

# April BY BLAKE MILLER Showers Bring Spring Hazards

## While the worry of icy roads

may have melted away by now, it is important to keep in mind the dangers of spring driving. Rain, for instance, caused 46 percent of all weather-related crashes from 2002 to 2012, according to the Federal Highway Administration. Another threat to safe road conditions is the increase in human and animal activity when temperatures warm up in the spring. Drivers must be cognizant of animals darting across roads, and bicyclists, walkers and runners sharing the roadways.

These hazards can increase the risk of potential accidents involving utility poles when drivers swerve to avoid collisions. It's important to understand the dangers of downed power lines and how to handle the situation if it were to happen to you.

If you are in an accident with a utility pole, your vehicle may be charged with electricity. If this is the case and you step out of the car, you will become the electricity's path to the ground and could be electrocuted. Loose wires and other equipment may be in contact with your car or near it—creating a risk for electrocution if you leave the vehicle.

"When people are involved in a

car accident, electricity is usually the last thing on their minds," explained Molly Hall, executive director of the Energy Education Council's Safe Electricity program. "We're usually more concerned about whether anyone was injured or how badly the vehicle was damaged. We can forget that by exiting the vehicle, we're risking exposure to thousands of volts of electricity from downed power lines."

Luke West, Manager of Safety at Wheatland Electric Cooperative, explained the three scenarios to consider if you are in an accident involving a power pole. "If your vehicle is still operational after colliding with a utility pole, the best option is to drive away from the downed line," he said. "If your vehicle is inoperable, it is best to stay in the vehicle until utility personnel confirm that the power to the line is dead and you can safely exit," he added. "In rare instances in which the vehicle catches fire, exiting may be your only option."

The dangers of getting out of your vehicle are in relation to what is called "touch" and "step" potential West explained.

Electricity, as described by West, wants to flow through anything that is touching the ground; this is

where knowledge of touch potential is important. If you must leave your vehicle because of fire, is it crucial that you do not touch your vehicle and the ground at the same time.

"To accomplish this, a person would have to open a door and stand on the bottom ledge of the doorway," West said, "and then jump from the car onto the ground landing with both feet together."

West clarified that the risk of electrocution comes from touching any part of the vehicle and the ground at the same time, not from touching anything on the car before jumping. If someone were to touch both the car and ground simultaneously, they may be electrocuted by what is called "touch" potential.

"Now that you have safely landed away from the vehicle with both feet together, you are still not out of the danger zone. This is where 'step' potential comes into play," West continued.

West explained step potential as something similar to throwing a rock into water, creating rings or ripples that spread away from the entry point of the rock. The ripples are strongest at the center of the impact and tend to weaken as they



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travel away.

"This same ripple effect is what takes place with electricity when it is entering the ground," West said. "The main difference is that you cannot see it."

Just like the ripples having different propagations from one to the next, so too do the different rings when talking about potential difference. As you move away from the entry point, the potential from one ring to the next decreases, which creates a difference in potential from one ring to another. "Step potential is measured as the voltage difference between the span of each foot or 'step,'" said West.

Because electricity is always trying to flow to different potential, it is important to keep your feet close together when attempting to get away from the vehicle. You do not want your feet in different potential zones, as this will increase the chance of shock.

Moving away from the vehicle can be achieved in a couple of ways. "One way is to bunny hop. Although this may be the fastest, it may not be the safest due to the possibility of one losing their coordination and falling down and being exposed to different rings of potential," West explained. "Probably the better—and safer—way would be to shuffle your feet using very short steps until you are away from the danger zone," he said. He recommended to be at least 35 feet away from the vehicle or downed power line.

April showers bring May flowers and, unfortunately, potential driving hazards. Knowledge is critical in keeping everyone safe in the event of an accident involving power poles. **KCL**

**BLAKE MILLER** is the Communications Intern at Kansas Electric Cooperatives, Inc., in Topeka.



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