

## Five Con Edison Employees Win Industry Awards for Research

March 6, 2019

NEW YORK, March 06, 2019 (GLOBE NEWSWIRE) -- Five Con Edison researchers have won prestigious recognition for findings that improve manhole safety and the maintenance of substation equipment.



Con Edison workers test a latched manhole cover. The cover has a hinge on one side and latch on the other to allow heat and gases to escape without the cover dislodging.

The employees, **Josephine Aromando, Stanley Lewis, Colleen Murach, Mark Riddle** and **Jozsef Szabo**, received the Technology Transfer Award from the Electric Power Research Institute (EPRI).

“Safe, reliable energy is imperative in New York, home to millions, host to visitors from all over the world, and where top health-care, technology and educational institutions do their important work,” said Tim Cawley, president of Con Edison. “The work of our researchers will help us continue to provide the excellent service that is essential in this vibrant region.”

The Con Edison researchers worked with experts at EPRI to develop solutions to challenges facing the energy-delivery industry.

Murach, an operating supervisor in Brooklyn and Queens Electric Operations, and Riddle, an engineer in Distribution Engineering, represented Con Edison on a task force that looked for ways to make the low-voltage electric distribution system safer and more reliable.

The research included simulating manhole events at EPRI’s Lenox, Mass. laboratory to determine the most effective latch designs for protecting the public. The latch keeps the cover in place if heat and gases build up in the manhole.

One latch used by Con Edison allows the cover to lift slightly on all sides in response to pressure and then settle back into place. An alternative design that the research determined to also be effective allows the cover to lift slightly on one side while remaining hinged on the opposite side.

Con Edison has installed more than 750 latched covers on its manholes.

Manhole events tend to occur following winter storms when melting snow and road salt wash into the underground electrical delivery system. If that salty water gets through the insulation on the wires and makes contact with the copper, it can generate heat. The burning insulation creates gas and smoke. A spark from the wires can ignite the gases.

Summer heat waves can also cause manhole events, as the demand for power rises due to customers using their air conditioners to stay comfortable. This causes underground cables to become hot.

The installation of latched covers is one of a number of programs Con Edison has to improve manhole safety.

The company has also begun piloting the placement of bags of light pebbles in manholes to reduce the impact of manhole events. The bags effectively occupy space in the manhole, reducing the buildup of gases.

Con Edison crews use thermal-imaging cameras to locate hot spots on cable. Crews are also placing wireless sensors in manholes to detect heat and gases that can indicate a repair is needed.

Szabo, a senior engineer who works in Equipment & Field Engineering, led the company’s adoption of a lubrication kit for substation equipment, including circuit breakers.

Substation circuit breakers must open in a fraction of a second when relay systems detect a fault. The breakers isolate defective equipment and

remove it from service, preventing damage and potential customer outages and protecting worker safety.

It is important to keep the breakers clean and lubricated. But lubricating all the critical points can require disassembling equipment.

Working with EPRI, Szabo developed a process that uses the kit to clean and lubricate breakers without disassembly. The lubricant works its way into hard-to-reach parts of the breaker mechanism.

Szabo also put together a video to help Con Edison personnel learn to use the kit. The company has used the kit in its maintenance of hundreds of substation circuit breakers.

Con Edison's winners have a combined 78 years with the company. Aromando is a senior engineer in Research and Development; Lewis is a section manager in Distribution Engineering.

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