







Focus Four Webinar: Protecting Workers Against Electrical Hazards

Moderator:

Kevin Cannon, CSP, ARM, Senior Director, Safety and Health Services, Associated General Contractors of America (AGC)

Panelists:

- Nicholas DeJesse, Assistant Regional Administrator Cooperative and State Programs, OSHA Philadelphia Regional Office
- **Rocky Rowlett, CSP**, Vice President of Safety, Faith Technologies
- Scott Sears, PE, CSP, Vice President of Safety and Loss Control, Walker Engineering
- Jessica Bunting, MPH, Research to Practice (r2p) Director, CPWR

Welcome!

- □ Attendees are automatically muted.
- □ Today's webinar is being recorded & will be automatically emailed to everyone who registered once available.
- For technical difficulties or proof of attendance, email Tyler Simpson: tsimpson@cpwr.com.
- Audio difficulties?
 - Call in via phone instead: 415-655-0003
 - Access code: 2562 977 9314 #



OSHA Region 3 Focus Four Campaign

Nicholas DeJesse

Assistant Regional Administrator – CSP OSHA Region III



Occupational Safety and Health Administration

Focus 4 Campaign Purpose

- To raise the level of awareness of the 4 leading killers in construction
- To promote an open dialogue with stakeholders, employers, and employees on recognizing, evaluating, and controlling these hazards
- To increase collaboration between government, labor, construction associations, and private sector entities



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History & Highlights

- Four-month endeavor focusing on electrical, struck-by, caughtin/between, and fall hazards in construction (March – June)
- Collaboration between OSHA and several construction partners (GBCA & MACSC)
- Initially comprised of onsite discussions and toolbox talks greatly expanded since inception
- In 2018, "married" the campaign to the National campaigns (Fall, WorkZone Awareness, Excavation/Trenching)
- In 2021, co-hosted the "Focus 4 and More Digging into Safety" at Diggerland, USA



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Impact

- Initially in 2016, we reached several hundred employers and employees.
- Today we have reached tens of thousands of employers and employees and share our materials with groups and associations in Canada and Europe
- Guest speakers such as Eric Giguere, Rosalie Hetrick, and Kerri Harvey
- Feedback on the talks and onsite visits has been extremely positive

OSHA-Focus4-Region3@dol.gov



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Focus 4 Materials



What should we look for? Stable rock and soil type (A, B, C), depth of excavation, cave-ins, water in trench, weather conditions (rain, frost), water table, protective systems, competent person, operation of heavy equipment near excavation, barricades, and falling loads.







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Focus 4 Events







Top 10 Violations in Construction FY 2021



- 1. Fall Protection General Requirements (1926.501)
- 2. Ladders (1926.1053)
- 3. Scaffolding (1926.451)
- 4. Fall Protection Training (1926.503)
- 5. Eye and Face Protection (1926.102)

- 6. Head Protection (1926.100)
- 7. General Safety and Health Provisions (1926.20)
- 8. Aerial Lifts (1926.453)
- 9. Specific Excavation Requirements (1926.651)
- 10. Fall Protection Systems Criteria and Practices (1926.502)



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Electrical [1926.400 – .449]

29

CFR 1926



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OSHA Website – "Anticipation"



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New Compliance Assistance Resources

UNITED STATES f y ⊠ n ⊡ DEPARTMENT OF LABOR												
Occupational Safety and Health Administration CONTACT US FAQ A TO Z INDEX ENGLISH ESPAÑOL												
OSHA 🗸 STANDARDS 🗸 ENFORCEMENT TOPICS 🗸 HELP AND RESOURCES 🗸	NEWS 🗸	Q SEARCH OSHA										
Employers / New Compliance Assistance Products												
Accompliance Assistance Products And following are some of OSHA's recently issued or updated compliance assistance products. Many publications with an OSHA publication number can be downloaded or ordered from the OSHA Publications Office at (202) 693-1888 or (800) 321-OSHA (6742). CVUD-18 Alarts Bookleds Bookleds Bookleds Bookleds Parch Sheets Parphlets Posters Posters Aures Aures												



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Compliance Assistance

OSHA helping employers:

24 million visitors to OSHA's website in FY 2021
 311,000 responses to OSHA 1-800 calls for help
 11,900 e-mail requests for assistance answered
 5,700 outreach activities by Regional & Area Offices
 17,600 small businesses helped through Consultation



OSHA publications for every workplace training need



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OSHA Cooperative Programs

resources, share information with workers

and employers, and educate workers and

employers about their rights and

responsibilities. [More...]

OSHA offers the following cooperative programs under which businesses, labor groups, and other organizations can work cooperatively with the Agency to help prevent fatalities, injuries, and illnesses in the workplace. For help on deciding which cooperative programs are right for you, see Find a Cooperative Program. If you are located in a State with an OSHAapproved State Plan, please contact your state agency for information about cooperative programs.

