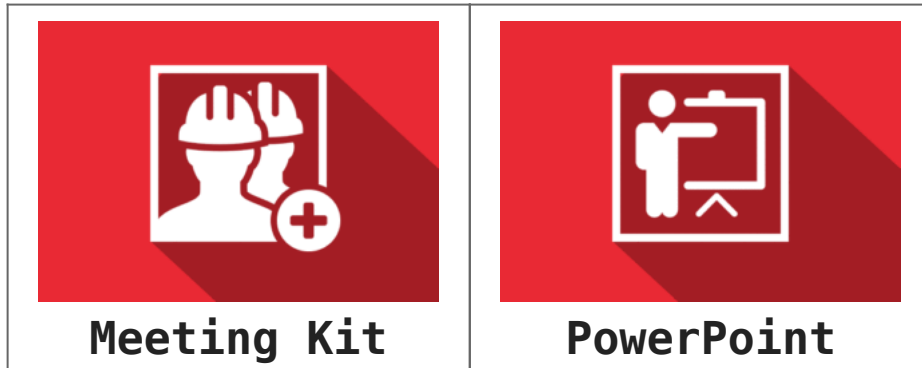


Take Safety Home With You

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WHAT'S AT STAKE?

We do not live under mushrooms, nor, do we live in vacuums. What's the relevance?? Safety attitudes and habits should be the same at home as they are in your workplace.

WHAT'S THE DANGER?

Failing to implement your safety attitudes and good safety habits at home can be costly. Off – the – job injuries affect your steady income, loss of productivity for business, loss of recreational time and a diminished overall life style.

It makes sense, after this analysis, to take seriously the proposition that off – the – job safety directly affects on the job security.

Your skills from on – the job are portable to your off – the – job safety.

HOW TO PROTECT YOURSELF

The following are some sharp useful guidelines to increase your off – the – job safety.

Fire Department

Have your local fire department conduct a home fire inspection for you. They can point out areas that could be a fire hazard.

Smoke detector:

Install smoke detectors in the recommended locations. Make sure you test them regularly and put in fresh batteries when needed.

Fire Extinguisher:

Keep the correct type of fire extinguisher in your kitchen and other high-risk areas. Learn how to operate the extinguisher and teach everyone in the family.

Escape plan:

Organize a fire escape plan and practice family fire drills often.

Pathways:

keep all traffic pathways, inside and outside, clear of obstacles. Clean up spills immediately to prevent falls.

Night lights:

Place inexpensive night lights in hallways and bathrooms to prevent tripping accidents. Even pets sleeping in hallways can be a hazard.

Non -slip:

Install non-slip surfaces in bathtubs, showers and on bathroom floors. Grab bars should be installed to prevent falls in tubs and showers.

Stairways:

Keep stairways clean and clear. Don't store items you want to take upstairs later. Surprise obstacles cause many falls!

Toxic substances:

Store all toxic substances, cleaning products, paints or car products in a locked storage area and in a locked storage area and in their original containers. This will not only reduce accidental poisonings, but if one does occur, the container will have first aid instructions on the label.

Flammable liquids:

Keep flammable liquids stored in a well-ventilated area away from sources of ignition such as furnace pilot lights. Flammable liquids should be stored out-of-doors.

Power tools:

Keep or electrically powered tools out of the reach of children.

Correct tools:

Always use the correct tool for the job. Makeshift replacements, such as using a kitchen knife as a screwdriver, can cause injuries.

Ladder:

Practice good ladder safety habits. Never use the top few rungs. For straight ladders, use the one-to-four rule. Place the ladder at an angle so that the bottom is one foot away from the wall for every four feet of height.

Ground Fault Circuit Interrupter:

Have a Ground Fault Circuit Interrupter installed for electrical outlet locations that are near moisture. This includes bathroom, kitchen and outdoor electrical outlets.

Plugs cords:

Keep plugs and electrical cords in good condition. Don't forget that extension cords should only be used as temporary source of power. Don't use them as a permanent replacement for wiring.

Sports:

When you participate in sports on your days off, make sure you use the correct PPE (Personal Protective Equipment) for the activity. Eye goggles, helmets, life jackets, shin-pads or gloves may be necessary.

Equipment:

Keep your sports equipment in good condition. Well-maintained equipment will last longer, save you money and reduce your risk of injury.

Drugs, alcohol:

Avoid using drugs and alcohol when you have to concentrate or be alert. You wouldn't drink at work, so why do it when you are using a powered tool at home?

Seat Belt:

Buckle up before starting your car. Keep your car in good mechanical repair to avoid accidents. Observe all road warning signs and speed limits.

FINAL WORD

Safety awareness is a twenty-four hour a day job. Don't leave your safety attitude at work when you punch the time clock at the end of your shift.

Welding / Brazing / Hot Work

WHAT'S AT STAKE?

Hot work / Welding is any work that produces fire or sparks or hot material which has the potential and to cause fires or explosion.

This includes riveting, flame, cutting, soldering, brazing, grinding, using an electric tool in a hazardous area.

The most common type of hot work is arc welding.

WHAT'S THE DANGER?

The Bureau of Labor statistics (B. L. S) documents more than 500,000 employees suffering injuries in welding accidents each year.

Hazards / Dangers of hot work:

- Fires and explosions.
- Skin burns.
- Welding "blindness".
- Respiratory hazards from fumes and smoke.

The above hazards / dangers result because:

Hot work produces electrical arcs or flames that can reach up to 10,000. High temperatures, sparks and slag, are also an ever-present danger. Hot work equipment, such as arc welding circuits, can cause serious or fatal electrocution. **Arc welding** produces [intense UV light](#) that can damage welders' retinas.

More Dangers:

Substances like arsenic, nickel, asbestos, silica, cadmium, fluorine are extremely toxic which are found in **welding smoke**.

Health Dangers:

These components in welding smoke can affect the welder's lungs, heart, kidneys and central nervous system. [Long-term exposure](#) to welding smoke can cause chronic respiratory problems, decreased lung capacity, heart disease, skin disease, hearing loss, kidney damage, reproductive harm, and other diseases.

HOW TO PROTECT YOURSELF

- A. Hot work management program.
- B. Substitutes / Alternatives.
- C. Good Practices Checklist.
- D. Personal Protective Equipment.

These four aspects incorporate the basis of preventative and precautionary steps to protect workers from harm in this dangerous hot work undertakings.

A. Hot Work Management Program

Hot work programs are designed to control or eliminate hot work hazards and their risks including policies, procedures, and the assignment of responsibilities for all aspects of hot work.

1. Policies

- a. Where hot work is permitted.
- b. When hot work is permitted.
- c. Who authorizes, performs, and monitors hot work activities.

2. Procedures

- a. What must be assessed before permitting/performing hot work in an area or on a process piece of equipment or area.
- b. What to do to prepare an area for hot work.
- c. What to do if hot work cannot be avoided in a particularly hazardous area.
- d. What hot work tools are required?
- e. How to obtain a hot work permit, when they are required, and who can administer them.

3. Training

- a. Employees, supervisors, maintenance individuals, fire wardens, trained fire watch individuals, and contractors all have different roles, and must be trained accordingly.

4. Communications

- a. Posting procedures.
- b. Posting policies.
- c. Posting signs in areas that are prohibited from having hot work performed in them.

B. Substitutes / Alternatives

Assess the substitutes or alternate method for any risks or hazards. Do not introduce any new risks or hazards.

C. Good Practices Checklist

- Make sure that all equipment is in good operating order before work starts.
- Make sure that all appropriate [personal protective devices](#) are available at the site and each worker has been trained on how to use, clean, and store them properly.
- Inspect the work area thoroughly before starting. Look for combustible materials in structures (partitions, walls, ceilings).
- Move all flammable and combustible materials away from the work area.
- If combustibles cannot be moved, cover them with fire resistant blankets or shields. Protect gas lines and equipment from falling sparks, hot materials, and objects.
- Sweep clean any combustible materials on floors around the work zone. Combustible floors must be kept wet with water or covered with fire resistant blankets or damp sand.
- Use water ONLY if electrical circuits have been de-energized to prevent electrical shock.
- Remove any spilled grease, oil, or other combustible liquid.
- Vacuum away combustible debris from inside ventilation or other service duct openings to prevent ignition. Seal any cracks in ducts. Prevent sparks from entering into the duct work. Cover duct openings with a fire-resistant barrier and inspect the ducts after work has concluded.
- Make sure that appropriate fire extinguishers (e.g., ABC fire extinguishers) are available and easily accessible.
- Make sure that the first-aid boxes are available and easily accessible.

- Block off cracks between floorboards, along baseboards and walls, and under door openings, with a fire-resistant material. Close doors and windows.
- Cover wall or ceiling surfaces with a fire resistant and heat insulating material to prevent ignition and accumulation of heat.
- Secure, isolate, and vent pressurized vessels, piping and equipment as needed before beginning hot work.
- Inspect the area following work to ensure that wall surfaces, studs, wires or dirt have not heated up.
- Post a trained fire watcher within the work area, including lower levels if sparks or slag may fall during welding, including during breaks, and for at least 60 minutes after work has stopped. Depending on the work done, the area may need to be monitored for longer (up to 3 or more hours) after the end of the hot work until fire hazards no longer exist.
- Eliminate explosive atmospheres (e.g., vapors or combustible dust) or do not allow hot work. Shut down any process that produces combustible atmospheres, and continuously monitor the area for accumulation of combustible gases before, during, and after hot work.
- If possible, schedule hot work during shutdown periods.
- Comply with the required legislation and standards applicable to your workplace.

D. Personal Protective Equipment

Eye and face protection, such as goggles and face shield or helmets, helps protect workers from hot sparks and molten particles. Other common PPE for hot work includes insulated gauntlet gloves, hard-toed high-top shoes, leather aprons, insulated coveralls, safety glasses, helmets and hard hats, and leggings or high boots. Workers should always keep their clothes fully buttoned and uncuffed when performing hot work and wear wool or insulated fabrics. When welding overhead objects, workers will need extra protection, like heat-resistant shoulder covers, aprons, head covers, leggings, and suits. You must provide most types of [PPE](#) to your employees and train them on how to properly

use, maintain, and dispose of it.

FINAL WORD

Hot work is dangerous and even deadly, but with proper training and protective measures, your facility can reduce welding-related injuries and illnesses. Follow all precautions for hot work and remove or cover flammable and combustible materials before your employees begin. Ensure that all employees are provided with PPE and use it correctly.

Work Zone / Traffic Control

WHAT'S AT STAKE?

