



## Safety for first responders around fallen power lines

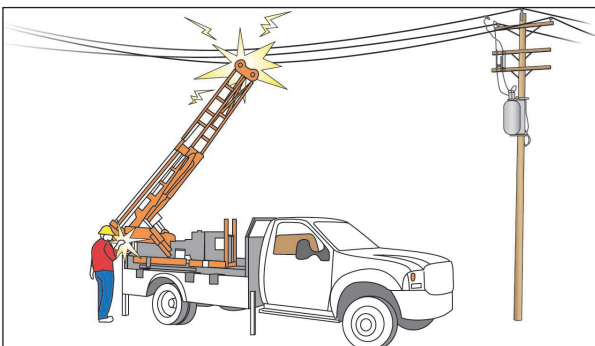
Power lines may come down as a result of windstorms, ice buildup, and motor vehicle accidents. Police, ambulance attendants, and firefighters called to the scene may find power lines lying on the ground or touching a tree or vehicle. On arrival, first responders must always assume that a fallen line is live. They must be aware that the land surrounding the power line may be energized and dangerous.

This bulletin explains the dangers of getting too close to power lines on the ground or to anything in contact with a power line. The safe work practices in this bulletin will keep first responders, other workers, and the public safe at the scene.

### The hazards of power lines

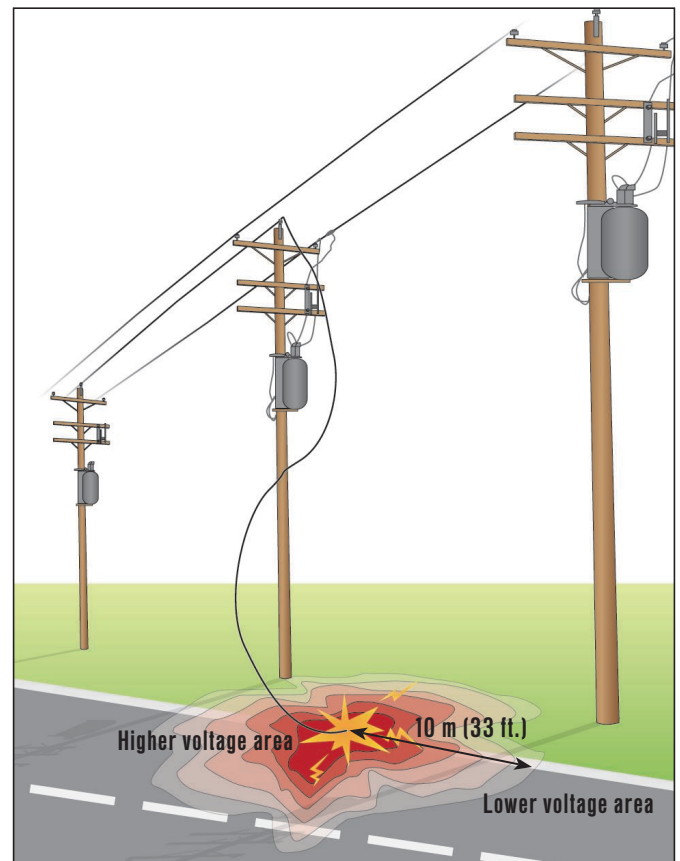
You cannot tell if a downed power line is energized just by looking at it. There are no sparks or movement. Even if the line is not live one moment, automatic switching equipment may restore power to the line without warning. The protective covering on a power line is **not** insulation; it only protects the line from the weather. It won't protect *you* from electrical contact.

The electricity in a power line always seeks a path to the ground. This path might include a tree, a vehicle, or a fence. These objects then become energized. If you touch the energized line or object, the electricity can flow through your body. Keep away from any object that is in contact with a power line.



