



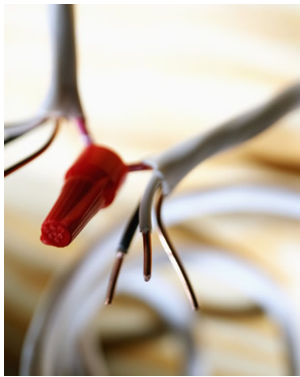
# Working On or Near Energized Circuits

## COMMUNICATIONS

SEPTEMBER 21, 2009

*Electrocutions are the fourth leading cause of death among construction workers in the United States. An average of 143 construction workers are killed each year by contact with electricity.*

*Source: eLCOSH—Electronic Library of Construction Safety & Health*



## Are Your Employees Qualified Electrical Workers?

### What is a Qualified Electrical Worker?

A Qualified Electrical Worker shall be competent in the skills and techniques necessary to distinguish exposed energized parts of the equipment. They shall be competent in the proper use of special precautionary techniques, use of Personal Protective Equipment (PPE), knowledgeable of insulating and shielding materials and how to use insulated tools for working on or near exposed parts of electrical equipment.

Prior to the start of working on or near energized circuits, the subcontractor shall provide to Bechtel a list of Qualified Electrical Workers and Buddy/Safety Observers.

### A Qualified Electrical Worker must comply with one of the following:

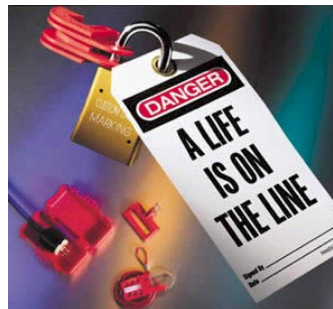
- Documented completion of an electrical apprenticeship program.
- Certified as an Industrial Electrician through the National Center for Construction Education and Research (NCCER) and 48 months work experience.
- Certified as an Electrician Journeyman through a Craft Certification Program approved by Bechtel.
- Possess a State Master Electrician License or State equivalent
- Possess certification as a Journeyman Electrician (i.e. IBEW or equivalent).
- Documented proof of a minimum of 5 years working experience as an electrician with a licensed contractor

## Can Components and Systems be Worked on “HOT”?

Bechtel governs all work performed on energized systems greater than 12 volts but less than 48 volts nominal to ground. Bechtel also governs work performed on components that are in proximity of other exposed energized components at 600 volts or less. Under no conditions shall any component or system 48 volts or more be worked on “HOT” without a “HOT TAP” deviation approval. Exposed components and systems rated at 48 volts or higher are required to be de-energized and compliance with 5.7 - Energy Isolation Lockout/Tagout, 5.25 - Electrical Safety, and 5.25.5 - Working On or Near Energized Circuits of the Subcontractor Safety and Health

Program. Subcontractors shall evaluate each cell site independently to determine specific energy isolation potential based on power configurations and other pertinent data. Working on or near any exposed energized electrical equipment shall be permitted after the work group has determined that energy isolation cannot be accomplished.

Subcontractors shall be responsible to take an active role in eliminating or minimizing electrical hazards prior to starting any electrical work. In all cases the preferred method to perform any work on an electrical component is to de-energize and lockout/tagout all circuits per 5.7 - Energy Isolation Lockout/Tagout.



### What if exposed components cannot be isolated?

Subcontractors performing work shall:

1. Complete a Job Safety Analysis (JSA) for each site based on specific configurations and data.
2. Determine the FPB.
3. Reduce or mitigate the hazards by installing protective

shields where appropriate to prevent accidental contact by workers or material and/or tools with exposed energized equipment.

4. Utilize appropriate Personal Protective Equipment (PPE) as defined by NFPA 70E to protect the individual from the hazard.

It is imperative that workers are qualified to work on or near energized systems and understand the requirements associated with 5.7 - Energy Isolation Lockout/Tagout, 5.25 - Electrical Safety, and 5.25.5 Working On or Near Energized Circuits.