself near broken power lines:

- If you are in a vehicle that has touched a wire you will be safer if you stay in the vehicle. If you face additional hazards by staying in the vehicle (e.g. fire) and you need to get out, jump out of it as far as you can and try to land with both feet together to avoid step potential.
- Do not touch the vehicle while standing on the ground as it is likely to have retained a substantial charge. A shock received in this manner is known as “touch potential” and can be fatal.
- Do not return to the vehicle until it has been confirmed that it is safe to do so;
- If you can, call the emergency services. Give them your location, tell them what has happened and that electricity wires are involved, and ask them to contact the line’s owner;
- If you are in contact with, or close to, a damaged wire, move away as quickly as possible by shuffling and keeping both feet on the ground or by jumping with both feet together;
- If you see the accident from another area, do not approach

within 10m of the broken line until the line's owner advises that the situation has been made safe;

## **FINAL WORD**

Knowledge and respect for the power of electricity are two fundamental tenets for working safely and with any longevity in the world of overhead wire. The one without the other will most certainly leave a wake of devastation.

When you install or remove overhead lines, you must protect yourself and others against hazards that could expose you to shock, electrocution, falls, flying and falling objects, and burns.