*Do not approach or touch anything (such as a vehicle, tree, or fence) that is in contact with a power line.*

Once electricity reaches the ground, the ground itself becomes energized. This can happen if a broken power line falls to the ground or onto a vehicle or tree. The electricity then flows through the ground over a wide area, spreading out like ripples in a pool of water. The voltage in the ground is very high at the point of electrical contact. Farther away, the voltage drops off. With power lines of up to 60 kilovolts, the voltage drops to zero at about 10 metres (33 feet). However, if the ground is wet, it will be more than 10 metres from the point of contact to the point where the voltage drops to zero.



*If a power line falls to the ground or touches anything on the ground, the surrounding area may be extremely hazardous. The voltage gradually decreases from the point of contact until it reaches zero. Stay at least 10 metres (33 feet) away.*

## When it is safe to approach the scene

The power company must make sure the power system has been de-energized and will not automatically reconnect. If the power company does not have a representative at the scene, contact the company by phone. Unless the power company confirms that it is safe to approach the downed power line, do not enter the hazardous area and do not let others approach within 10 metres.

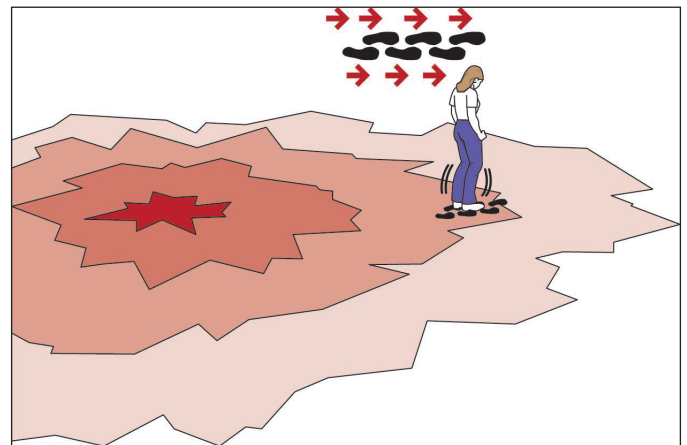
## Safe work practices for first responders

1. **Treat downed power lines and anything in contact with them as energized.**
2. **Park away from the power lines.** When you arrive at the scene, park your vehicle well away from any downed lines. Before you exit your vehicle at night, shine a flashlight through the window to make sure you are not near a downed power line.
3. **Stop traffic and keep people away.** Pedestrians or motorists may not see power lines that are on the ground. The surrounding area will be energized. Secure the area and keep everyone back at least 10 metres (33 feet) – more if the voltage is over 60 kilovolts.
4. **Don't become a victim yourself.** You cannot help anyone if you are injured or electrocuted. Never touch anything that is in contact with a downed power line, including injured or trapped victims, puddles, vehicles, or trees. Do not use a dry stick or piece of hose as they will not protect you.
5. **Call the power company immediately.** The power company can ensure that automatic switching equipment will not restore power to the line. A crew with proper training and equipment will arrive as soon as possible.
6. **Wait for the power company representative to confirm that it is safe to approach the scene.** Only the power company can confirm that the system has been de-energized and that power will not automatically be restored.

## Staying safe inside a vehicle that is in contact with power lines

If your vehicle comes in contact with power lines, follow these steps to keep safe:

- If possible, move the vehicle away to break contact with the power line.
- If the vehicle cannot be moved, stay inside until emergency crews can safely approach. If anyone approaches the vehicle, open the window and call out. Tell them to keep away and to call 9-1-1 for help.
- If there is a fire and you must leave the vehicle, jump out with your feet together. Never touch the ground and the vehicle at the same time. Move away slowly by shuffling and keeping both feet close together.



*To move through the energized zone, shuffle with very small movements so that the voltage to each foot will be the same.*

## Safe work practices save lives

In a recent incident, a fire truck encountered black ice and went out of control. It rolled onto its side and sheared off a power pole. The 60-kilovolt power lines fell onto the truck, resulting in a series of arcs and a widespread power outage.

The four firefighters stayed inside their truck, and a rescue crew kept responding firefighters and the public outside the energized zone. Once the power company said it was safe to leave, the firefighters, who had been wearing seat belts, got out of the truck uninjured.

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