There are sobering statistics involving work zone accidents and the risk to workers. Effective, rigorous work zone and traffic control planning, designing, supervising, implementation, inspection, and maintenance is the answer to solve work zone safety issues.

WHAT'S THE DANGER?

Workers in temporary traffic control work zones are exposed to injury from **construction vehicles and motorized equipment**.

- operating in and around the active work zone(s)
- operating in traffic control or secondary areas that support the work zone
- entering and leaving the work zone

Workers in the roadway are also at risk of injury from a variety of **general traffic vehicles** entering the work zone, such as:

- drunk drivers
- sleepy or impaired drivers
- impatient, reckless drivers
- drivers using cell phones or other inattentive drivers
- law enforcement and emergency vehicles
- disabled vehicles pulling in and parking
- lost drivers looking for directions

EXAMPLE:

An inattentive driver rear-ended this attenuator truck at 63 mph, despite workers' attempts to get the driver's attention. Two workers were hurt and the driver received minor injuries.

The driver pled guilty to reckless endangerment of a roadway worker.

OTHER RISKS

A. Cell Phones

- Surveys have found that 40% of drivers operating their vehicles in construction zones were using their phones which resulted in traffic accidents.

B. Workers on foot

Flaggers and other workers-on-foot (refers to any pedestrian worker on the ground in the work zone) are exposed to several risks, including being hit if they are not visible to motorists or equipment operators.

C. Equipment Operator

- Workers who operate construction vehicles or motorized equipment have an increased risk of injury due to rollovers, collisions, and being caught between or struck by operating equipment.
- According to the Bureau of Labor and Statistics (BLS), 844 worker deaths occurred in roadway work zones from 1995-2002 in the United States.
- From 1997-2003, there were 120 deaths/year on average in the

United States.

D. Hazard / Problems at Night

Visibility is greatly reduced at night and your risk of getting injured or even killed increases in the dark. Drivers are more tired, sleepy, and less attentive.

- poor visibility
- glare off lights
- adverse weather conditions
- tired drivers
- inattentive workers

HOW TO PROTECT YOURSELF

TRAFFIC CONTROL PLAN

It enables motorists to move safely through and around roadway zones for the protection of the public and workers.

It makes use of:

- traffic control devices
- standard signage
- buffer and
- transition zones.

In the **Temporary Traffic Control** zone, construction vehicles and equipment create a risk to workers on foot requiring additional protection planning and policies to minimize backing-up maneuvers in the “activity area.”

The **Temporary Traffic Control “Activity Area”** is the section of the highway where the work activity takes place. It is comprised of:

- **work space**
- **the traffic space**
- **buffer space.**

The “**work space**” is the portion of the road closed and set aside

for equipment, workers, and materials. Work spaces are usually separated from the traffic space with channeling devices or temporary barriers and signs. This protects both vehicles and pedestrians.

Other important components of a **Temporary Traffic Control Plan** are:

- Restrict personnel access points into work areas and define/designate “no backing zones” and “pedestrian-free zones.”
- Design into the **Temporary Traffic Control Plan** flow paths for equipment and vehicle traffic to minimize backing maneuvers where possible. There should also be buffer spaces to protect pedestrian workers from straying traffic vehicles and/or work zone equipment.
- Establish procedures for entering and exiting the work zone.
- Train all employees on the **Temporary Traffic Control Plan** and its precautionary measures.

Protective measures within the **Traffic Control Plan** for employers and workers.

Employers:

- Must conduct crew meeting and train all workers on work zone safety.
- Discuss potential hazards, equipment blind spots and movement precautions in the activity zone.
- Comprehensive site – specific safety program.
- Temporary traffic control plan in place for the project site.

Workers:

- Wear high-visibility safety apparel (vest and head gear).
- Be alert for construction vehicles, equipment, and general traffic.
- Check surroundings often for hazards.
- Know the plan for traffic flow.
- Keep a safe distance from traffic.

- Communicate with other workers, especially when there are changes in procedures, locations, or traffic flow pattern.
- Stay behind the protective barriers.
- If you do not have a reason for being there, do not linger or cross into areas around moving equipment.
- Use extra precautions and additional safety apparel at night and during poor weather conditions.

Pedestrian Workers:

- Keep operators who are working near moving equipment in eye contact.
- Remember equipment blind spots and limited visual areas.

Equipment / Vehicle Operators:

- Keep windows and mirrors clean.
- Watch for workers on foot and know where they are located.
- Remember equipment blind spots and limited visual areas.

FINAL WORD

Motorists, employers, workers and general public must appreciate that work zones on public roads and highways are fraught with danger. Vigilance and due care must always be exercised at all times.

Working Alone – Oil and Gas

WHAT'S AT STAKE?

Working in remote areas

Working and travelling to remote areas is an inherent part of working in the oil and gas industry. Offshore oil and gas fields,

onshore gas pipelines which are remotely located and other characteristics of the oil and gas work make it very common for workers to be working alone and/or working remotely.

Your team may work in the most remote locations for exploration, at pumping stations or in gas plants. Perhaps you are responsible for the safety of land survey crews, oilfield service groups or operators and contractors.

A lone worker can be anyone who works alone in a fixed facility or away from his or her typical base. At times, the definition applies to those who work alone in factories or warehouses on nights or weekends. It also applies to traveling workers in construction, utilities, maintenance and repair, agriculture, and other fields.

In an industry where mistakes can be destructive and life changing, the responsibilities of both lone working employers and lone workers in the oil and gas sector cannot be underestimated.

WHAT'S THE DANGER?

Working in remote areas introduces a number of safety concerns and hazards which should be talked about and discussed during a safety talks.

In these remote areas, workers face harsh conditions and environments. They must drive/travel long distances and frequently off-road, and if an incident does occur, they are effectively stranded and must find a way to communicate the issue.

These and other nuanced elements of remote or lone worker safety like how much water to carry (more than you think) make for a good safety discussion.

Thousands of incidents occur annually that put lone workers on disability—sometimes short-term and often for life.

In 2014, the Occupational Safety and Health Administration (OSHA) reported multiple Oil & Gas-related fatalities in the United States. In fact, the organization reports the Oil & Gas fatality

rate is seven times greater than the rate for all U.S. industries.

Lone workers are an integral part of the oil and gas industry and safeguarding these staff is vital in delivering good service. Businesses are responsible to their employees and to their customers. Shutdowns, incidents and production issues can affect other businesses and large-scale leaks can also be disastrous for the environment. Improving safety in the oil and gas industry is good for everyone and good for the planet.

At Risk

The risks that affect lone workers in most industries affect those in oil and gas too – trips, slips and falls account for 37% of injuries in the sector – though there are additional risks generated by the often remote or offshore nature of the work and exposure or inhalation of hazardous materials. When things do go wrong in oil and gas, they can be devastating, resulting in huge loss of life, product and infrastructure.

Risks include:

- Remote location working, whether off-shore, on the road or along pipelines increases the impact of potential incidents and difficulties in raising alarm and maintaining communication
- Working at heights.
- In confined spaces.
- Alongside high – risk machinery and equipment.
- Accidents including trips, falls, slips
- Toxic and inflammable gases

Lone worker hazards in Oil and Gas Sector

- Hydrocarbon releases
- Fires or Explosions
- Dropped objects

The safety situation for a lone worker is worse than for a worker who is surrounded by fellow workers.

Why? If working alone and immediate medical assistance was not

provided in time, the result could be deadly.

Most oil refineries, factories and offshore rigs are also considered as [Explosive Hazardous Areas](#), where the atmosphere could be filled with flammable gases, mists, dusts, liquids or vapors that could lead to huge explosions. Due to the Explosive hazardous working environment, the lone working employees within these sectors are not allowed to carry their smartphone devices, as it could be a source of ignition.

HOW TO PROTECT YOURSELF

Lone Working Policy – Solution

Accurately collecting risk assessment data and constructing a usable, effective lone working policy is the first step to mitigating potential risks to your oil and gas employees. Speak to lone workers across the whole organization to best understand their safety needs.

Confidence and communication are key for lone workers operating machinery in difficult circumstances or working alone far from civilization. Ensure that your staff have confidence in their tools, their working environment and their superiors. Make it easy for employees in every part of your oil and gas organization to have someone to call if things go wrong.

Oil and gas organizations have a duty of care towards all their employees and need to be attuned and prepared for the extra risks that lone working in these circumstances can bring.

Key Question

While work-alone procedures may look good on paper, are processes in place to help your lone workers when a safety incident occurs?

The following recommended procedures from the Washington State department of labor.

- Conduct risk assessments to determine if work may be done safely by lone workers.

- Train lone workers on emergency response.
- Establish a clear action plan in the event of an emergency.
- Set limits for what is permissible during lone work.
- Require supervisors to make periodic visits to observe lone workers.
- Ensure regular contact between lone workers and supervisors via phone or radio.
- Use automatic warning devices that alert others if signals are not received periodically from a lone worker.
- Verify that lone workers have returned to fixed base or home after completing a task.

Bottom Line:

The bottom line is that employers must develop a procedure protecting the safety of their employees during working hours, especially if they're working alone in isolated areas or they're not within calling distance of somebody.

The burden falls on employers to keep their workers safe.

An organization's work is not finished after it develops a procedure for monitoring lone workers. It's important to continually evaluate. Why? The work environment changes with new people, new processes, new equipment, and new hazards.

There are **3 health and safety tips** to consider to help ensure the safety of employees working within an oil and gas sector:

- **Risk Assessment:** Employers should conduct risk assessments to identify key hazards within their work site. By identifying the hazards, employers would be able to take the necessary steps to prevent accidents.
- **Fire safety:** The risk of fires and explosions are very high within these sectors, so ensure that there are sufficient number of fixed and portable fire extinguishers located within the site.
- **Training:** Employers set policies, provide equipment, and put engineering controls in place. Workers also have an important role to play. Their training should cover what

they need to know to keep themselves safe.

Workers should know:

- What their employer's "lone worker" policy requires. Make sure they know if they're not supposed to work alone, and what precautions they must take if they must work alone.
- What hazards they are exposed to, including fire, explosion, and volatile hydrocarbon exposures.
- How to use their equipment. They should be trained in the use of PPE and monitoring equipment. Make sure to cover the limitations of respiratory protection equipment.

