KENTUCKY INJURY PREVENTION AND RESEARCH CENTER

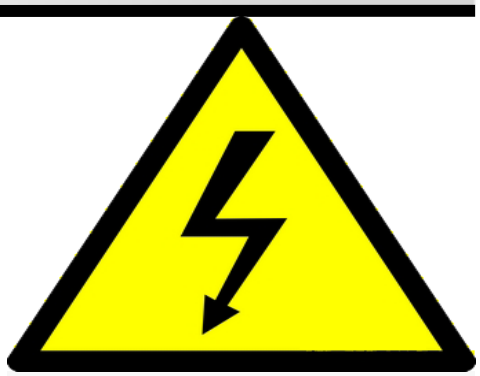
# HAZARD ALERT

## Electrocutions in the Construction Industry

Kentucky Occupational Safety and Health Surveillance, February 2021

## What is the hazard?

From 2000-2019, 64 workers in Kentucky died by electrocution, accounting for 3.2% of all work-related fatalities in the state during that time. Of the 64 deaths, 25 (39%) occurred in the construction industry[1]. Nationally, electrocution is one of the construction's 'Fatal Four', and accounted for 8.5% of the industry's 1008 fatalities in 2018[2].



## The following deaths by electrocution occurred in Kentucky's construction industry:

Case 1: An electrical foreman was working on a 480-volt electrical enclosure, pulling cable for a new pump that was being installed, when he contacted energized conductors. (2013)

Case 2: The contract field service technician was on top of an electrical cabinet performing testing. He came into contact with a wire and yelled to workers to shut off the power. He was taken by ambulance to a medical center where he later died. (2015)

Case 3: A dump truck driver was backing up to unload a load of debris with the dump bed extended in the raised position. The bed made contact with the overhead power lines, causing one of the wheels to catch on fire. The driver was electrocuted as he tried to exit the truck cab. (2018)

Case 4: A 16-year-old contractor was asked to place an aluminum ladder to complete a roofing job. The worker lost control of the ladder, causing it to fall backwards and contact a power line carrying 7,200 volts. The worker died instantly. (2018)

Case 5: A construction company owner/operator was in a cherry picker performing tuck pointing work when the bucket he was in contacted overhead power lines. The worker was killed instantly. (2019)

## Recommendations:

- **Perform a job hazard analysis prior to beginning work at a new or changing worksite.**
- **Train employees on and enforce proper lock-out/tag-out practices to ensure equipment is de-energized.**
- **Ensure all electrical equipment is properly grounded.**
- **Personally disconnect the plug from electrical outlet prior to inspecting or repairing any power tool.**
- **Inspect tools and electrical cords before use to ensure they are in good repair. If damaged, remove from service.**
- **Utilize ground-fault circuit interrupters (GFCIs) on construction sites to reduce electrical hazards on construction sites.**
- **Know the location of all overhead and underground power lines in order to prevent accidental contact. If unable to keep a safe distance, contact the electrical company to discuss de-energizing the lines.**

Kentucky Injury Prevention and Research Center (KIPRC) is a bona fide agent for the Kentucky Department for Public Health.

Kentucky Public Health
Prevent. Promote. Protect.

## Further Resources

| Name of Resource | Resource Description | Resource Link |
|---|---|---|
| Extension Cord Safety | Toolbox talk provided by the Center for Construction Research and Training that discusses what to look for when inspecting cords. | https://www.cpwr.com/wp-content/uploads/publications/16-Extension-Cord-Safety-CPWR.pdf |
| Ground-Fault Protection on Construction Sites | OSHA document discussing the purpose of GFCIs, how they work, and how they keep employees safe. | https://www.osha.gov/Publications/3007/3007.html |
| Preventing Electrocution of Construction Contract Workers | CDC-produced document discussing the construction industry 'Fatal Four', common causes of electrical fatalities, prevention, and statistics. | https://blogs.cdc.gov/niosh-science-blog/2019/02/08/electrocution-in-construction/#:~:text=Ensure%20all%20electrical%20equipment%20is,machinery%20before%20inspecting%20or%20repairing. |
| Preventing Electrocutions of Crane Operators and Crew Members Working Near Overhead Power Lines | CDC-produced guide with links to FACE reports, applicable OSHA regulations, ANSI standards, and safe distances based on voltage. | https://www.cdc.gov/niosh/docs/95-108/ |


**Sources**

[1] Kentucky FACE Database, Kentucky Injury Prevention & Research Center, University of Kentucky

[2] https://www.osha.gov/data/commonstats


For additional training materials and information regarding the KOSHS program, please visit the program website at: http://www.mc.uky.edu/kiprc/koshs/index.html

Let us know what you think about this alert. Click here to complete our brief, anonymous survey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**Acknowledgements:**

Produced by the Kentucky Occupational Safety and Health Surveillance (KOSHS) Program, Kentucky Injury Prevention and Research Center (KIPRC) as bona fide agent for the Kentucky Department for Public Health.

The KOSHS Program is funded by grant 5U60OH008483-15 from the National Institute for Occupational Safety and Health, Centers for Disease Control and Prevention.