OSHA CHALLENGE allance PARTN RSHIP Alliance Program Voluntary Protection **OSHA** Challenge Program OSHA Strategic Partnership Program (OSPP) Programs (VPP) Through the Alliance Program, OSHA OSHA Challenge provides interested works with groups committed to worker employers and workers the opportunity to The OSPP provides the opportunity for The VPP recognize employers and Program safety and health to prevent workplace gain assistance in improving their safety OSHA to partner with employers, workers, workers in the private industry and fatalities, injuries, and illnesses. OSHA and health management systems. professional or trade associations, labor federal agencies who have implemented and the groups work together to develop Challenge Administrators experienced in organizations, and/or other interested effective safety and health management compliance assistance tools and

stakeholders. Each OSHA Strategic Partnership establishes specific goals, strategies, and performance measures to improve worker safety and health.

[More...]

systems and maintain injury and illness rates below national Bureau of Labor Statistics averages for their respective industries. [More...]

safety and health guide Challenge Participants through a three-stage process to implement an effective system to prevent fatalities, injuries, and illnesses. [More...]



On-site Consultation Program's Safety and Health Achievement Recognition

Employers that have a full On-site Consultation visit and meet other requirements may be recognized under SHARP for their exemplary safety and health management systems. Worksites that receive SHARP recognition are exempt from programmed inspections during the period that the SHARP certification is valid. [More...]

Quick Links -

Contact & Resources

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OSHA-Focus4-Region3@dol.gov

https://www.osha.gov/training/ou treach/construction/focus-four

https://www.osha.gov/sites/defa ult/files/OSHA3886.pdf



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PRE JOB-COMMUNICATION





Rocky Rowlett, CSP | Vice President of Safety o: (913) 541.4766 | m: (405) 570.0489



• Pre-Bid

- Customer/Clients Core Values
- o Bid Smart Scores
- Pre-Bid Walk Throughs
- Project Kick Off
 - o Safety Alignment
 - o Hazard Elimination
 - De-Energized Work Opportunities





Performance Factors

Scott Sears, PE, CSP, Vice President of Safety and Loss Control, Walker Engineering



- Psychology and Intent
- Operational Risk Management
- Artificial Intelligence





THE CENTER FOR CONSTRUCTION **RESEARCH AND TRAINING**

Research & Resources to Address Electrical Injuries in Construction

Jessica Bunting, MPH

Director, Research to Practice (r2p)

Who is CPWR? CPWR is dedicated to reducing occupational injuries, illnesses & fatalities in the construction industry through:



A recognized world leader in construction safety and health research



The training offered by CPWR builds on the existing infrastructure of the Building Trades Unions and the 2,000 joint apprenticeship and training programs in all 50 U.S. states and in Canada.



In order to prevent deaths, injuries and illnesses in construction, interventions must be evaluated in the workplace and communicated to employers and workers.



Ongoing Surveillance Research: Fatal & Nonfatal Injury Trends

CPWR's Data Center:

- Amber Trueblood, DrPH, Director atrueblood@cpwr.com
- Samantha brown, MPH, Research Analyst
- William Harris, MS, Research Assistant

Main Webpage: https://www.cpwr.com/research/data-center/



Electrocution Fatal Injuries



- On average annually electrocutions account for 7.7% of all fatal injuries, with 2020 being the lowest reported year at 5.2% of fatal injuries.
- On average annually there were 74 electrocution fatal injuries with an average fatal injury rate of 0.7 per 100,000 FTEs.
- From 2011 to 2020, there was an 23% ♥ decrease in electrocution fatal injuries and a 37.5% ♥ in the electrocution fatal injury rate per 100,000 FTEs.



Electrocution Nonfatal Injuries* (Private wage-andsalary) • On average annually electr



- On average annually electrocutions account for 0.6% of all nonfatal injuries and illnesses. This percentage hit its lowest in 2018 at 0.4% but was 0.6% in 2019 and 2020.
- On average annually there were
 485 electrocution nonfatal injuries.
- Electrocution nonfatal injuries decreased from 2015 to 2018, reaching their lowest point in 2018 (n=310). Began to rise in 2019 (n=440) and continued to rise into 2020 (n=450).



*Defined as nonfatal injuries and illnesses resulting in days away from work for private wage-and-salary construction.