Regular Interval check on Employees

OSHA says employers must check on workers at regular intervals, be it once for a brief assignment or multiple times a day for a longer assignment. **Means of verification include:**

- Visual: Camera, in-person
- Verbal: Two-way radio (such as a walkie-talkie); in-person; intercom system

OSHA says cell phones are permissible in areas where reception exists. Cell phones are not allowed when an employer cannot show that reception is available due to:

- Sound of power tools,
- Whistles,
- Tapping on decks, bulk heads or tank walls to check on a worker.

FINAL WORD

Lone workers whether working on an off shore oil rig or in a chemical laboratory are prone to more danger and peril than their fellow workers. Effective lone worker policy and procedures must be implemented to protect their safety.

Sexual Harassment Prevention

WHAT'S AT STAKE?

Sexual harassment is [any unwelcome sexual advance or conduct on the job](#) that creates an intimidating, hostile or offensive working environment. Any conduct of a sexual nature that makes an employee uncomfortable has the potential to be sexual harassment.

As an employer, you have a responsibility to maintain a workplace that is free of sexual harassment. It is your legal obligation!!!

WHAT'S THE DANGER?

Apart from the legal obligation to maintain a safe, sexual harassment, it makes perfect business sense. If you let sexual harassment in your business, you will pay a high price in poor employee morale, low productivity, and a flood of lawsuits and big legal bills.

Sexual harassment comes in many forms:

- A supervisor implies to an employee that the employee must sleep with him to keep a job.
- A sales clerk makes demeaning comments about female customers to his coworkers.
- An office manager in a law firm is made uncomfortable by lawyers who regularly tell sexually explicit jokes.
- A cashier at a store pinches and fondles a coworker against her will.
- A secretary's coworkers belittle her and refer to her by sexist or demeaning terms.

- Several employees post sexually explicit jokes on an office intranet bulletin board.
- An employee sends emails to coworkers that contain sexually explicit language and jokes.

The harasser can be the victim's supervisor, manager, or coworker. An employer may even be liable for harassment by a nonemployee (such as a vendor or customer), depending on the circumstances.

Who Can Be Sexually Harassed?

Sexual harassment is a gender-neutral offense, at least in theory: Men can sexually harass women, and women can sexually harass men. However, statistics show that the overwhelming majority of sexual harassment claims and charges are brought by women claiming that they were sexually harassed by men.

People of the same sex can also sexually harass each other, as long as the harassment is based on sex rather than sexual orientation, which is not a protected characteristic under Title VII. For example, if a man's coworkers constantly bombard him with sexually explicit photos of women, and this makes him uncomfortable, he might have a sexual harassment claim. If, however, a man's coworkers tease and belittle him because he is gay, that might not be illegal harassment under federal law as it is currently interpreted. However, such conduct may be illegal under laws enacted by certain states, or even cities. Even if this type of behavior isn't illegal, it also isn't appropriate, and savvy employers will put a stop to it promptly so everyone can get back to work.

The line between harassment based on sex and harassment based on sexual orientation becomes blurred when gender-based stereotypes are at play. Courts have held when a woman is harassed and discriminated against because she does not act sufficiently feminine; similarly, a man who is harassed for having effeminate mannerisms and gestures is protected. These same employees might not be protected if their harassers relied more explicitly on homophobic slurs and remarks. Again, however, smart employers won't parse the legal details.

HOW TO PROTECT YOURSELF

Employers must ensure the health and safety of workers and that other persons are not put at risk by the business. The process can be accomplished by the following measures.

A. Build good relationships in a respectful work environment

- Have a 'no sexual harassment-tolerated' work culture.
- Have a code of conduct that describes expected behaviors and what misconduct and serious misconduct is.
- Set the core values of your business.
- Promote good work relationships.
- Recognize and promote diversity.
- Set up a conflict management process.
- Set up a process for people to report sexual harassment.
- Set up systems to support workers at a greater risk of being harassed.

B. Educate workers about sexual harassment

Train employees at least once a year by conducting training sessions for employees. These sessions should teach employees what sexual harassment is, explain that employees have a right to a workplace free of sexual harassment, review your complaint procedure, and encourage employees to use it.

- Let your workers know what acceptable/non-acceptable work behaviour is, and that sexual harassment will not be tolerated.

Train Employees on:

- content.
- what sexual harassment is.
- what your sexual harassment policy contains.

- what worker should do if they experience sexual harassment.
- what workers can do if they see sexual harassment.
- Ensure your induction for new workers covers the information above.
- Talk about sexual harassment at team meetings and toolbox talks.
- Put up posters reminding workers what's acceptable work behaviour.

C. Train supervisors and managers at least once a year by conducting training sessions for supervisors and managers that are separate from the employee sessions. The sessions should educate the managers and supervisors about sexual harassment and explain how to deal with complaints.

D. Develop good managers

- Give your managers leadership training to help them effectively manage and supervise workers.
- Expect managers to intervene early to call out and deal with any unreasonable behaviour before it escalates.

E. Make sure everyone knows their responsibilities

- While businesses must effectively deal with sexual harassment at work, everyone at work has a role in dealing with it.
- Make everyone at work aware of their roles and responsibilities.

Workers:

- have duties to take reasonable care for their own health and safety and to take reasonable care that they don't harm others while at work.
- must cooperate with reasonable policies and procedures about sexual harassment the business has in place that have been notified to them.

- must comply, so far as is reasonably practicable, with any reasonable instruction about sexual harassment given by the business so the business can comply with the law.
- should report sexual harassment they experience or see so their business can do something about it.

F. Make your sexual harassment policies, processes and systems transparent

- Have a sexual harassment policy that outlines expectations for acceptable behaviour and your commitment to deal with sexual harassment.
- Put in place a policy on alcohol consumption at work events.
- Make sure processes/systems cover how you will deal with sexual harassment including.
- what training workers and managers will receive.
- how workers report sexual harassment, and what protection/support they will receive.
- how you will investigate and deal with reports.
- how you will check that preventative measures are effectively managing the health and safety risks arising from sexual harassment.

G. Make sure your workers know how to report sexual harassment

- Make sure workers know that you want to be told when sexual harassment occurs, and will support and protect those who report sexual harassment.
- Set up multiple ways (formal, informal, anonymous) to report sexual harassment.

Tell workers:

- how to record instances of sexual harassment.
- the more specific information the better.

- how to report about sexual harassment they directly experience or see to you.
- what to expect after they report sexual harassment including how you will support and protect them from reprisals.

H. Provide protection and support to workers who experience sexual harassment or see sexual harassment

- Protect all the people involved (including both sides of the complaint, support people and witnesses) from victimization (being punished, bullied, intimidated).
- Support can come from within the organization (trained sexual harassment contact persons) or other parties such as unions, or employee assistance programs.
- Provide the support as soon as possible after you receive a report of sexual harassment.

General principles for dealing with reports of sexual harassment

- Take all reports of sexual harassment seriously
- Act promptly
- Clearly communicate the process
- Protect the people involved
- Support the people involved
- Maintain confidentiality
- Treat everyone involved fairly
- Keep good documentation

FINAL WORD

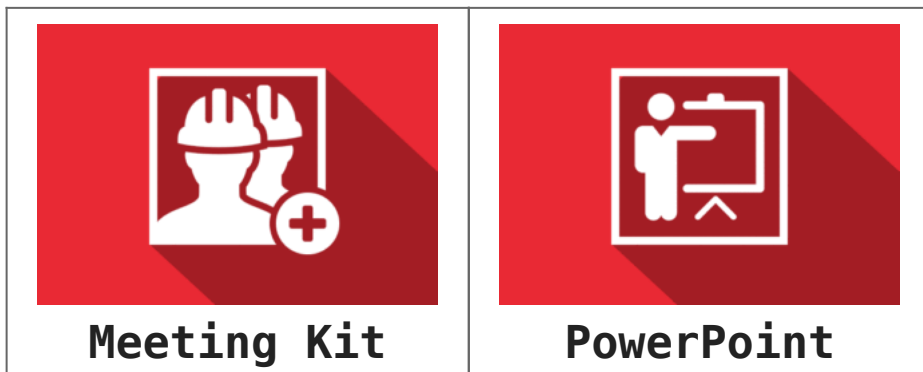
Sexual harassment is a common and known source of harm and employers are expected by law to have appropriate processes in place to protect all employees in a safe and secure environment.

Powered Platforms

There are many different types of elevated work platforms. They go by many names, but they all have a common purpose: to raise and position personnel, their tools and materials to perform tasks not accessible from the ground.

Lighten Up for Efficiency

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WHAT'S AT STAKE?

Reduction of injuries, security increase and production boots are factors in play when good workplace practices and policies are implemented.

WHAT'S THE DANGER?

It is important to examine how the three factors set out in the previous segment are manifested in real time.

Reduction of injuries

When lighting is inadequate, your chances of tripping and falling

are increased. Your chances of injuring yourself with tools, materials and equipment is heightened.

Security increase

Poor lighting is an invitation to criminals who see it as an opportunity for undetected theft and violence.

Productivity

By reducing injuries and with an increase in security with good workplace lighting policies and practices, there will be a boost in production and overall comfort for workers.

HOW TO PROTECT YOURSELF

It is correct to say that the average line worker has no responsibility to maintain good lighting in the workplaces.

Engineers normally design lighting placement and intensity. Maintenance workers look after replacing burned out light bulbs!!!

But there are 2 roles a worker has in a good workplace lighting policy.

First, you should make suggestions for improving the light in your work area. You might be the only person who has noticed the distracting glare from the unshaded light above the polished work counter.

Second, you should report any damage or defects in your workplace lighting so these situations can be corrected. You might see fluorescent tubes in need of replacement, outdoor lighting damaged by vandals or defects that could cause fire or shock.

- The brightest light is not necessarily the best light. To see your work well, you may need some contrast between light and dark. Many jobs call for overall room lighting with additional task lighting in the form of a lamp or light table. The color and sheen of the work surface also makes a

difference. When things are all the same color, it can be hard to see detail.

- Make sure permanent wiring is installed for any new light. Don't rely on extension cords, a common cause of fire, shock and fall injuries.
- Lighting around computer workstations can be tricky. The glare from a light or window can make it difficult to see the screen. Rearranging the work station or installing an anti-glare filter are two ways to fix this problem.
- Many injuries from falls happen in poorly lit halls, stairwells and storage rooms. Good lighting and clean, light-colored walls are two solutions.
- Don't forget temporary wiring and lighting, such as that used on construction sites, must comply with codes. Defective or undersized wiring can cause fires and electric shocks. Inspect temporary lighting systems frequently. Replace burned out bulbs and make sure bulb guards stay in place.
- Emergency lighting can save lives by helping people escape in case of fire or another crisis. Make sure emergency lights stay in good condition. Adverse conditions in a plant, such as high or low temperatures. Fumes, dust and grease can prevent emergency lights from working. Make sure these lights are maintained regularly, and report any problems you find.

