

Electrical Safety: Shock, Arc Flash and Lock-out/Tag-out Meeting Kit



WHAT'S AT STAKE

Electricity kills quietly and instantly. You don't get a warning before a shock, and you don't get a second chance after an arc flash. Electrical incidents are among the most preventable in any workplace – which makes every one that happens completely unacceptable.

WHAT'S THE DANGER

Electrical hazards are everywhere in most workplaces, and the danger isn't always obvious. Wires look harmless. Panels look closed. Equipment looks off. Looking isn't enough.

Arc Flash

An arc flash is an explosive release of energy caused by an electrical fault. The flash, heat, and pressure wave can cause severe burns, blindness, hearing loss, and blast injuries even from several feet away. Arc flash doesn't require you to touch anything. Proximity is enough.

Electric Shock

- Shock occurs when current passes through your body even a small amount can stop your heart
- Wet hands, damaged cords, and working near exposed wires all increase shock risk dramatically
- Current that enters one hand and exits the other passes directly through the chest and heart

Working on Energized Equipment

Assuming equipment is off because it looks off has killed people. Without proper lockout/tagout, equipment can be energized remotely, restart automatically, or store energy in capacitors long after it appears to be shut down.

Unauthorized Electrical Work

Non-electricians attempting repairs, bypassing safety devices, or removing panel covers to 'take a quick look' are exposed to hazards they may not recognize until it's too late.

Damaged or Overloaded Equipment

- Frayed cords, cracked outlets, and overloaded power bars are fire and shock hazards
- Extension cords used as permanent wiring are a leading cause of electrical fires
- Plugging too many devices into one circuit causes heat buildup that can ignite surrounding materials

HOW TO PROTECT YOURSELF

When it comes to electricity, the rules aren't suggestions, they're the line between a close call and a fatality.

Follow Lockout/Tagout – Every Single Time

It involves isolating the energy source, locking it out with a personal lock, and verifying the equipment is dead before touching it. Every step matters. Skipping any part of LOTO because the job is quick or the equipment 'looks' off is one of the most dangerous decisions you can make on any worksite.

Never Work on Energized Equipment Unless Authorized

- If you are not specifically trained and authorized for energized electrical work, stay out – no exceptions
- If you find an open panel, exposed wiring, or damaged equipment, do not touch it, report it and keep others away
- Only qualified electricians with proper PPE should perform work on live systems, and only when de-energizing is genuinely not possible

Inspect Cords and Equipment Before Use

Before plugging in any tool or piece of equipment, take a quick look at the cord, plug, and casing. Look for fraying, cracks, burn marks, or exposed wire. A damaged cord on a power tool is a shock risk every time someone picks it up. Tag it out, report it, and get a replacement.

Respect Arc Flash Boundaries

- Arc flash boundaries are not suggestions they define the distance at which a flash can cause a burn injury.
- If arc flash hazard labels are posted on a panel or equipment, do not approach without proper PPE and authorization.
- The right PPE for arc flash includes a face shield, arc-rated clothing, and insulated gloves – regular PPE will not protect you.

Report Electrical Hazards Immediately

If you notice a buzzing outlet, a warm panel, a burning smell, flickering lights, or any equipment that gives you a tingle when you touch it – stop using it and report it right away. These are all warning signs of an electrical fault. They don't fix themselves, and they don't stay minor. Report it to your supervisor and make sure the area is kept clear until it's assessed by someone qualified.

FINAL WORD

Electricity follows rules – and so should you. Follow LOTO every time, stay out of what you're not trained for, and report anything that looks or sounds wrong. One shortcut near electrical equipment can be the last one you ever take.

