



THE CONNECTION

CONSTRUCTION LABOR SERVICES, INC.

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SECURING THE SOURCES OF ENERGY

Many injuries and fatalities occur each year when workers are exposed to hazards from machinery with multiple energy sources of different types, at least one of which was not adequately controlled before the worker placed himself in danger.

ELECTRICAL ENERGY

Throwing the blade switch and locking it out may not be enough to prevent electrical shock when workers get into the guts of a piece of equipment. Equipment may have stored electrical energy in batteries and capacitors; or it may accumulate static electricity, which could be hazardous if released into a flammable atmosphere. Make sure that workers are not exposed to these electrical hazards by:

- Fully discharging all capacitive systems.
- Grounding and bonding parts that could accumulate a static charge.

PRESSURE AND THERMAL ENERGY

Pressure can be used for power transmission within a system, and may be supplied through the use of pressurized liquids (hydraulics) or pressurized air (pneumatics). In hydraulic or pneumatic systems, liquid or air is transmitted from a pump or compressor to the equipment through piping or tubing. Other fluids and gases in pipes (besides hydraulic fluid or air) may be hazardous because of the type of material in the pipe (toxic, corrosive), because of the temperature of the material (hot or cold), or because the material can

build up pressure that could injure workers. Vacuum systems (those with pressure below one atmosphere) can also create hazards to workers.

To neutralize pressure and other hazards in pumps, compressors, and lines, do the following:

- Identify fluids or gases within systems, the hazards they present, and any precautionary measures (procedures or protective equipment) that are required.
- Shut off all pumps and compressors. For pumps and compressors that power multiple pieces of equipment being worked on can be locked out.
- Close and lock out valves to prevent flow.
- Drain or bleed pressure from lines to create a zero energy state. Use blinds (metal disks placed in a pipe) to

prevent materials from accidentally passing into the system if it is accidentally activated. Use blocks to prevent movement in any mechanical part of the system where pressure cannot be dissipated.

- Use two shutoff valves in a series, locked closed, with a telltale valve or drain between them locked open, to prevent the movement of liquids or gases through piping systems and to prevent pressure buildup.
- Allow residual heat to dissipate.
- If pressure could reaccumulate during the procedure, additional steps may be taken to bleed off that energy, either periodically or continuously during the process. It may be necessary to monitor during the process to ensure that energy is not building up.

KINETIC ENERGY

Flywheels, blades, and materials in supply lines may injure workers when they move. Prevent unexpected movement by following these steps: (cont. on next page)

WORKPLACE HOUSEKEEPING

An untidy workplace raises everyone's chances of slipping, tripping or falling.

Check to see that you are practicing good housekeeping to reduce the risk of injury to yourself and others.

→ Floors are clean, dry and free of hazards.

→ Unnecessary tools, equipment, part and materials are removed from the work floors.

→ Personal items are stored safely and

properly out of the way.

→ Exits, walkways and work areas are clear of obstructions.

→ Materials are stacked neatly.

→ Trash and scrap are placed in the proper receptacles.

→ Bins and boxes are not filled to overflowing.

→ Good housekeeping is a habit practiced around the clock.

Securing the Sources of Energy (cont.)

- Analyze processes to identify all parts that could move.
- Remove segments of mechanical linkages to prevent power transmission and place them in a lockbox.
- Block parts that may move.
- Block access points to prevent materials from entering the work space.

POTENTIAL ENERGY

Compressed or extended springs and spring-loaded devices, counterweights, dies, lifts, and other raised objects or parts can present a hazard to workers if they slide, fall, or roll, or move unexpectedly. Prevent movement by doing the following:

- Lower raised objects or loads if possible.
- Pin or block raised objects if it is not possible

to lower them. Special brackets, blocks, or stands may be available for specific types of equipment or raised loads, and should always be used.

- Release pressure on springs, if possible, or block them in place if not.

Don't make the mistake of thinking that turning off a single piece of equipment at the breaker box or switch is protective. All potentially

hazardous energy sources that workers will be exposed to need to be identified during lockout/tagout procedures, along with methods for controlling them.



AN ACCIDENT PROOF LIFESTYLE

One way to stay safe: Take care of yourself.

Exercising on a regular basis makes you less prone to injury.

Getting enough sleep helps you stay alert for hazardous situations.



SEE YOUR WAY TO DRIVING

Completely clear your windows of winter's frost, ice and snow before driving.

Avoid driving in bad weather if possible. If not, exercise extra care, especially when stopping and turning.

Keep your vehicle in good mechanical condition and ensure that your tires remain properly inflated.

Be aware that bridges and overpasses freeze before road surfaces do.



SAFETY TIPS FOR WALKERS

- Carry a cell phone or whistle at all times.
- Walk with ID.
- Remain alert to your surroundings.
- Carry a flashlight or use reflective strips on your clothing if your walk starts or finishes in the dusk or dark.
- Let someone know where you are going and about when you'll be back.

5 SAFETY TOOLS YOU CAN'T LIVE WITHOUT

1. Smoke Detectors: Install smoke detectors on every floor and outside each bedroom, and test them regularly.
2. Fire Extinguishers: Keep fire extinguishers in your kitchen and garage. Most fire extinguishers are combination Class ABC types. Class A puts out fires of ordinary combustibles. Class B is used on fires involving flam-



mable liquids such as oil. Class C is used on electrical fires.

3. Carbon Monoxide Detectors: Carbon monoxide is odorless and colorless, and it can be fatal unless detected. Place a detector outside of all bedrooms in your home.
4. Ground Fault Circuit Interrupters (GFCIs): Use GFCIs throughout your home, especially in the kitchen, bathroom and

laundry room. A GFCI protects against electrical shock in case you come in contact with a live wire.

5. First-aid/Emergency Kit: Store antibiotic ointment, bandages, adhesive tape, cold packs, antibacterial hand cleaner, scissors, tweezers, eyewash and a flashlight in an easily accessible place.

