



Downed Conductor Safety

TOOLBOX TALK: Downed Conductor Safety

RATTLIR Safety Series – "Strike Before It Bites"

Purpose

Downed or low-hanging conductors pose critical dangers including electrical arcing, ground potential rise, step potential, and indirect energization of nearby objects. This toolbox talk explains how to recognize downed conductor hazards, establish safe distances, and protect yourself and others during electrical emergencies.



Figure 1 – Downed Conductor Hazard Example

Recognizing Downed Conductor Hazards

- Assume all downed lines are energized – voltage may be present even without sparks or noise.
- Look for sagging wires, broken poles, vegetation contact, or lines resting on fences or vehicles.



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- Identify surrounding materials that may become energized through conduction or induction.

Safe Distance and Approach Rules

- Maintain a minimum safe distance of 30 feet (10 meters) from the downed conductor.
- Increase distance when the ground is wet, flooded, or conductive.
- Prevent others from approaching the hazard zone by establishing a visible perimeter.
- Avoid touching metal objects, guardrails, or equipment that may have become energized.

Step and Touch Potential Awareness

- Step potential occurs when voltage spreads outward through the ground from a downed conductor.
- If caught inside the hazard zone, shuffle or hop away with both feet together – never lift one foot off the ground.
- Avoid normal walking, it can create a voltage difference between your feet.

Vehicle Hazards Around Downed Conductors

- Never drive over a downed conductor – this can energize the vehicle or pull the line, creating new hazards.
- If a power line falls onto a vehicle, instruct the operator to stay inside unless fire or smoke makes escape necessary.
- If escape is required, jump clear with both feet together and shuffle away to avoid step potential.
- Do not attempt to move or push wires using a vehicle – tires and undercarriage components can become energized or fail.
- Keep others from driving near the hazard area until the utility confirms the line is de-energized.



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Discussion Questions

- Do you understand the safe distance required around a downed conductor?
- Are you aware of how to move safely through a step-potential hazard zone?
- Do you have the proper awareness and communication tools today?

RATTLIR Takeaway

Stay sharp, stay back, and stay alive – RATTLIR strikes before it bites when crews recognize electrical danger early.