

Squirrely behavior: Critters shock the system

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When the lights blink and the weather's not stormy, there's a good chance a squirrel just died.

Squirrels as electrocution victims are a leading cause of power outages and a gnawing concern for utilities such as We Energies, said Brian Manthey, a company spokesman.

The problem is not when the critters scurry gracefully across a wire, but rather when they serve as electrical conduits.

"If they are on a wire and touch a piece of equipment that's grounded, the current flows through them," Manthey said. "They're killed and sometimes the power to homes and businesses go out."

Covers protect energized conductors from flashovers due to contact from birds, squirrels and other wildlife. (Photo courtesy of Tyco Electronics)

Frolicking squirrels, birds and other mischievous fauna caused an estimated 1,000 power outages in We Energies' service area in 2009, the most recent numbers available, said Paul Gogan, manager of electrical reliability and planning for We Energies. That represents about 11 percent of all the power outages in the area, he said.

Gogan said he couldn't say exactly how much damage the animals cause, but equipment on a power pole is worth thousands of dollars and equipment in substations can be worth more than a million, he said.

The number of animal-related outages declined 26 percent since 2004, Gogan said, thanks in large part to more than 87,000 protective devices placed on We Energies' equipment.

"Trying to keep squirrels off poles is like trying to herd cats," he said. "We insulate the wires and put protective covers over the grounded equipment."

The squirrels also prompted a little creative engineering on the part of power people.

"It's their tails that are generally the problem," Manthey said. "Someone figured out the average length of squirrels and their tails. So we put caps on equipment closer than 18 inches from a wire."

Hungry raccoons are the bigger source of substation problems, he said. Birds frequently nest around substations in the spring, and the raccoons sometimes get scrambled when they go for the eggs, Manthey said. Fences around substations are made of a slippery material designed to discourage the facile climbers.

The power lines are designed to withstand up to three touches before the power is cut off, Manthey said. So if a squirrel is zapped and falls away from the grounded equipment after quick contact, that's not a problem for anyone other than the squirrel.

But if an animal stays in contact with the wire and grounded equipment for 30 seconds or so, the juice to nearby buildings gets cut off, Manthey said.

Birds are usually not much of a problem for the company, Manthey said, but a wild turkey caused an outage last year in Jefferson County and got fried in the process.

Gogan said he's heard of large nests of once domesticated parakeets building 8-foot high nests on power lines in southern Illinois.

"We haven't seen any of those," he said.

Sean Anderson, an assistant project manager with Madison-based Hooper Corp., said birds are a bigger problem for his company, particularly in the western and northern parts of the state.

"Sometimes we find hawks or eagles nesting on power poles and we have to wait until the nesting season is over to change the poles," he said. "Sometimes, in really old poles, birds build their nests right into the pole."

Generally, Hooper builds around the nest-infested poles.

"Hey, they're there," Anderson said. "They have to live, too."

Hooper, an electric power and mechanical contractor, creates premade steel poles designed to attract nesting birds and discourage them from setting up house on a utility pole in some areas, Anderson said.

But when animal meets wire, he said, it often is impossible to tell what species caused the power outage.

"After they've been hit by the current," Anderson said, "it can be hard to identify them."