Good lightning can also improve personal security when you travel in and out of your working place and through remote areas of the plant or grounds. Lights around doorways and in the parking, lots are important in preventing assaults and other injury incidents such as falls.

Lithium Battery Safety

WHAT'S AT STAKE?

Lithium batteries have become the industry standard for rechargeable storage devices. Lithium – ion battery fires and accidents are on the rise.

Lithium batteries are grouped into two general categories:

- Primary (non-rechargeable) lithium batteries are comprised of single-use cells containing metallic lithium anodes. Non-rechargeable batteries are referred to throughout the industry as **“Lithium” batteries**.
- Secondary (rechargeable) lithium batteries are comprised of rechargeable cells containing an intercalated lithium compound for the anode and cathode. Rechargeable lithium batteries are commonly referred to as **“Lithium-ion” batteries**.
- Single **lithium-ion batteries** (also referred to as cells) have an operating voltage (V) that ranges from 3.6–4.2V. Lithium ions move from the anode to the cathode during discharge. The ions reverse direction during charging. The litigated metal oxide or phosphate coating on the cathode defines the “chemistry” of the battery.
- **Lithium-ion batteries** have electrolytes that are typically a mixture of organic carbonates such as ethylene carbonate or diethyl carbonate. The flammability characteristics (flashpoint) of common carbonates used in lithium-ion batteries vary from **18 to 145 degrees C**.

There are basic cell designs; polymer/pouch cells, cylindrical cells, prismatic cells.

1. Polymer / pouch cells

- Used in academic, research and in IPODs, tablets, cell

phones.

2. Cylindrical cells

- Similar design parameters that have been the standard for alkaline cells for years (A, AA, AAA, C and D.)
- It is the “workhorse” of the lithium – ion battery industry and is used in a majority of commercially available battery pack.

3. Prismatic cells

- Used in cell phones, thin laptop computers.

Other than cell phones and tablets, most portable electronic/electrical devices operate above the normal operating voltage of single **lithium-ion batteries**. For such devices, numerous cells connected in packs provide the desired voltage and capacity.

WHAT'S THE DANGER?

Lithium Battery Hazards

The flammability or flash point in Lithium – ion Batteries is dramatic (18 to 145 degrees C.). This is due to the high energy densities coupled with the flammable organic electrolyte.

Thermal Runaway

This creates new challenges for use, storage, and handling. Studies have shown that physical damage, electrical abuse such as short circuits and overcharging, and exposures to elevated temperature can cause a **thermal runaway**. This refers to rapid self-heating from an exothermic chemical reaction that can result in a chain reaction **thermal runaway** of adjacent cells.

More Thermal Runaway

Manufacturer's defects such as imperfections and/or contaminants in the manufacturing process can also lead to **thermal runaway**. The

reaction vaporizes the organic electrolyte and pressurizes the cell casing. If (or when) the case fails, the flammable and toxic gases within the cell are released.

Severity

The severity of a **runaway battery** reaction is, in part, related to the buildup and release of pressure from inside of the cell. Cells with a means of releasing this pressure (i.e., pressure relief vents or soft cases) typically produce less severe reactions than cells that serve to contain the pressure and rupture due to high pressure (i.e., unvented cylindrical cells). **As a result, the cell construction can be a major variable pertaining to the severity of a battery incident.**

Result of Thermal Reaction

- **Factors of severity**
 - Includes battery size
 - Chemistry
 - Construction and battery state of charge (soc)
- **Significant Battery Reaction Produce Hazardous Components such as:**
 - Flammable by – products (e.g. Aerosols, vapors, liquids)
 - Toxic gases and flying debris (some burning)
 - In most cases sustained burning of the electrolyte and casing material.
- **Venting Reaction**
 - During a venting reaction (i.e., no ignition of the vented products), the products consist primarily of electrolyte constituents.

The products in most batteries typically consist of:

- carbon dioxide (CO₂)
- carbon monoxide (CO)
- hydrogen (H₂)
- hydrocarbons (C_xH_x)

- These gases are flammable and present fire and explosion risk.

Burning Scenario

- Electrolyte burns efficiently producing primarily carbon dioxide (CO₂) and water (H₂O) as the by-products.
- Most batteries the products typically consist of CO₂ and water vapor.
- The burning reaction also tends to liberate the fluorine from the lithium salt dissolved in the electrolyte.
- The fluorine typically reacts with hydrogen to form hydrogen fluoride (HF).
- HF production is also proportional to the electrical energy stored in the cell/battery and can result in dangerous concentrations.
- HF reacts with the water vapor produced during the reaction and/or with the mucus membranes in the human body (i.e., eyes, nose, throat, lungs) and becomes hydrofluoric acid.

HOW TO PROTECT YOURSELF

Best Practices for Storage and Use of Batteries

A. Procurement

- Purchase batteries from a reputable manufacturer or supplier.
- Avoid batteries shipped without protective packaging (i.e., hard plastic or equal).
- Inspect batteries upon receipt and safely dispose of damaged batteries.

B. Storage

- Store batteries away from combustible materials.
- Remove batteries from the device for long-term storage.
- Store the batteries at temperatures between 5°C and 20°C

(41°F and 68°F).

- Separate fresh and depleted cells (or keep a log).
- If practical, store batteries in a metal storage cabinet.
- Avoid bulk-storage in non-laboratory areas such as offices.
- Visually inspect battery storage areas at least weekly.
- Charge batteries in storage to approximately 50% of capacity at least once every six months.

C. Chargers and Charging Practice

- Never charge a primary (disposable lithium or alkaline) battery; store one-time use batteries separately.
- Charge or discharge the battery to approximately 50% of capacity before long-term storage.
- Use chargers or charging methods designed to safely charge cells or battery packs at the specified parameters.
- Disconnect batteries immediately if, during operation or charging, they emit an unusual smell, develop heat, change shape/geometry, or behave abnormally. Dispose of the batteries.
- Remove cells and pack from chargers promptly after charging is complete. Don't use the charger as a storage location.
- Charge and store batteries in a fire-retardant container like a high quality Lipo Sack when practical.
- Do not parallel charge batteries of varying age and charge status; chargers cannot monitor the current of individual cells and initial voltage balancing can lead to high amperage, battery damage, and heat generation. Check voltage before parallel charging; all batteries should be within 0.5 Volts of each other.
- Do not overcharge (greater than 4.2V for most batteries) or over-discharge (below 3V) batteries.

D. Handling and Use

- Handle batteries and or battery-powered devices cautiously to not damage the battery casing or connections.
- Keep batteries from contacting conductive materials, water, seawater, strong oxidizers and strong acids.
- Do not place batteries in direct sunlight, on hot surfaces or in hot locations.
- Inspect batteries for signs of damage before use. Never use and promptly dispose of damaged or puffy batteries.
- Keep all flammable materials away from operating area.
- Allow time for cooling before charging a battery that is still warm from usage and using a battery that is still warm from charging.
- Consider cell casing construction (soft with vents) and protective shielding for battery research and experimental or evolving application and use.

E. Disposal

- Dispose of damaged cells and cells that no longer hold a substantial charge. To check the general condition of your cells, charge them, let them rest for an hour, then measure the voltage. If your cells are close to 4.2V, the cells are in good condition.
- Dispose of used batteries by taking them to an [Media bin](#) (if less than five pounds) or by completing an [Online Chemical Waste Collection Request](#).

LITHIUM BATTERY SYSTEM DESIGN

- Lithium battery system is a highly interdisciplinary topic that requires qualified designers.
- Examine these topics examples carefully:
 - Battery selection
 - Life

- charging design
 - electric control systems
 - energy balance of the system,
 - warning labels
- Systems designed for mobile applications should apply best practices to ensure appropriate safeguards are in place. Designs should include a hazard assessment that identifies health, physical and environmental hazards, with all hazards appropriately mitigated through engineering and administrative controls. Examples of baseline criteria for system design include:

EXAMPLE OF BASELINE CRITERIA FOR SYSTEM DESIGN INCLUDE:

- Failure scenarios, including thermal runaway should be considered during design and testing so that a failure is not catastrophic.
- Maintain cells at manufacturers recommended operating temperatures during charging or discharging.
- Size/specify battery packs and chargers to limit the charge rate and discharge current of the battery during use to 50% of the rated value (or less).
- Practice electrical safety procedures for high capacity battery packs (50V or greater) that present electrical shock and arc hazards. Use personal protective equipment (PPE) and insulate or protect exposed conductors and terminals.

Precautions / Prevention

If there are signs or evidence of a battery malfunction such as (swelling, heating or irregular odors) follow these steps.

- If batteries are showing evidence of thermal runaway failure, be very cautious because the gases may be flammable and toxic and failure modes can be hazardous.
- Disconnect the battery (if possible).
- Remove the battery from the equipment/device (if possible).

- Place the battery in a metal or other container away from combustibles.
- If a lithium battery fire occurs, use a CO2 (Class BC) or dry chemical (Class ABC) fire extinguisher. These are common to campus buildings. Lithium batteries don't have actual lithium metal so **don't use a Class D fire extinguisher.**
- Make sure you use personal protective equipment, such as gloves, goggles / safety glasses and lab coat.

FINAL WORD

Lithium batteries have become the industry standard for rechargeable storage devices.

Lithium-ion battery fires and accidents are on the rise and present risks that can be mitigated if the technology is well understood. By doing so, one can prevent fire, injury and loss of intellectual and other property.

Lockout Tagout Electrical Safety NFPA 70E

WHAT'S AT STAKE?

NFPA 70E Standard is commonly used in the United States for electrical safety in the workplace. This Standard is applied worldwide in industries like oil and gas and proper production. LOTO or Lockout / Tagout is an integral part of the electrical safety requirements contained in the NFPA 70E Standard.

WHAT'S THE DANGER?

Dealing with electricity and hazardous energy has its perils. Workers need to be protected from accidental electrocution and workplaces from expensive OSHA fines.

Electrical accidents and LOTO violations are among the top citations issued to businesses by OSHA.

HOW TO PROTECT YOURSELF

“Electrically safe worker condition” is a term used within the safety community to define LOTO.

The following are terms defined for NFPA 70E and OSHA purposes:

Authorized person: Someone who is permitted due to knowledge of equipment or system to lock/tag the system in a safe and controlled manner, typically equipment operators.

