

HAZARDOUS ENERGY CONTROL

LOCKOUT/ TAGOUT

Working on equipment and machines under power from hazardous energy poses a serious risk of serious injury, even death, to Maintenance Mechanics and Equipment/Machine Operators. Here are a couple summaries from OSHA of the hundreds of accidents that occur annually (Disclaimer: not at Riverside County).

At 10:30 a.m. on December 22, 2021, an employee was replacing a drive belt on an exhaust fan motor with the machine not locked out. The employee suffered an amputation of his left index finger at the first knuckle and was treated without hospitalization.

At 2:45 p.m. on September 8, 2021, an employee was performing electrical work at an airport facility. He was troubleshooting a 4,400-volt transformer for an airfield sign. He radioed to the tower to cut electrical power to the sign. He then opened the cap to access the electrical wiring. He grabbed the wiring to untangle it. The employee was electrocuted and killed when he came into contact with live electrical wiring.

Why do these accidents happen? The clues are found in the underlined part of each summary. Some common reasons for these accidents include:

- **Failure to lock out or tag out equipment after powering off**
- **Not following procedures and taking shortcuts**
- **Not thinking through the steps of energy control before starting maintenance work and repairs**
- **Not de-energizing, locking out or tagging out all hazardous energy sources**
- **Inadequate or no training**

California Code of Regulations, Title 8, General Industry Safety Orders, Section 3314 requires all employers to comply with Lockout/Tagout/Blockout program when cleaning, repairing, servicing, and adjusting prime movers, machinery and equipment. County Standard Safety Operations Manual Lockout Blockout Program Guidelines states that machinery or equipment capable of movement shall be stopped and the power source de-energized or disengaged. If necessary, movable parts shall be mechanically blocked or locked to prevent inadvertent movement during cleaning, servicing, or adjusting operations unless the machinery or equipment must be capable of movement during this period in order to perform the specific task. If the equipment must be capable of movement, the supervisor shall minimize the hazard of movement by providing and requiring the use of extension tools (e.g., extended swabs, brushes, scrapers) or other methods or means to protect employees from injury due to such movement.

LOCKOUT/ TAGOUT

Additionally, Cal/OSHA sections 2320.4 and 2940.13 outline the basic requirements for lockout, tagout for hazardous energy control procedures for low voltage and high-voltage electrical equipment systems, respectively. Sections 2320.2, 2941, 2943, 2944, and other sections of the Electrical Safety Orders specify the requirements for working on energized electrical equipment systems.

Employers must have a written program that satisfies applicable safety standards. Elements that meet standard requirements are as follows:

- 1) Development of written policy and procedures.
- 2) Providing lockout/tagout equipment.
- 3) Training employees on procedures.
- 4) Conducting periodic inspections.

Written hazardous energy control procedures are required when cleaning, repairing, servicing, setting-up or adjusting of prime movers, machinery and equipment powered by (complex) energy systems. Here is an example procedure for a complex energy system.

ENERGY SOURCE(S): Electrical <input checked="" type="checkbox"/> Mechanical <input type="checkbox"/> Hydraulic <input type="checkbox"/> Landfill gas <input checked="" type="checkbox"/> Pneumatic <input checked="" type="checkbox"/> Propane <input checked="" type="checkbox"/>				
LOCKOUT POINT(S): Motor Controls <input type="checkbox"/> Service Disconnects <input checked="" type="checkbox"/> Valves <input checked="" type="checkbox"/>				
Turn off and lockout Main Electrical Service Disconnect to blowers	Lockout Main Blowers Disconnect	Lockout Main Gas Line Valve	Tag Propane Tank Valve	Lockout Air Compressor
				
LOCKOUT EQUIPMENT: Lock <input checked="" type="checkbox"/> Tag <input checked="" type="checkbox"/> Cable/Chain <input checked="" type="checkbox"/> Other Device <input checked="" type="checkbox"/>				
     				
<p>Note: 1) Lock hasps and multiple lock devices required if more than one employee services equipment/system. 2) Tags are not required when authorized employee locks are uniquely identified by employer.</p>				
<p>SHUTDOWN PROCEDURE</p> <ol style="list-style-type: none"> 1. Notify affected employees of equipment/system shutdown. 2. Identify hazardous energy source(s) to equipment/system components. 3. Locate and turn off manual power controls, breaker/disconnect switches, switch gear and valves. 4. Place locks with tags onto manual power controls, breaker/disconnect switches, switchgear and valves. <ol style="list-style-type: none"> a. Lock hasps and multiple lock devices are required if more than one authorized employee works on system. 5. Bleed/release stored hazardous energy. <ol style="list-style-type: none"> a. Turn manual controls to on position to test and release any stored electrical energy. 6. Place authorized employee lock(s) and tag(s) onto lockout devices. <p>If de-energized, work may start. If not de-energized, repeat steps 2 through 6.</p>				
<p>STARTUP PROCEDURE</p> <ol style="list-style-type: none"> 1. Notify affected employees of equipment/system startup. 2. Ensure equipment guards are in place, work area is clean and ready for placement into service. 3. Remove authorized employee lock(s) and tag(s). <p>Turn manual power controls or service disconnects to on/open position.</p>				
<p>OTHER HAZARDS Confined space <input checked="" type="checkbox"/> Fall <input checked="" type="checkbox"/></p> <ul style="list-style-type: none"> • Entry into flare mitigated by opening/removing access plates. • Safety harness and lifeline required when working from flare ladder or working levels above 6 feet. 				
<p>TRAINING: http://www.dir.ca.gov/dosh/etools/08-003/training.htm</p>				



