

SAFETY MATTERS



Safety Matters is intended to promote discussions of safety issues among underground construction professionals. You should always read and understand the operator's manual before operating any equipment. For additional information, please e-mail safety@ditchwitch.com.

TOPIC:

Overhead Power Lines

POTENTIAL HAZARDS

- Electrocutation
- Burns
- Falls

PRECAUTIONS

- Always stay at least 20 feet away from any overhead electric lines while operating raised equipment and booms.
- Be sure to look around the jobsite before starting the job for overhead power lines.
- Assume every electrical line is energized and un-insulated. Call the utility company and have the lines de-energized before working in close proximity of power lines.
- Always have a spotter or elevated warning signs in the operator's view while working around or near power lines.
- Meet with all personnel at the jobsite before work begins to review the location of the power lines, precautions to take and areas to avoid.
- Wear proper Personal Protective Equipment when working near power lines; this may include protective boots and gloves meeting certain standards.
- If the equipment comes in contact with a power line, do not touch the equipment, anything connected to the equipment, or move because the equipment, other equipment or ground may also be electrified.

INFORMATION/FACTS

- You do not have to come in contact with the power line; it can arc over to a nearby object. Arcing is a powerful current traveling through the air, similar to the same type of light used in welding.
- OSHA requires all cranes and derricks to stay at least 20 feet away from overhead power lines.
- Electricity takes the easiest path of resistance to the ground. A bird does not get electrocuted when it lands on an energized power line. The bird does not supply a direct route to the ground. If the bird was to touch to ground and power line at the same time, it supplies a direct route to the ground, therefore, electrocuting the bird.

- Once a request has been made to de-energize power lines, the utility company has up to 48 hours to respond. Always call to confirm de-energization prior to starting work.
- According to OSHA, a spotter needs to observe safe clearance and be able to communicate to the operator in a timely manner.
- Electrocutations can happen when an individual is elevated. Falling from the elevated surface once contact has been made with an energized power line can cause additional injuries.
- Identify the work zone by creating boundaries with flags or limiting range of machine so the operator stays within the work zone. The work zone defined by OSHA is 360 degrees around the equipment, up to the maximum working radius.
- Burns occur where the electricity enters and exits the body. Most of the injuries due to electrocution are internal such as muscle, nerve and tissue damage, irregular heartbeat, damage to the brain, broken bones, seizures, unconsciousness, respiratory failure, or cardiac arrest.

TALES FROM THE TRENCH

- A vacuum excavator was working 8 feet away from energized overhead power lines. The operator thought he would be careful and keep a close eye on it while doing some potholing. Slowly, he moved closer to the power lines when they arced over to the vacuum boom. Fortunately, the operator survived with minimal injuries due to wearing the proper PPE.
- The crew just showed up at the jobsite to begin work around overhead power lines. They contacted the electric company the day before to request the power lines to be de-energized, but no one called to verify before beginning work. Within a few minutes on the jobsite, the equipment made a connection with a power line that was not deenergized and it electrocuted 3 members of the crew. One did not survive and the other two had severe burns on parts of their bodies, broken bones and various internal injuries.
- While doing some work around overhead power lines, the operator was working 12 feet away and had a spotter. The spotter got distracted and the equipment came in contact with the power line. The spotter ran to the operator's aid and got electrocuted as well. Both the operator and spotter spent countless days in the hospital and were unable to return to work.

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BY ACCIDENT**

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