Qualified person: Someone who is knowledgeable of the system enough to be able not only to lock/tag the system, but also troubleshoot, repair, or maintain the system again in a safe and controlled manner, typically technicians, electricians.

Affected person: Person who may be exposed to the hazards of energizing or de-energizing the equipment or system.

PPE: Personal protective equipment for electrical hazards: rubber insulating gloves for shock hazard and arc flash-rated clothing for arc flash hazards.

LOTO: Lockout/tagout, when an electrical system or equipment has been disabled to such an extent as to render the system safe from electrical hazards for interaction with personnel.

LOTO PREPARATIONS include the following:

- Any person who may be exposed to the electrical energy should be party to the LOTO procedure.

- A written LOTO procedure should be developed for each system or piece of electrical equipment.
- Up-to-date and accurate documentation should be referenced when developing the LOTO process. This will address all forms of energy and ensure that hazard exposure is minimized (eliminated).
- LOTO is applied only to power sources, not controls. (LOTO breaker, not on/off switch).
- LOTO equipment unique (don't use LOTO locks for lockers, etc.).

What are the LOTO Requirements for the employer?

- Implement a LOTO program that will include written procedures for their electrical systems.
- Provide necessary equipment for LOTO program (locks, tags, diagrams, etc.).
- Provide documented LOTO training to all workers exposed to the hazards.
- Audit the LOTO program as a whole to ensure compliance with the written program.
- Audit individual personnel who implement the LOTO procedure to ensure compliance and maintain documentation of the audit.

LOTO SCHEMATICS

A. LOTO EQUIPMENT

LOCK:

- Any equipment installed / updated / replaced / modified after January 1990 should accept a lock in the open (off) position.
- The employer provides the lock, but the employee has the responsibility to use the lock when working on equipment.

The lock should have only one key, its combination known to only one person, and identify who placed the lock on equipment (name, face, department, phone number, etc.). It should prevent operation of equipment without undue force or tools (using a crowbar or grinder to bypass).

TAG:

- Equipment should have a tag that displays “Do not use, do not operate, etc.” Equipment should be suitable for the environment (paper tag inside a water tank not permitted). Use tagout only if it is not possible to apply a lock, and this must use two isolation means (open breaker and remove cable from lug).

B. LOTO PROCEDURE:

- Locate sources of energy on up – to – date, accurate single line diagrams.
- Identify any personnel that are in hazardous positions for the purpose of LOTO and any PPE required for their location.
- Identify the person who is responsible for the LOTO. This will provide for types of LOTO: Simple LOTO only has one source of energy and involves only qualified personnel. Complex LOTO involves multiple power sources, crafts, departments, etc.

C. LOTO Control Elements are:

1. The shutdown procedure and the qualified person responsible.
2. Shall include methods for removal of all stored energy from equipment/system.
3. Shall include disconnecting means verification. Ensure that the equipment is turned off.
4. Identify the responsible qualified person charged with coordinating LOTO as a whole.
5. Verify that the equipment/system cannot be restarted or

energized. Attempt to start system, depress on button, attempt to close disconnect, etc.

6. Test target circuit/equipment to verify lack of energy. This process will consist of the following steps:
 - a. Verify test instrument on known good live source to verify test equipment is working properly.
 - b. Measure test circuit/equipment to verify no energy is present. Two steps are required:
7. Check zero energy on phase to phase measurement. Test each of the 1 Φ /3 Φ .
8. Check zero energy on phase to ground measurement. Test each of the 1 Φ /3 Φ .
 - a. Re-verify test instrument on known good live source to verify test equipment is still working properly.
9. Grounding requirements shall be examined. Generally, if there is danger of back feed or the circuit is rated over 600V, then personnel safety grounding should be implemented.

FINAL WORD

Implementing and following through with a sound electrical safety program and proper electrical safety training, including LOTO, is a giant step towards ensuring workplace safety.

Material Handling Equipment / Heavy Equipment

WHAT'S AT STAKE?

Heavy equipment is used on many different kinds of work sites all around the world. Such heavy equipment includes cranes,

maintainers, bull dozers, front loaders, dump trucks, excavators. These are used in virtually all construction sites. This equipment is effective but also hazardous. Proper work planning as well as operating equipment limited to its use, are essential steps for safe operation.

WHAT'S THE DANGER?

These are many different dangers or hazards associated with heavy equipment. The two major hazards / dangers that are responsible for the majority of injuries and fatalities are:

Struck-by incidents

- One of the biggest exposures for a fatality on a construction site is ground personnel being struck by moving equipment. OSHA states approximately 75% of struck-by fatalities involve heavy equipment such as trucks or cranes. It is everyone's responsibility to look out for one another while working around this equipment.
- Work areas where heavy equipment is should be clearly marked and barricaded. Unnecessary foot traffic should be eliminated in these barricaded work areas.
- Ground personnel entering a work area where there is equipment operating need to make their presence known to all operators in the area.
- Operators should avoid backing whenever possible and need to stop their work task if they lose sight of any ground personnel.
- A spotter should be used if equipment is operating in a tight area or when operating around ground personnel. In certain situations it could more hazardous to use a spotter.
- Plan work tasks accordingly and eliminate the need for a spotter if possible.

Caught-in or between incidents

- These incidents are very similar to struck-by incidents, however there are differences. A struck-by incident is when an object striking a person causes the injury. A caught-in

or between incident is when there is an injury due to crushing between two objects.

- An excavator bucket swinging around and striking a person in an open field would be a struck-by incident. An excavator counter weight that turns and pins a person against a wall would be a caught-in or between incident.
- One important safeguard in protecting yourself from these incidents is to stay out of the line of fire and always leave yourself an “out”.
- You should first always consider the safest place to be around equipment with regards to the line of fire.
- Never put yourself in a situation where you do not have an out to escape danger.
- It is important to always be able to get out of the way if other safeguards fail and you are put in a situation where you can become a victim of these incidents.

Other Hazards / Dangers

While struck – by incidents, caught – in or between incidents, and tip overs are prominent, there are other hazards / dangers.

- Slips, trips, and falls are some of most common types of incidents that result in injuries to workers. Operators of heavy equipment are not exempt from these incidents occurring to them. Climbing into the cab of equipment or walking on the slick surfaces of a machine are two common occurrences that can result in a slip, trip, or fall injury for an operator.
- Pinch points are located in many different places on a piece of heavy equipment. Door jams or equipment hoods are two common pinch point locations where operators injure fingers.
- Loose cargo can lead to injury due to an operator losing control of their equipment. A loss in control results from an operator being distracted from their work due to objects moving around in their cab. Another way loose cargo can lead to an incident is when an object that is not secured gets stuck in a control or under a pedal of the equipment.
- Leaks on equipment can lead to multiple different types of

injuries or property loss. A leak in a pressurized line is especially hazardous. Hydraulic lines that are leaking can inject fluid underneath the skin of a worker. This kills tissue which often results in amputation of the affected body part if not treated quickly. Leaking equipment can also lead to a slip incident for those workers who happen to step on the fluid.

Additionally, there are also other sources of injury that are problematic for operators and personnel.

- Repairing and servicing equipment in dangerous positions.
- Striking individuals or other vehicles with the equipment, particularly its blade.
- Unexpected violent tipping of the equipment.
- Uncontrolled traffic within or through the work area.
- Unexpected violent shocks or jars to the machine.
- Sudden movement of a power unit while it is being attached to earth moving equipment.
- Limbs of trees or overhead obstructions
- Leaving earth moving or other equipment in dangerous positions while unattended.
- Failure of lifting mechanisms.

HOW TO PROTECT YOURSELF

It is obvious that there are many hazards and dangers in the use and operation of heavy equipment. Well-coordinated “operating maintenance procedures” can ensure, as best, as possible, the safety of those working with and around heavy equipment.

Here are ways to eliminate / reduce and mitigate against the hazards and dangers.

- Always use three points of contact when climbing into the cab of heavy equipment.
- Clear boots and steps of any mud to avoid slick conditions.
- Watch hand placement and avoid pinch point areas. Ensure equipment guards are in place and functioning to avoid hands or body parts from being caught-in or between them.

- Maintain a clean cab. Ensure any items within the cab are tied down or secured properly.
- Always complete a pre-use inspection prior to using heavy equipment. Tag out equipment that has leaks until it is properly repaired.
- Never check for leaks on pressurized lines with your hands, even while wearing gloves.
- All equipment should be inspected prior to use. Any problems found with equipment should be corrected before it is used.
- Equipment should have seatbelts and a roll over protective system to protect the operator in case of roll over or crash.
- Work areas should be properly delineated and enough space given to heavy equipment to operate properly. Clear out all unnecessary personnel, objects, and vehicles from where the equipment is operating.
- Operators should complete a walk around of their equipment every time before getting back into the cab to be sure no objects, people, or vehicles are in a blind spot.
- Proper training and fit-for-work. Employees need to be familiar with the equipment that they operate. Employees also need to ensure that they are not operating equipment if they are excessively fatigued or sick.

General Operating Precautions

- Machines should be maintained in good working order. All vital parts such as motors, chassis, blades, blade holders, tracks, drives, hydraulic and pneumatic mechanisms, and transmissions should be thoroughly inspected each day.
- Before using the starting motor, the operator should check to make sure that all operating controls are in the neutral position.
- Machines should be operated at speeds and in a manner consistent with conditions on the particular job.
- Before starting a job, the operator must be given instructions regarding the work to be done.
- At no time should a piece of equipment be left unattended while the motor is running, especially if the machine is on

an inclined surface or on loose material.

- If possible, equipment should be driven entirely off the road at night. When any portion of the machine projects into the road, it should be adequately marked with red lights or flares. Red flags should be used in daytime.
- Operators should stop motors and refrain from smoking during refueling operations.
- The operator should keep deck plates or steps on equipment free from grease, oil, ice and mud. Corded soles shoes are recommended.
- Employees, other than operator, should not ride on equipment.
- Operators should not wear loose clothing, which can get caught in moving parts of equipment.

FINAL WORD

There are many hazards that are present when dealing with heavy equipment on the work site. Consider what unique hazards / dangers the equipment and job tasks create in your work site. Constant focus on pre – planning as well as what safeguards are needed is important to remain safe while operating heavy equipment.

Metal Working

WHAT'S AT STAKE?

Metal working is a very dangerous work. Only the most experienced and trained can do this work. The risk of life shattering injuries is always present including fatalities.

WHAT'S THE DANGER?

