

Electrical Safety for First Responders

Discussion Guide – Scenario 4, 5 & 6

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.

Scenario

Review the scenario presented in the fourth, fifth and sixth videos. Have participants summarize the videos for the group.

Main points to summarize:

Video 4

- A police officer responds to a break-in at an electrical substation. He remains inside his vehicle until the FortisBC employee arrives onsite and secures the scene for safety.

Video 5

- Police officers arrive at a scene where trees have fallen due to a wind storm. While one police officer talks with a fireman, the other walks around the scene and is killed when he touches a downed power line.

Video 6

- Construction workers are digging a shallow ditch when an underground power line is exposed, giving the machine a shock and causing it to catch fire. A police officer arrives on the scene and tells the construction worker how to safely exit the machine.

Site safety

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

Ask participants to identify the important factors they saw in the video when arriving at the scene of emergency involving electricity.

1. Perform a scene survey.
 - Park at least 10 meters away from fallen lines. (About the length of a school bus.)
 - Make sure any equipment with extended arms is not in contact with the power lines.
 - Use a flashlight at night to check surroundings before exiting your vehicle.
 - Be aware that other objects such as pipes, vehicles and fences 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 contacting 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.

- Contact FortisBC immediately.
- Keep onlookers away from the scene (at least 10 metres).
- If dealing with fire and the casualty is able, instruct 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.

Electrical safety

Explain the concept of electrical safety as it relates to energized equipment.

- Treat all downed power lines as energized.
- Remain at least 10 meters away from all potential electrical hazards.
- Park at least 10 meters away from fallen lines.
- Wait until FortisBC has arrived on site and tells you it is safe to approach the scene.
- Fight your instincts to rush in and help – survey the scene first.
- Keep onlookers away from the scene (at least 10 metres).

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

Reclosing

Explain the concept of reclosing.

Sometimes the system doesn't "trip" if there's not enough current going to the ground, depending upon where the fault occurs in the system.

Reclosers:

- used in the power system to clear transient faults (often caused by birds, small animals, tree branches) and re-energize lines
- act like a circuit breaker where there is a short circuit or fault
- automatically restore power to the line after a momentary fault
- can be pole mounted or located in substations
- can be reclosed manually or remotely at a control center at any time

Personal experience

Ask for personal experiences:

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

Wrap-up

Ask if anyone has further questions about this topic.