Focus Four Dashboard

https://www.cpwr.com/research/data-center/data-dashboards/



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Data Center Electrocution Resources

- <u>Construction Focus Four</u> Dashboard
- <u>Construction Fatality Map</u> Dashboard
- <u>Severe Injury</u> Dashboard (Note: Easiest to Pull this data with spreadsheet and filtering based on event)
- Fatal Injury Trends in the Construction Industry Data Bulletin
- <u>Electrocutions and Prevention in the Construction Industry</u> Quarterly Report

Upcoming Products (May 2022):

- Fatal and Nonfatal Injuries in the Construction Industry Data Bulletin
- Fatal Occupational Injuries in Construction Dashboard



Current Research: Augmented Pre-Task Planning

Research Team:

- Babak Memarian, PhD, CSP, CHST, Director, Exposure Control Technologies Research – <u>bmemarian@cpwr.com</u>
- Chris Le, MPH, Program Manager, Construction Solutions
- Sara Brooks, MPH, Industrial Hygienist

Project Summary: <u>https://www.cpwr.com/research/current-</u> research/prevention-through-augmented-pre-task-planning/



Prevention through Augmented Pre-Task Planning

- Focus on high-risk electrical tasks
- Explore task factors increasing task difficulties from workers' perspective, including:
 - Physical
 - Mental
 - Time
 - Frustration
 - Environmental
- Identify effective interventions to redesign and simplify tasks and work processes
- Develop enhanced pre-task planning/JHA documents informed by workers' input



Current Status

- Identified <u>12</u> high-risk electrical tasks and contributing work factors.
- Currently visiting jobsites and interviewing workers on targeted tasks.
- Developing Task Analysis Documents for each task studied, containing;
 - Challenges identified by workers
 - Visual aids representing the task
 - Recommended solutions and interventions
- Conducted in close collaboration with:
 - NECA (DC and Seattle Chapters) •
 - IBEW
 - Rosendin Electric
 - MC Dean Building Intelligence

- FreeState Electric
- Contemporary Electric
- Valley Electric
- Penta Group



Construction Solutions Database www.cpwrconstructionsolutions.org





Construction Solutions Overview

- A **free resource** to create awareness for safety options for hazards in the construction industry
- Filter Solutions by:
 - Line of Work > Task > Hazard
 - Topics
 - Search box
- Site compiling various construction safety and health solutions mostly drafted and reviewed by **industry professionals**
- Over **330** Solutions of which **21** are for *Electrical Hazards*



Example: Heavy Equipment Proximity Warning Devices

- Warn and immobilize heavy equipment when it reaches a certain height or unsafe distance from overhead lines
- Some devices can also monitor equipment's vertical movement









http://www.cpwrconstructionsolutions.org/solution/963/using-overhead-powerline-proximity-warning-devices-for-heavy-equipment.html

Example: Technology Detecting Underground Cables

Cable Locating Device

- Hum Detector: detects electromagnetic field radiated by live current cables
- Radiofrequency Detector: detects unloaded and low-voltage current cables (street lighting in daytime)
- Ground Penetrating Radar: detects anomaly under ground





Geospatial Augmented Reality System

• Software technology to help locate underground cables to prevent electrical hazards and consequently ensure a safer earthwork process.



http://www.cpwrconstructionsolutions.org/solution/954/using-cable-locating-device.html http://www.cpwrconstructionsolutions.org/general_labor/solution/956/geospatial-augmented-reality-system.htm

r2p Resources

Research to Practice (r2p) & Communications Team:

- Jessica Bunting, Director, r2p jbunting@cpwr.com
- Grace Barlet, MPH, r2p Research Analyst
- Rosa Greenberg, MPH, r2p Research Analyst
- Michael Aguilar, r2p Program Assistant
- Bill Wright, Director, Communications
- Tyler Simpson, Communications Specialist
- Sharretta Benjamin, Communications Coordinator

R2p Library: <u>https://www.cpwr.com/research/research-to-practice-r2p/r2p-library/</u>



r2p Resources

Toolbox Talks

(English & Spanish)

- Arc Welding and Electrical Safety
- Buried Utilities
- Electrical Power
- Electric Wiring Safety
- Extension Cord Safety
- Fire Safety
- Lockout/Tagout: Electrically Powered Equipment
- Overhead Power Lines
- Power Saw Safety

https://www.cpwr.com/research/research-to-practice-r2p/r2plibrary/toolbox-talks/







r2p Resources

Hazard Alert Cards

(English & Spanish PDFs, English only printed pocket-sized versions)

- Electrical Safety for Non-Electricians
- Hazard Communication
- Lockout/Tagout

https://www.cpwr.com/research/research-to-practicer2p/r2p-library/hazard-alert-cards/

Infrastructure Resources

- Transportation
- Climate, Energy, and the Environment
- Broadband

https://www.cpwr.com/research/research-to-practicer2p/infrastructure-resources



RF Radiation Awareness Program

- Presentation
- Video
- Supplemental Resources
- Radiofrequency (RF) Radiation Awareness Guide for the Construction Industry <u>https://www.cpwr.com/research/research-to-practice-</u>

<u>r2p/r2p-library/other-resources-for-stakeholders/</u> radiofrequency-radiation-rf/





National Resource Center

Upcoming courses in Region #3

- ➢ OSHA #3095 Electrical Standards (August 9-12)
- OSHA #7115 Lockout/Tagout (August 08)

To Register visit:

WVU Safety & Health Extension

(https://extension.wvu.edu/community-business-safety/safety-health)

Thank you!

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