The potential for injury from welding, grinding and cutting is significant. Eyes and skin can be burned by infrared, ultraviolet and visible radiation from the light rays of the welding arc. Loud noise can affect hearing. Electric shock can injure or kill. You can also be burned by hot metal, sparks and flying chips. If handled improperly, compressed welding gases stored in high pressure cylinders can cause harm to people and property. Various fumes and gases from welding processes can damage the respiratory system or cause asphyxiation.

HOW TO PROTECT YOURSELF

- It's crucial to be cautious when welding, grinding or using powered cutting tools. It's important to use approved equipment in good operating condition and to follow all safety procedure instructions.
- Your work area should be kept safe. You should also be on the lookout for potential fire, electrical, explosive and toxic gas hazards among others. Welding, cutting and gripping operations should never take place near flammable materials. Aisles and stairways should be kept clear of clutter. Other people should stay a safe distance away from welding and cutting operations.
- It's essential to wear appropriate Personal Protective Equipment (PPE) while welding, grinding or power cutting.

Eye protection: Shield your eyes from sparks, heat, molten metal, flying chips and splatter. You can receive painful eye burns known as welder's flash from exposure to ultraviolet and infrared light from the welding arc.

Other PPE & Clothing: Guard your body while welding, cutting or grinding. Use hearing protection such as earplugs or earmuffs when available, wear clothes made of heat-resistance materials. An apron made of leather or other fire resistant material provides extra protection.

Foot and hand protection: the right kind of foot and hand protection is an essential part of shop safety. Gloves should be made of leather or other strong, flame-resistant fabric.

Respiratory Protection: Choose the right kind of approved respirator when you work around toxic chemicals, gases and materials. This might involve anything from a simple face mask to a supplied-air respirator, depending on the hazards of the environment.

Here are some other tips for safe welding, cutting or grinding.

- Avoid fires and explosions. Do not weld near flammable or combustible materials, liquids, vapors and dusts. Know where the appropriate fire extinguishers are located. Report any smell of propane, acetylene or other flammable substances.
- Prevent electric shock. Inspect equipment for loose connections, bare wires or cables before operating.
- Handle compressed gas cylinders safely. Learn the proper procedures for using and storing cylinders.
- You should know where safety showers and eye wash stations are and how to use them. Get help immediately when an incident occurs.

FINAL WORD

Take responsibility for your own safety when you weld, cut or grind. Be familiar with the hazards. Wear the right PPE, maintain a safe environment and follow the safety rules.

Opening the Way to A Deadly

Fall

WHAT'S AT STAKE?

The human factor is the reason why there are many incidents of severe injuries and even fatalities in floor opening falls. This occurs through negligence either gross or inadvertent.

This results in loss of productivity, down time, and replacement costs. Not to mention the human factor where lives of workers are negatively impacted in many aspects.

WHAT'S THE DANGER?

Opening in floor and roofs are part of the work environment during construction, renovation and demolition. Also, in the oil and gas industry, objects falling onto workers from opening are potential hazards.

Half-measures are not satisfactory. Many workers have been severely injured and others have died as a result of following through a floor opening.

For Example

- A worker cleaning up after a roofing crew picks up a piece of plywood, not realizing it covers an opening, into which he falls.
- A worker passing through a renovation site steps on a too-small covering placed over a hole and not secured. The board breaks, or, one end tips into the hole. The worker falls down the opening.
- Skylights and other roof features not designed to bear weight also have been the route to death for workers who stepped for climbing on them.

In industrial plants, workers have fallen from catwalks over machinery or process vessels. Holes in the runway, unguarded sides

and ends have allowed workers to fall. Tanks with unguarded openings large enough for a worker to fall in have also taken many lives. Unguarded access points to fixed vertical ladders have also been the scene of fatal falls.

HOW TO PROTECT YOURSELF

There are safety laws requiring certain types of guards around openings including roof openings and floor openings, smoke shafts, vehicle repair pits, loading dock edges and other openings on walking and work surface. Preventions of falls into water or another liquid, or into a hazardous substance or object is also regulated.

By law, temporary and emergency floor and wall openings must be guarded by rails and toe boards or a cover.

There are steps to take to comply with law and regulations such as:

- The floor opening cover must be capable of supporting any load placed on it. It should be secured positively so it cannot be easily removed, and it should be labeled. The cover should go over the entire opening unless guardrails are installed.
- Ladder way floor openings and platforms must be guarded by railings and toe boards on all sites except the entrance, the entrance must be arranged so the person cannot walk directly into the opening without encountering a gate or an offset area.
- Guards are also required for hatchways and chute openings, skylight openings, pits and trap door openings and manhole floor coverings.
- Besides guardrails and nets, fall prevention and fall arrest equipment might be required for you to work safely. Learn to use the fall protection equipment and avoid hazards.
- Pay attention to good housekeeping!!
- Finally, there is another step that must be addressed to ensure proper protection to prevent the stopping of falls

through openings. Workers must file reports or contact a responsible line person when he or she encounter a hazardous situation like a “floor opening”.

FINAL WORD

A clean site is not always a safe start but is the best start.

Permit Confined Space Safety

WHAT'S AT STAKE?

Your safety is in peril if you enter any space where you are not positive that you can exit safely. A confined space can be deadly. Even if you just put your head through the opening, you are entering a confined space.

What is a confined space?

- A confined space is an enclosed or partially enclosed area that is big enough for a worker to enter.
- It is not designed for someone to work in regularly, but workers may need to enter the confined space for tasks such as inspection, cleaning, maintenance, and repair.
- Many confined spaces have small openings, which can make entry and exit difficult and can complicate rescue procedures.
- Some examples of confined spaces: tanks, boilers, silos, pipelines, sewers, storage bins, pits, manholes, water reservoirs etc.

WHAT'S THE DANGER?

Never enter a confined space unless you have training and knowledge to work safely with the confined space. Without proper precautions being taken to enter a confined space, serious injuries and even death may occur.

Examples:

NOT ENOUGH OXYGEN

If there is not enough oxygen in the air, you could die. If you enter a space without enough

oxygen (or even place your head inside the opening), you may not be able to escape or call

for help.

TOXIC GASES

The space might contain a toxic gas. Work such as welding or painting inside the confined space might release deadly substances into the air. Toxic gases might enter the space from piping or another opening.

EXPLOSION

You can't smell or see some explosive gases so you might not know they are in the air. A spark or other ignition source might result in an explosion. Many dusts and chemicals can also explode.

BEING TRAPPED, CRUSHED, OR BURIED

Loose or unstable materials might fall on you and trap or bury you. A liquid, a hazardous gas, or steam might flow into the space. You might get caught in a piece of equipment that starts moving.

HOW TO PROTECT YOURSELF

One of the core elements that a confined spaces entry program must include is a safe entry procedure. And one of the things required for entry into a confined space is an entry permit.

The entry procedure sets out the measures, procedures and practices taken to ensure the entry is carried out safely and in accordance with regulatory requirements. At a minimum, the entry procedure must do 8 things:

1. Require identification and evaluation of permit space hazards before entry.
2. Specify acceptable conditions of entry, including but not limited to atmospheric conditions.
3. Allow for authorized entrants, i.e., workers authorized to enter the space, and/or workers' representatives to observe atmospheric monitoring and testing.
4. Require isolation of the permit space.
5. Specify the method that must be used to eliminate or control atmospheric hazards purging, inerting, flushing and/or ventilation.
6. Require that barriers to confined spaces be provided to protect entrants from hazards created by pedestrians, vehicles or other external factors.
7. Stipulate acceptable conditions must be verified throughout the duration of the entry.
8. Require cancellation of the entry permit and isolation of the permit space after the authorized entry ends or entry operation is completed.

Review of Entry Procedure

The entry procedure must be reviewed at least once a year or whenever there's reason to believe that the procedure or other confined spaces safety measures aren't providing workers the necessary protection to identify and correct problems.

Entry Permit

Specific examples of when an entry permit is required include any time the hazard and risk assessment determine the measures to control the risk involve the following:

- Atmospheric monitoring
- Isolation
- Lockout
- Ventilation
- Safeguarding devices
- Respiratory protection

The ENTRY PERMIT must list the following information:

1. Space to be entered
2. Location of the space
3. Purpose of entry
4. Date and authorized duration of permit
5. Names or identification numbers of:
 - Workers permitted to act as attendants.
 - Authorized entrants, i.e., workers permitted to enter the space.
6. Name of the entry supervisor and space to sign his/her name verifying entry conditions are acceptable and entry can begin.
7. Hazards of the space
8. Measures used to isolate the space and eliminate or control hazards before entry.
9. Acceptable entry conditions
10. Results of initial and periodic atmospheric tests performed and the names or initials of the testers and by an indication of when tests were performed.

11. Rescue and emergency services available and the means (such as the equipment to use and the numbers to call) for summoning those services.
12. Communication procedures used by authorized entrants and attendants to maintain contact during the entry.
13. PPE, testing equipment, communications equipment, alarm systems and rescue equipment, to be provided.
14. Any other information necessary under the circumstances to include to ensure employee safety.
15. Any additional permits, such as for hot work, that have been issued to authorize work in the permit space.

FINAL WORD

Make sure you are fully trained in confined space procedures for your workplace.

Take all the right precautions before entering a confined space, even in an emergency.

Fire is a Killer

WHAT'S AT STAKE?

The only way to stay away from the perils of fire is preparation, preparation and preparation!!!

WHAT'S THE DANGER?

Fire kills more people each year than all-natural disasters combined. When a fire occurs, there's little time to think.

A fire needs three things to start to spread: oxygen, heat and fuel.

- Oxygen makes up 21 percent of the air we breathe. That percentage goes higher if an oxygen canister or hose leaks. This situation makes a fire start more easily, burn hotter, and become much fiercer than a normal fire. These types of fires are more difficult to put out.
- Heat can come from a variety of sources. Smoking, cooking, or a sparking wire can all contribute to the start of a fire.
- Fuel is anything that will burn. You'd be surprised at how much of your workplace is flammable—carpeting, drapes, paper, oil rags, wood, and the list goes on.

Remove one of those three key factors and a fire can't start.

HOW TO PROTECT YOURSELF

A Fire Prevention Program helps reduce the likelihood of a fire starting. It should include:

- Emergency plans.
- Escape routes and exits.
- Fire prevention policies.

Emergency plans tell you how to evacuate in case of a fire and how to account for all those evacuated. Fire drills based on the emergency plan will help you understand what to do during an emergency.