Ensuring a safe and secure work environment is a shared responsibility that requires vigilance and proactive measures. Workplace violence is a serious concern that can have devastating consequences for individuals and organizations alike. This newsletter article aims to raise awareness about workplace violence and provide guidance on fostering a safe and harmonious work environment in Riverside, California.

What is Workplace Violence?

Workplace violence refers to any act or threat of physical violence, harassment, intimidation, or other disruptive behavior that occurs at or is related to the workplace. It can manifest in various forms, such as verbal abuse, physical assaults, bullying, or even acts of terrorism. Recognizing the signs and taking preventive steps is crucial to maintain a healthy workplace environment.

Creating a Safe Workplace:

1. **Training and Education:** Participate in regular training sessions to educate employees about workplace violence prevention, conflict resolution, and de-escalation techniques.
2. **Encourage Reporting:** Create an environment where employees feel comfortable reporting any concerning behavior, threats, or acts of violence. Assure them that their reports will be taken seriously, investigated promptly, and appropriate actions will be taken to address the situation.
3. **Security Measures:** Evaluate and enhance physical security measures, such as surveillance cameras, access control systems, and alarm systems, to deter potential acts of violence. Conduct periodic security assessments to identify vulnerabilities and address them effectively.
4. **Supportive Resources:** Provide employees with access to counseling services or employee assistance programs that can offer confidential support and guidance during difficult times. Communicate these resources regularly to ensure employees are aware of the help available to them.
5. **Emergency Preparedness:** Develop and communicate emergency response protocols, including procedures for handling workplace violence incidents. Conduct drills and exercises to familiarize employees with the steps to take in such situations.

By fostering a culture of respect, open communication, and vigilance, we can create workplaces that are not only productive but also safe and supportive.

Stay safe, and thank you for your dedication to creating a secure work environment.



Many kinds of emergencies can cause you to have to evacuate. In some cases, you may have a day or two to prepare while other situations might call for an immediate evacuation. Planning is vital to making sure that you can evacuate quickly and safely no matter what the circumstances.

Before an Evacuation

- Learn the types of disasters that are likely in your community and the local emergency, evacuation and shelter plans for each specific disaster.
- Plan how you will leave and where you will go if you are advised to evacuate.
- Check with local officials about what shelter spaces are available for this year.
- Identify several places you could go in an emergency such as a friend's home in another town or a motel. Choose destinations in different directions so that you have options during an emergency.
- If needed, identify a place to stay that will accept pets. Most public shelters allow only service animals.
- Be familiar with alternate routes and other means of transportation out of your area.
- Always follow the instructions of local officials and remember that your evacuation route may be on foot depending on the type of disaster.
- Come up with a family/household plan to stay in touch in case you become separated; have a meeting place and update it depending on the circumstance.
- Assemble supplies that are ready for evacuation. Prepare a "go-bag" you can carry when you evacuate on foot or public transportation and supplies for traveling longer distances if you have a car.

During an Evacuation

- Listen to a battery-powered radio and follow local evacuation instructions.
- Take your emergency supply kit.
- Leave early enough to avoid being trapped by severe weather.
- Take your pets with you but understand that only service animals may be allowed in public shelters. Plan how you will care for your pets in an emergency now.
- If time allows:
 - Call or email the out-of-state contact in your family communications plan. Tell them where you are going.
 - Secure your home by closing and locking doors and windows.
 - Unplug electrical equipment such as radios, televisions and small appliances. Leave freezers and refrigerators plugged in unless there is a risk of flooding. If there is damage to your home and you are instructed to do so, shut off water, gas and electricity before leaving.
 - Leave a note telling others when you left and where you are going.
 - Wear sturdy shoes and clothing that provides some protection such as long pants, long-sleeved shirts and a hat.
 - Check with neighbors who may need a ride.
 - Follow recommended evacuation routes. Do not take shortcuts, they may be blocked.
 - Be alert for road hazards such as washed-out roads or bridges and downed power lines. Do not drive into flooded areas.

