CSI Country Wide Case Study Safety Strategy Discussion

Construction Safety Investigator

Instructions

The objective of this tool is to provide field supervisors with information to proactively engage workers and discuss safety related concerns that they may encounter. Safety discussions should not be limited to the subject above and should pertain to the activities that workers will be involved in that may have the potential for safety related exposures.

Case Day:

February 2010

Accident Type:

Electrical Arc Flash Accident - Working On Energized Parts

Relevant laws, rules and codes may include:

29CFR 1926.20(a)(1), 1926.21(b)(2), 1926.400, 1926.403(b)(1)(i) - (vii), 1926.416, NFPA 70-E

Case:

An electrician received 1st, 2nd and 3rd degree burns resulting from an Arc flash.

Accident Detail:

An electrical crew was working at a plant facility. The crew was preparing to upgrade a plant metering system during a scheduled shutdown. Due to changes in the shutdown schedule, the time permitted to complete the upgrade, which consisted of installing several new meters and related hardware, was shortened.

As a result of the limited amount of time to complete the upgrades, rather then waiting until the system could be de-energized and locked out properly, the crew decided to facilitate the installation of the meters by preparing the meter housings with the electrical system remaining energized. This process involved mounting terminal and fuse blocks and precutting and fitting the required wiring, all without disrupting the energized system also located in these same housing cabinets.

One electrician on the crew was using a large aluminum torpedo level to first mark locations where holes would be drilled to hang new terminal and fuse blocks. While marking the holes, the employee accidentally touched the aluminum level to the still energized fuse block, located only a few inches from the one he was preparing to install.

As a result, an arc flash occurred, causing 1st, 2nd and 3rd degree burns to his hand, forearm and to his face.

Reconstructive Safety Evaluation:

- What are some of the possible causes of the accident being discussed?
- What actions could have been taken that might have prevented this accident



CHUBB

Accident Scene Conclusion:

The investigation revealed that the decision to begin performing the preliminary meter work while the system was energized violated the electrical contractor's safe work practices, as well as plant safety policies. The crew had not received the plant's work authorization permit needed to begin any work. It also was determined that the decision to begin earlier then planned forced the crew to begin work without proper PPE (personal protective equipment), clothing and tools.

Preventive Safety Measures Include:

- All operations are to be pre-planned using a Job Safety Task Analysis, to ensure potential safety hazards associated with an operation are identified and appropriate steps are taken to eliminate or control them.
- Workers should be trained in the hazards of the work they are to perform, the personal protective equipment needed and the safe work procedures necessary to perform their assigned tasks.
- Only properly trained, certified and/or qualified workers are authorized to perform work on electrical installations, components and systems.
- Electrical work on "live" electrical systems/components should be avoided whenever possible. Systems should be de-energized and properly locked out and tagged out until installations are completed.
- All workers are provided with and required to use personal protective equipment specifically designed for working on or around electrical systems, installations and components and appropriate for the type of work/voltages involved in the task.

Attendance Roster		

Reference: This case is fictitious, and any resemblance to any persons, living or dead, is entirely coincidental. However, the type of accident described in this case summary happens all too often on construction sites.

Chubb. Insured.[™]

Chubb is the marketing name used to refer to subsidiaries of Chubb Limited, providing insurance and related services. For a list of these subsidiaries, please visit our website, www.chubb.com. Insurance is provided by ACE American Insurance Company and its U.S. based Chubb underwriting company affiliates. All products may not be available in all states. This communication contains product summaries only. Coverage is subject to the language of the policies as actually issued. Surplus lines insurance is sold only through licensed surplus lines producers. Loss control evaluations, reports, recommendations and services are made solely to assist the insurer in underwriting and loss control and are not to be construed as an added benefit for the insured, property owner or any other party (this may not apply if loss control services are purchased separately and specifically pursuant to a service agreement). Evaluation for any hazard or condition does not imply that it is covered under any policy. Chubb is the world's largest publicly traded property and casualty insurance group. With operations in 54 countries, Chubb provides commercial and personal property and casualty insurance, personal accident and supplemental health insurance, reinsurance and life insurance to a diverse group of clients. Chubb Limited, the parent company of Chubb, is listed on the New York Stock Exchange (NYSE: CB) and is a component of the \$88 500 index.

Copyright ©2016 04/2016