Escape routes and exits should be clearly marked and never locked or blocked. You don't want to guess at or search around for an exit during an emergency. Also, the building should have at least two emergency exits.

Fire prevention policies organize all the information about fire safety into one place. Everyone should review the fire prevention policy each time it changes. The policy should contain information

on:

- How to store combustible materials.
- Location of fire extinguishers.
- Disposal methods for flammable materials or chemicals.

No matter how many preventative measures are in place, fire still happen. If a fire does start, here are a few steps you can take to stay safe:

- **Alert anyone in the area.** Call the local emergency number, the fire department, or your company's fire brigade.
- **Evacuate the area.** Follow the fire escape route indicated in the emergency plan and fire safety drills.
- **Meet your co-workers in the designated outside area.** You don't want anyone going back into a burning building for you if you've already escaped to safety. You should only use a fire extinguisher if you've been trained to use it, the fire is small enough, and it's safe to do so.

FINAL WORD

Stop fires before they happen. Ensure you have been trained on emergency plans, escape routes, and fire prevention policies to ensure your safety. Fire prevention is all about helping businesses avoid injuries, damages, and potentially, safety fines. Follow the tips suggested in this Safety Talk to prevent fires in your workplace.

Food Service Safety

WHAT'S AT STAKE?

People in food services jobs such as cooking, bussing tables, and serving food are exposed to dangers that they may take for granted – and some of these hazards are lethal.

WHAT'S THE DANGER?

Here are some of the dangers food service workers may experience.

- Musculoskeletal disorders (MSDs)
- Cuts and abrasions
- Infections
- Heat
- Chemicals
- Slips, trips, and falls
- Electricity

HOW TO PROTECT YOURSELF

Careful attention, vigilance and take nothing for granted. Here are the hi-lites of preventative care.

Musculoskeletal disorders (MSDs)

come from sitting or standing too long, or from repeated motion such as reaching or lifting. MSDs may be short-term or long-term and may reoccur.

To protect yourself, don't lift heavy or awkward objects and don't lift above your shoulders. If you work sitting down, get up and move around; stretch and exercise your muscles.

Cuts and abrasions: Workers shouldn't use knives, appliances and other tools without proper training. Use steel-mesh gloves when working with knives. Powered equipment such as food processors should be unplugged when loading, emptying or changing blades.

Infections: The hot, damp atmosphere of a kitchen can breed bacteria. If you get a serious cut or other injury, stay home until it's healed. Cover cuts or injuries with a clean, waterproof

dressing.

Heat: Workers in busy kitchens are at risk for burns and scalds. Wear long-sleeved gloves, aprons or other clothing Food Service Safety when working near hot items or hot liquids. Kitchen workers are at risk for heat illness as well, so make sure to take enough breaks and drink cool water often.

Chemicals: Cleaning solutions and mixtures used to degrease, clean and sanitize equipment can cause skin irritation, burns and respiratory problems. Read the directions on all cleaning products before use and use protective equipment such as gloves, goggles and a respirator if necessary.

Slips, trips and falls: Greasy, wet floors make it easy to slip and hurt yourself. Tripping hazards such as bins of ingredients are also common in food service areas. Make sure to wear proper work shoes with non-skid, insulated soles and reinforced toes. Keep floors and walkways clean and clutter-free. Communicate with co-workers to stay aware of traffic.

Electricity: Cooking, food processing and washing up require lots of power. Make sure to turn off or unplug machinery or appliances before cleaning, and turn off and lock/tag out power at the breaker if possible. Report loose or frayed wires immediately and don't use the equipment until it has been properly repaired.

FINAL WORD

Food service work is sometimes hard, but it doesn't have to be dangerous. With care and attention, you can stay safe and injury-free at work – and in your own kitchen.

Getting There Safety

WHAT'S AT STAKE?

Life can be fraught with danger. How to deal with dangerous situations and without warning, is challenging.

What's critical is how to deal, manage and minimize the effects of dangerous

occurrences like traffic crashes, violent encounters, slips and falls and among other occurrences.

WHAT'S THE DANGER?

Shiftwork, fatigue and violence are but a few situations when things go wrong in the workplace.

SHIFTWORK

Health care workers at hospital come and go at all hours to maintain the 24-hour shifts required to care for patients. Many arrive or depart in the dark, when streets are nearly deserted, transit service is infrequent and the day's snow removal hasn't begun.

FATIGUE

Those round-the-clock and on-call shifts take their toll on workers, who can find themselves driving home when they are too tired to do so safely.

VIOLENCE

Late-night arrivals and departures, lonely parking garages and hospital locations in hostile neighborhoods add up to serious security concerns for the healthcare worker.

Example

What go wrong is shown by this example with Angela.

It was the end of the day and Angela was tired. She had worked a long shift and was ready to ease into her pajamas and watch her favorite television show before heading to bed. As she walked from the building to her car, she realized with a start, that she was alone in the dark parking garage. She swallowed hard and rushed to her car.

While Angela wasn't attacked in the empty parking garage, late night arrivals and departures, empty garages, and remote worksite locations are cause for concern. Safety and security can be compromised by violence in these locations.

HOW TO PROTECT YOURSELF

Everyone wants to be safe from violence, traffic accidents, and falls. Protect yourself, and your commute, by implementing the following suggestions:

- Start early – Give yourself enough time to get to work so you don't speed or take unsafe shortcuts.
- Don't drive drowsy – Driving while awake is hard enough but driving while drowsy can be deadly. If you are too tired to drive, call a cab or a friend to come get to
- Keep it repaired – Keep your vehicle in good repair by making sure the gas tank is full, lights and signals are working properly and your windows are clean.
- Park to be seen – Park your vehicle on well-lit streets buildings within sight of a guard or parking attendant.
- Watch out for slips and trips – Keep your eye out for slip and trip hazards like wet streets, rough pavement, unmarked curbs, and poor lightning. Avoid them when possible and be careful around them when you can't.

FINAL WORD

Angela made it to her car without being attacked. Safe but rattled, she swore that she would be more careful in the future. Whether it's an empty parking garage, uneven pavement, or slick roads, there is always some element of danger to your commute.

The good news is that with some precautions, you can arrive and depart safely from work.

Hot Work – When the Heat is On!

WHAT'S AT STAKE?

When the heat is on, it may be harder to work safely. Excessive heat creates safety risks. Your health is at risk.

WHAT'S THE DANGER?

Heat particularly excessive heat creates not only health safety issues but puts your life in danger. The following is an accurate summation.

- It may make you sick, and can even be fatal.
- It can make you short – tempered, inattentive, dizzy and slow – all of which are threats to working safety.
- Sweat can make your hands slippery. It can also run into your eyes or eyewear and obscure your vision.

It doesn't matter whether the heat is created by summer weather or by other working conditions such as hot kitchens or foundries – the results are basically the same. Besides the heat itself, other factors can make you more susceptible to heat stress, including conditions such as heart disease, diabetes, excess weight or poor physical condition. Having to wear gear such as heavy personal protective equipment can also make you a target for heat problems.

Health and safety problems caused by excessive heat are called heat stress. Hyperthermia is another name for the medical condition caused by too much heat. It ranges from heat cramps to heat exhaustion to the most serious state, heat stroke.

- Heat cramps are a warning sign that the body has lost too much salt through sweating. The cramps affect the muscles which have been used for working, such as legs, arms and abdomen, and may also occur when the person is resting. More serious heat stress may follow.
- Heat exhaustion is a warning that the body's heat control mechanism has become overtaxed. Symptoms are exhaustion, dizziness, nausea, pale and clammy skin, rapid pulse and low blood pressure. Heat exhaustion may lead to heat stroke if ignored.
- Heat stroke can be fatal. It happens when the body's heat loss mechanism just shuts down. The person stops sweating and body temperature goes up. The heart pounds, and the skin is hot and red.

HOW TO PROTECT YOURSELF

One can take the following steps to prevent heat illness:

- As much as possible, get used to the heat gradually. When the weather suddenly turns hot, or when you return to working in a hot environment after a vacation, take it easy until you have become accustomed to the heat again.
- Drink water often. The body loses water through perspiration, and you need to replace it frequently. Never drink alcoholic beverages as a fluid replacement because alcohol causes you to lose even more water and salt. This also applies to caffeinated beverages.
- When possible, take frequent rest breaks. Move to a cooler area or change to lighter work periodically when working in a hot environment.
- You may need to replace salt, but get the advice of a medical professional about this, especially if salt intake must be restricted for medical reasons such as high blood pressure or heart problems. Salt tablets are not recommended. Instead, eat lightly salted foods. Start doing this before entering the hot work environment, to give the body a chance to adjust its balance of salt. Special drinks which replace the body's fluids and minerals are available

commercially.

- Dress lightly. Choose fabrics which let moisture and heat escape. Dress in layers so that you can peel off outerwear needed in the cooler morning air as the day progresses. Shade the skin with clothing and wear a hat in the sun. For really hot environments, special suits with cooling components are available.

Watch for heat stress in yourself and your fellow worker – who may not realize what is happening. If signs of heat stress do occur, help the victim cool off by removing him/her to a cool place, fanning or soaking with cool water. Give water to drink if conscious. If you suspect heat stroke, call for medical aid immediately.

FINAL WORD

Remember that heat stroke is a serious medical emergency. It can be fatal!

Incident Investigations

WHAT'S AT STAKE?

Industrial incidents occur every day. Some are major, with injuries to workers as well as damage to property, but most are minor and do not involve time lost, medical care or repairs to property. Incidents can be controlled and prevented. One of the best ways to prevent incidents is to investigate the causes of each incident that occurs. The degree of investigation depends on the potential severity of the incident.

The term incident is used in some situations and jurisdictions to cover both an “accident” and “incident”. It is argued that the

word “accident” implies that the event was related to fate or chance. When the root cause is determined, it is usually found that many events were predictable and could have been prevented if the right actions were taken – making the event not one of fate or chance (thus, the word incident is used).

WHAT’S THE DANGER?

When an incident happens in the workplace, everyone will be busy dealing with the emergency. Helping injured victims, assessing if the danger has abated, trying to piece together what happened. So, it’s critical to be prepared to investigate an incident before one occurs.

All incidents – regardless of size or impact – need to be investigated, including near misses. The time spent, and the detail involved will vary depending on how complex the incident is.

To prevent incidents from occurring is the obvious goal. Employers and businesses want to avoid all the problems and costs of unwanted incidents.

