

37 Million Years and Still going strong

Squirrels have inhabited North America for about 37 million years so it should be no surprise that they seem to adapt to whatever man puts in their way.

Ever since Thomas Edison's Pearl Street generating station opened September 4, 1882, in New York City animals have been a constant source of unplanned and unwanted outages for electric utilities. It's widely accepted that only weather causes more unplanned outages than animals. While we cannot do anything about the weather (except talk about it), one would think we could outsmart an animal with a brain the size of a walnut.

Animal outages are so prevalent that the Wall Street Journal recently featured an article subtitled: "It's a War and the Squirrels Are Winning As Electrocuted Critters Cause Power Outages." The article went on further to state, "In one re-



port on outages the Electric Power Research Institute, a nonprofit analysis group in California, called the squirrel Public Enemy No. 1."

The Squirrel is Not Alone

Birds, raccoons, snakes, cats and a list of a couple dozen animals have been identified as known sources of unplanned outages that annually cost electric utilities millions of dollars. Compounding the financial burden is the public outcry for ever-more reliable supply of electricity. The type of animal that causes outages will vary with geography.

but never proved squirrel caused two separate outages at Kennett Board of Public Works' Northwest substation.

Having tried a variety of tape and cover-up products that did not solve the problem Kennett needed to take action to stop the unwelcome outages. After all, the Northwest substation supplied power to city's largest employer – a world-class electric motor manufacturer with roughly 700 employees.

An End to the Outages

Kennett's Electric Supervisor Bart Carter set out to find a way to mitigate the outages without having to take yet another outage for installation. Carter selected a 20-inch diameter polymer mesh disk device that could be easily installed with one hotstick and without having a chiropractor on call. His selection of the Rauckman Utility Products Wildlife Barrier has proven to be a good one.

Outage Free Since 2001

The entire Northwest substation was outfitted with approximately 100 animal mitigation barriers in one day without an interruption of power. The Rauckman barriers attach to a standard shotgun hotstick and slide between the skirts of insulators and bushings. The barrier's patented design has flexible "teeth" that secure the barrier to the insulator. The barrier has a field adjustable design. Only a pair of lineman's pliers is needed to trim the inner rings to fit all the different size and style insulators in the substation.

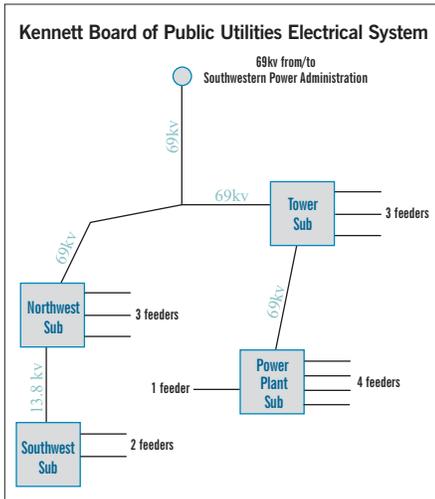
Since the installation was so successful at the Northwest substation, Carter

Sampling of Animals Causing Outages by Area



Crows – Good
Snakes - Bad

Nestled in the boot heel of Missouri, Kennett is the already well known hometown of rock singer and songwriter Sheryl Crow. But it was not crows causing repeated outages in the spring of 2001 for this municipal utility providing water, sanitation, natural gas and electricity to the town's nearly 12,000 residents. At least one snake and an alleged,



had the barriers installed throughout their largest of the four substations not long after. Kennett Board of Public Works has already acquired the barriers for another substation located at their power plant in the heart of town that supplies five distribution feeders.

Power Polymers

Not many plastics can survive the harsh environment of high voltage applications. Before applying any product a utility needs to know that they are not introducing another potential source of failure. It takes a highly engineered and proven polymer to earn the opportunity to serve in critical high voltage applications.

Suppliers should have completed, and be prepared to provide, certified documentation and test reports to demonstrate the products':



- Effect on Insulator and Bushing Basic Impulse Levels (BIL);
- Comparison of 60-Cycle Flashover Values With and Without Barriers;
- Performance of ANSI Wet Test Flashover With and Without Barriers;
- Condition of Barriers after exposure to Repeated Power Arcs; and
- Non-Flammability Conformance to UL-94 and/or NFPA 701.

There are many products offered to help with animal problems, but very few have years of successful field experience, special polymers formulated for high voltage applications and the fundamental common sense approach to doing it hot with only a shotgun stick for the installer, and a pair of lineman's pliers for the ground man.

The Rauckman Wildlife Barrier

After acquiring the assets of Houston Industries Products in the fall of 2000, owner Jim Rauckman set out to take the highly desirable design of the patented Wildlife Barriers and upgrade the material to the best available for severe electrical applications. Rauckman

quickly teamed up with Robert W. Harmon, P.E. of Centralia, Missouri. Harmon is the holder of dozens of patents related to high voltage insulation and hot-line tools. Harmon is the former chairman of ANSI ASC C-29 Insulators for Electric Power Lines Committee and among other things patented the first commercially successful polymer insulator.

Harmon and Rauckman settled on the best materials for the application while recognizing the need to keep the product in an installed cost range such that allowed its widespread application to be easily justified.

The Rauckman Barriers come in 16-inch, 20-inch and 24-inch diameters and are available in either red or grey. All provide the patented one-operator, one-hotstick installation that can be performed in seconds. All have removable inner rings to fit all common insulators and equipment bushings. Will the Rauckman Barrier overcome the ever-elusive acrobatic squirrel? We can only hope so – after all, squirrels are fun to watch, but they make lousy fuses. ■

ONE-PERSON HOT INSTALLATION

Substation Class and Distribution Class Wildlife Shield™

Minimize animal-related outages!

- Latest polymer technology for severe environments
- Will not compromise bushing properties
- Fast self locking - Slide on installation
- No fasteners to manipulate
- Effective on all outage causing animals
- Red or grey colors in 3 different overall diameters
- Field removable inserts allow any barrier to fit virtually all insulators and bushings

US Patent number 5,864,816

RAUCKMAN™
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