

# Toolbox Talks 2

## 068: Unsafe Conditions: Energized Equipment

### ***Discussion leader duties for this session:***

Walk out to a piece of energized equipment, and make a list of possible hazards.

### ***What this Safety Talk covers:***

This Safety Talk addresses some unsafe conditions around energized equipment.

### ***Discussion notes:***

### ***Unsafe conditions around energized equipment***

- No arc blast information posted near switchgear. This, in itself, isn't dangerous. But take it as a red flag that preventable dangerous conditions are normal in this location.
- Fire hazards. A common violation in operating facilities is occupants stack combustibles near energized equipment. In new construction, other trades might do this. Move the dangerous materials to a safe location. Report the problem to your foreman for followup.
- Slipping hazards. Spills, puddles, and debris can cause you to fall into energized equipment. Eliminate these hazards before removing covers.
- Open doors and remove covers. Obviously, you need to open doors and remove covers to get inside panels and other enclosures. To reduce the number of arc blast hazards, keep open doors and covers to a minimum.
- Unguarded energy sources. Capacitors, batteries, mechanical springs, pneumatic circuits, gas cylinders, hydraulic cylinders, and other devices can store and release energy. Before you start working with energized equipment, see if you may be exposed to related energy sources. Take the necessary protective measures.
- Downstream operation or interruption. If, for example, your work in a breaker panel could cause equipment to turn on or shut down, stop. Find out how to isolate that equipment. This may be as simple as locking/tagging out a local disconnect.
- Materials in your working space. Both OSHA and the NEC provide working space tables that start at three feet. These are minimums. You may actually need more. Move the materials until there is sufficient space to work safely. Report working space problems to your foreman.
- Outdated drawings. Check the date on any drawing before using it. If the drawing isn't current, don't work on the equipment until you resolve that problem. Equipment modifications that you don't know about can prove lethal.
- Grounding and bonding errors. Grounding is often used where bonding is required. Grounding means connecting to the earth. Bonding means creating a metallic path. Bonding eliminates differences of potential, and thus touch shock hazards. Grounding does not.
- Poor lighting. You need to be able to see nearby hazards, and you need to clearly see what you are doing. If the light isn't enough, add temporary task lighting.

### ***Review and discussion***

1. If a service entrance has no arc blast protection information posted, what does this imply about the facility in general?
2. What fire hazards might you encounter? What should you do if you encounter them?

