

Electrical Safety for First Responders

Discussion Guide – Scenario 2 & 3

Introduction

Electrical Safety for First Responders is a series of information sessions on efficient, safe and effective responses to emergencies involving electricity. Each information session contains a video scenario accompanied by a discussion guide.

Key points

Discuss the role of the first responder when dealing with electrical emergencies:

- keep themselves safe
- keep the public safe
- wait to approach the scene until FortisBC has arrived on site and confirms it is safe

Important: electricity is a safe and efficient source of energy when properly controlled. Uncontrolled, it is extremely dangerous.

Video 2 scenario

Review the scenario presented in the second video. Have one of the participants summarize the video for the group.

Main points to summarize:

- A paramedic responds to a scene where a worker walking next to moving machinery has collapsed after being electrocuted, because the machinery was touching a power line.
- The worker driving the machinery instructs the paramedic to stay where they are because the area could be still energized.

Site safety

Discuss the procedure to follow upon arriving at the site of an emergency involving electricity.

Ask participants to identify the important factors they saw in the video:

1. Perform a scene survey.
 - Park at least 10 meters away from fallen lines. (About the length of a school bus.)
 - Look for any equipment with extended arms that could be in contact with the power lines.
 - Use a flashlight at night to check surroundings before exiting your vehicle.
 - Watch for other objects such as pipes, vehicles and fences that can become energized.
2. Assess potential electrical hazards. Ask yourself these questions:
 - Is there electrical equipment or lines involved (underground or overhead)?
 - Is a power line part of the incident?
 - Is a power line touching or in proximity to the ground or equipment?
 - Is the power line broken or damaged? Always assume the power line is energized.
 - Stay a minimum of 10 metres away from the incident location.

3. Take control of the situation.
 - Encourage injured people to stay where they are.
 - Contact FortisBC immediately.
 - Keep bystanders away from the scene (at least 10 metres).
 - If dealing with fire and the casualty is able to move, tell them how to safely exit burning equipment.
4. Wait to approach the scene until it's safe.
 - Do not become a casualty yourself.
 - Wait until FortisBC has arrived on site and tells you it is safe to approach the scene.

Step potential

Explain the concept of step potential.

- Step potential is the difference in voltage between two points that are one “step” apart.
- Due to the difference in voltage throughout the ground area, it's possible to step across two different voltage gradients while moving toward or away from the electricity source.
- Stepping across two different voltages can cause electricity to flow between the feet and through the body. This can result in injury or death.

Important: No matter the source (natural or manmade) electricity always takes all conductive paths to ground.

Video 3 scenario

Review the scenario presented in the third video. Have one of the participants summarize the video for the group.

Main points to summarize:

- A father and son are relocating farm machinery when the machine touches the power line, and the son gets shocked.
- The father rushes to his son and calls emergency services. When they arrive, they tell the father to stay where he is because the area could potentially be energized.

Site safety

Discuss the differences in the two scenarios:

- hazards
- injuries
- response from emergency responders

Personal experience

Ask for personal experiences:

If participants have any personal experiences that are similar to the emergency situation shown in the videos, ask them to share them with the group.

Wrap-up

Ask if anyone has further questions about this topic.