

# Safety for First Responders

## Around Fallen Power Lines

**Staying Safe  
While Saving Others**



**FORTIS**  
ALBERTA

## Downed power lines are hazardous

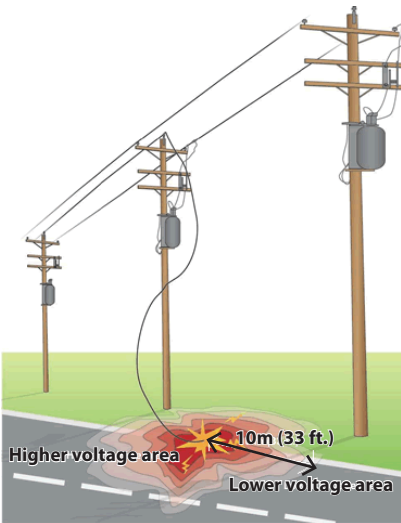
You cannot tell if a downed power line is energized just by looking at it. There could be no sparks or movement. Even if the line is not live one moment, automatic switching equipment may restore power to the line without warning. The protective covering on some power lines is not insulation; it only 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.

Once electricity reaches the ground, the ground itself becomes energized. This can happen if a 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 60,000 volts, 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.

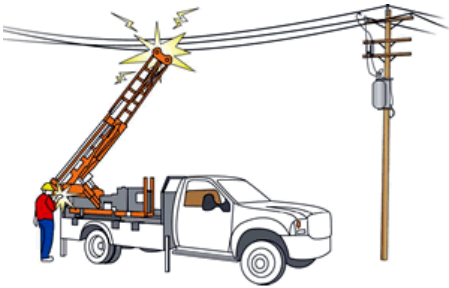


**WHERE'S THE LINE?**  
POWER LINE SAFETY

[wherestheline.ca](http://wherestheline.ca)

## Safe work practices for first responders

- **Treat downed power lines and any underground transformers involved in collisions and anything in contact with them as energized.**
- **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.
- **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) or more if the voltage is over 60,000 volts or the ground is wet.
- **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, vehicles, trees, puddles or bodies of water.
- **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.
- **Only the power company representative can confirm that it is safe to approach the scene.** The power company will confirm that the system has been de-energized and that power will not automatically be restored.
- **Guardrails, metallic and barb wire fences** are excellent conductors of electricity. Beware of these in proximity of fallen power lines.

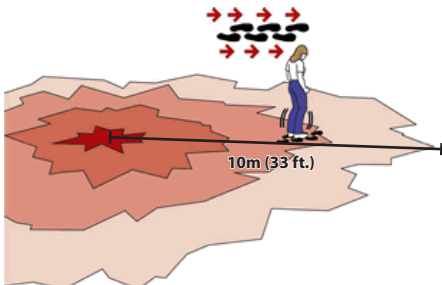


Do not approach or touch anything (such as a vehicle, tree, or fence) that is in contact with a power line.

## Staying safe inside a vehicle that is in contact with power lines (overhead and underground)

If a 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, or by bunny hopping with both feet together slowly. Do this for a minimum distance of 10 meters (33 feet) or more if the voltage is over 60,000 volts or the ground is wet.



To move through the energized zone, shuffle with very small movements or bunny hop, so that the voltage to each foot will be the same. Do this for a minimum distance of 10 m.

# **Safety For First Responders Around Fallen Power Lines**

Power lines may come down as a result of windstorms, lightning, 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 energized. They must also be aware that the ground surrounding the power line may be energized and dangerous.

This brochure 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 brochure will help keep first responders, other workers, and the public safe at the scene.

## **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 anyone approach within 10 metres. Be aware, that if the ground is wet or the power line is over 60,000 volts, it will be more than 10 metres from the point of contact to the point where the voltage drops to zero.

## **Firefighters**

- Never use a solid water stream to fight electrical fires, or fires near power lines.
- Do not attempt to disconnect electrical service:
- Never cut service wires. Turn off power at the main circuit breaker.
- Never attempt to remove electrical meters. This is extremely dangerous and could cause serious injury or death.



Call us at  
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with your general electrical  
safety concerns or visit  
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