



WORKING CLOSE TO OVERHEAD POWER LINES

Work at height on its own comes with many hazards, such as people falling or equipment falling. We as HSE professionals do our utmost to prevent these two occurrences. When we think about factors that cause these falls, we should also consider electrocution as a contributor to people falling or equipment being dropped.

Overhead power lines are so dangerous because they lie quietly in wait for someone to make the, often fatal, mistake of touching them. Since power lines appear harmless, they offer no warning to the standard human senses. One moment you are safe, and the next moment you are not. So, what are we to do?

This has long been a topic of discussion in Gravity Training courses where we warn customers about the serious hazard that overhead power lines pose. Known incidents with power lines have ranged from conductive ladders being used in close proximity to power lines, to MEWPs being moved into the exclusion zone, which have resulted in some truly horrifying accidents over the years.

First and foremost, we teach our customers that no work is to be done if power lines are live. But, let's face it, most electrical companies will not shut off the power to entire blocks or neighbourhoods unless it is an emergency. Therefore, we also teach our customers the content of **Figure 1: exclusion zones for unauthorised persons working near powerlines.** below as a baseline for where you should be safe when you know there are live power lines nearby.

Another factor that comes into play when it comes to power lines is that many people don't understand what they are dealing with. Can you tell the difference between a 400 V and a 400 kV power line? Can your workers? The truth is that many people don't have the knowledge or experience to be able to tell the difference. Those that don't have the necessary understanding must then rely on the power company to turn power off at request. But is that enough to rest easy?

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Exclusion zones for untrained or unauthorised workers not doing electrical work.		
DEFINITIONS		
Transmission lines	Distribution lines	MEWP
This is a power line used in electrical power transmission and distribution to transmit electrical energy across large distances.	A distribution power line is the final stage of the electrical grid which distributes electricity to homes, businesses and other end users.	Mobile elevated work platform.
<p>Transmission lines higher than 330 kV = 9 m exclusion zone</p>		<p>Transmission line MEWP exclusion zone = 15 m</p> <p>Distribution line MEWP exclusion zone = 9 m</p>

Figure 1: exclusion zones for unauthorised persons working near powerlines.





GRAVITY

ELEVATING SOLUTIONS

At Gravity, we don't simply rely on utilising an exclusion zone, but we also provide alternative measures to determine which areas are safe and whether a power line is live or not. We recommend the use of personal alert devices to ensure workers never enter a high-voltage zone. These are monitors that are attached to the top of the ladder (preferred method), a link stick or even the worker's helmet. If the alarm goes off, it means the worker is approaching a high-voltage zone and should stop immediately. When using the link stick or the method of fixing the monitor to the top of the ladder, we also recommend using non-conductive materials, which eliminate the hazard of extending any item too far and a worker being electrocuted on the ground.

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Non-conductive Ladder



Personal Monitor



Non-conductive Telescopic Stick



Rescue Hook Attachment

And finally, if something does go wrong and a rescue needs to be performed, we teach the workers to make use of a non-conductive telescopic stick and a rescue hook attachment to get their casualty away from the source of danger without exposing themselves. Working near overhead power lines will always be dangerous, but with the proper planning, training and equipment, we can get the job done safely!



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