



CIRSA HAZARD ALERT

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Hazard Alert – Light Pole and Traffic Signals Electrical Hazards



Traffic signals, electronic crosswalk signs, and light poles are integrated into society to a point of commonality. They appear benign and thus considered safe, even to those who regularly work on them. However, many municipalities nationwide are facing the consequences of not having an adequate infrastructure inspection and routine maintenance programs for these facilities. This, in turn, is leading to minor and severe injuries to citizens, animals, and maintenance personnel.

According to a recent Professional Safety Journal article, since 2013, there have been eight fatalities involving humans or pet dogs deaths in the United States due to electrocutions caused by wiring faults within light poles and traffic lights. Additionally, there have been 26 severe shock incidents in that same time period. It is unknown how many minor shocks from these devices go unreported every year.

Studies have shown that on average 1 in 337 conductive light poles have a full phase wiring fault to the pole itself. This means the surface of the pole is being energized by the full voltage being supplied to the light, which can range from 120V to 208V depending on how the pole is wired. While these faults may not immediately result in an incident, there is the potential that it can result in a serious shock or even death.

The cause of these wiring faults can include damage from vehicle collisions, poor maintenance, weather or vandalism. In addition, hand hole, faceplate covers, and copper wiring are high theft items that are often removed from poles and sold to scrap metal dealers for cash. The damage done by this theft can expose or damage the wiring within the pole, also creating the hazard.

Light Poles & Electrical Hazards (cont.)

Depending on specific circumstances, municipalities can face potential liability for wiring faults on light poles and traffic lights which they own and operate. These concerns exist not only along roadways, but in organization owned parking lots, parks, trails, or other illuminated areas.

It cannot be assumed that zero incident reports mean zero issues. While uncommon, shocks and electrocutions to the public due to electrical faults in light poles and traffic signals can occur. Organizations should develop a light pole and traffic signal maintenance program to ensure these facilities are inspected for hazards. A resource for setting up a testing program is IEEE 1695-2016, Guide for Understanding, Diagnosing and Mitigating Stray and Contact Voltages.

A handheld voltage detector is one tool a municipality can use to test light poles and traffic lights for dangerous currents. The detector can be touched to the surface to determine if any current is present. Smaller organizations may be able to perform physical inspections of the devices manually, while larger organizations may find a mobile detection system more effective.

Source: Professional Safety Journal. December 2020 by Mark Voigtsberger
onlinedigitalpublishing.com/publication/?i=685394&p=18

Voigtsberger, M. (2006) Analysis of public shock and electrocution cases.
<http://www.mikeholt.com/download.php?file=PDF/AnalysisofPublicShockandElectrocutionCases.pdf>

IEEE 1695-2016, Guide for Understanding, Diagnosing and Mitigating Stray and Contact Voltages.
<https://ieeexplore.ieee.org/document/7508856>