There are a myriad of costs resulting from business interruption, emergency response and clean-up, increased regulation, audits, inspections, and OSHA or EPA fines. Regulatory fines can become costly, but litigation costs can often substantially exceed OSHA and EPA fines. Employers may find that they are spending money to correct immediate causes of incidents that could have been prevented, or reduced in severity or frequency, by identifying and correcting the underlying system management failure.

HOW TO PROTECT YOURSELF

Once the incident has happened the swing to an investigation must commence immediately. We are now in the investigation phrase. The first step is the following a **WRITTEN PLAN**.

WRITTEN PLAN

- How and when management is to be notified of the incident.
- Notifying safety regulators according to incident reporting requirements.

For example:

- All work-related fatalities within 8 hours.
- All work-related inpatient hospitalizations, all amputations, and all losses of an eye within 24 hours.
- Who is authorized to notify outside agencies (i.e., fire, police, etc.)?
- Who will conduct investigations and what training they should have received?
- Timetables for completing the investigation and developing/implementing recommendations.
- Who will receive investigation recommendations?
- Who will be responsible for implementing corrective actions?

ESTABLISH THE INVESTIGATIVE TEAM

The most effective investigations are conducted by a Team in which managers and employees work together each bringing in a different perspective, understanding and knowledge. Working together will also encourage all parties to “own” the conclusions and recommendations and to jointly ensure corrective actions are executed in a timely manner.

INVESTIGATIVE PROCEDURE

A systematic approach in investigating all incidents to find the “Root Causes”.

1. Preserve and Document the Scene

The first step in the investigation is to secure the incident site to prevent evidence from being moved, altered, or tampered with.

- If evidence goes missing or is messed with – you are going to miss out on important clues on what caused the event.
- Use cones, tape, or barriers to physically block off the scene.
- You can use photos or videos to preserve and document the

scene.

Document the incident facts:

- Date and time of incident
- Investigator
- Name/s of the injured
- Injury description
- Date, time, and location of incident

2. Collect Information

Collect information leading up to the incident, the incident itself, and other important information is necessary to establish a timeline, identify victims and witnesses, and **begin to uncover the initial and root causes of the incident.**

Interview witnesses and the victim/s. The sooner a witness or victim is interviewed, the more accurate and candid his/her statement will be.

Set the interviewee at ease:

1. Clearly state the purpose of the investigation and interview – to learn how to prevent future incidents and *not* to blame any one person.
2. Interview witnesses separately. A witness might say more if they aren't in the same room as their supervisor, co-worker, or the victim. The same is true for when you interview the victim.
3. Let employee know they have a right to have employee representative (e.g., labor representative) present, if available/appropriate.
4. Conduct interviews in a quiet space, although in some cases, it might make sense to interview someone at the scene of the incident. It might help them explain something better, jog their memory, or help you both put questions and responses in context.

The interview:

1. Ask the individual to recount their version of what happened and don't interrupt them.
2. Take notes and/or record the responses; interviewee must give permission prior to being recorded.
3. Have paper and pen/pencil available for interviewee.
4. Ask clarifying questions to fill in missing information; repeat back to the interviewees the information obtained; and correct any inconsistencies.
5. Ask the individual what they think could have prevented the incident.

In addition to interviews, other sources of helpful information include:

- Equipment manuals
- Industry guidance documents
- Company policies and records
- Maintenance schedules, records and logs
- Training records (including communication to employees)
- Audit and follow-up reports
- Enforcement policies and records
- Previous corrective action recommendations

3. Determine the Root Causes.

The root causes are the underlying reasons why the incident occurred. Root causes generally reflect management, design, planning, organizational and/or operational failings (e.g., employees were not trained adequately; a damaged guard had not been repaired).

If you truly want to prevent a repeat of an incident, you must go beyond the easy surface causes – “worker was careless” or “employee didn't follow the SOP.” Focusing on the easy causes is a lazy way out and it won't get you the answers you need to put meaningful corrective actions in place.

Remember: Investigations are not effective if they are focused on

finding who to blame because they will stop at the initial incident and stop short of discovering the root causes.

4. Implement Corrective Actions

Your investigation isn't done until all the underlying causes of the incident have been identified and corrective actions are in place.

Some of the corrective actions will be quick and easy fixes; others may take more time and planning. Some may be specific and address a root cause directly and others may be sweeping improvements to the safety program in general.

Regardless, it is important that you communicate the corrective actions throughout the workplace. Employees pay attention to what management pays attention to and what management ignores. If you ignore incidents or don't follow through on corrective actions your employees will get the message loud and clear. Employee safety isn't valued.

Take time to develop appropriate corrective actions and manage them through to completion.

FINAL WORD

Investigations are not effective if their focus is to play the "blame game." The focus should be discovering the root causes of the incident.

Lifting Safely in Healthcare Food Services

WHAT'S AT STAKE?

When we think of injuries from lifting in a healthcare workplace, we are likely to think of back injuries resulting from patient lifts. However, these injuries can happen to workers in any department, including food service.

WHAT'S THE DANGER?

Consider these situations which can lead to stress and strain injuries in kitchen workers:

- Lifting and carrying full pots and pans in the kitchen.
- Lifting and carrying drums and bags of food.
- Bending into deep freezers and fryers to clean inside them.
- Lifting and stacking dishwasher trays.
- Carrying plates and glasses in trays.
- Reaching across counters and into storage shelves.

HOW TO PROTECT YOURSELF

These are some methods for reducing the injuries caused by lifting and carrying in food service:

- Look for ways to prevent lifting and carrying. For example, when new equipment is being considered for purchase, talk to your supervisor about how it will be used and cleaned. Ask if it will be heavy or awkward to move. Examples of alternatives are self-cleaning units for deep fryers which can reduce the need for lifting, carrying and working in awkward postures.
- Talk to your supervisor about the possibility of a trash chute system or other equipment to reduce the need for carrying garbage containers. Wheeled trash bins can reduce the effort required to move them.
- Use mechanical aids wherever possible to eliminate manual lifting. Pallet jacks and handcarts can be used for unloading trucks into food storage areas.
- See if it is possible to purchase food and supplies for the

kitchen packed in smaller loads.

- Likewise, consider using smaller pots and pans.
- Find other ways to split and reduce loads to make them lighter and easier to handle.
- Work with suppliers who do the restocking themselves.
- Try to avoid storing heavy items above shoulder level.
- Avoid filling the shelves too far back, so you do not have to stretch to reach items.
- Use safe stepladders or stools to reach high shelves.
- If you stand and walk while you work, do something different on your breaks. Sit and rest, and move around too.
- Rotate equipment cleaning tasks to avoid working too long in one position and to reduce repetitive motion.
- Use footwear with cushioned, non-slip soles.
- Use mats for cushioning if you must stand for long periods. Put one foot up on a footrest. Sit on a stool part of the time if possible.

FINAL WORD

Back injuries and repetitive strain injuries are problems we can all do without. Good planning and safe work practices can help prevent these injuries in the food service department and throughout the healthcare workplace.

Newsletter – April 2020

- Can You Have A “Bad” Safety Meeting;
- Building a Safety Culture by Measuring Results;
- Picture This – Respirators;
- Housekeeping Checklist;
- 7 Things to know about Respirator Use;
- Conflict Management;
- Safety Talks on Stress, Infection Control, Housekeeping, and

- Ergonomics;
 - and more...
-

Access to Medical and Exposure Records

More than half of adult women have experienced “unwanted sexual pressure” and more than one in 10 – both men and women – say sexual harassment of women in their workplace is “really quite common,” according to a recent study. From a moral and legal standpoint, it is simply unacceptable to ignore the issue of sexual harassment in the workplace. Employers, supervisors, and employees all have responsibilities they must know, understand, and follow.

Housekeeping for Oil and Gas

Download Instructor-Led Material



Meeting Kit



PowerPoint

WHAT'S AT STAKE?

Employers and employees should be mindful about safety issues in **oil and gas industry**. One understands the constant pressure that comes with production and efficiency. One also understands that drilling projects are expensive, time-sensitive, and physically demanding. This will take its toll on health and safety in the **oil and gas industry**.

WHAT'S THE DANGER?

The most recent data from the Bureau of Labor Statistics (2015) revealed that out of 120 workplace deaths in the **mining, oil and gas extraction industry**, 74 of them occurred within the support activities for **oil and gas operations**.

The constant pressure of efficient productivity due to the high cost of drilling projects, time away from home, long work days, and high physical demands takes a hefty toll on workers. These factors can ultimately affect worker safety by causing an increase in human error including misuse of equipment and inconsistent procedures that lead to accidents.

Safety in oil and gas industry is serious business. Knowing oil refinery hazards is especially important for employees and employers.

In addition, workers are susceptible to motor vehicle accidents, contact injuries, slips, trips, and falls. They may also encounter fires, explosions, chemical exposure, and confined space issues.

HOW TO PROTECT YOURSELF

Oil and Gas Good Housekeeping

"Good Housekeeping" must be practiced day-by-day. Quite often a crew will get ambitious and make sure everything is washed down, swept up, put away, hung up or otherwise disposed of. Then everyone sits back and waits until conditions get so bad that it

all has to be repeated. Remember good housekeeping means keeping house at all times.

Benefits in Good Housekeeping in Oil and Gas Operations

1. Reduce drilling costs.
2. Increase hole drilled.
3. Improve control of drilling.
4. Conserve materials and parts.
5. Decrease rig down time.
6. Use space more efficiently.
7. Open access routes and enable better movement.
8. Lower incident rates on the rig.
9. Build higher crew morale.
10. Reduce rig fire hazards

Best Practices of Good Housekeeping

Crew members do those little jobs as they come up and not leave things lying around. It is much easier to fix hazardous conditions when they first appear than it is to explain an accident that may result from them.

Important housekeeping practices are as follow:

- Put a tool back in the rack when you are finished using it.
- Sweep up or wash off any dirt or mud as soon as you can.
- Repair those loose steps, rickety handrails (check the base sockets and welds) and loose walkways.
- Keep cables, slings, chains, rope (catline), etc. coiled up and off the floor when not in use.
- Do not allow oil to collect on the rig floor or in the cellar.
- Do not block fire extinguishers.
- Do not block emergency exit routes.
- Keep the BOPs and cellar washed down and keep cellars jetted down.
- Keep all trash and miscellaneous parts from under sub-structure.
- Keep all excess pipe, connections etc., in a rack, not under

or spread around the rig.

- Keep the water hose clean and coiled up, when not in use.
- Keep the water hose such that it cannot reach the kelly (kelly bushings).
- See that all fire extinguishing equipment is in the clear and ready for use.
- See that first aid kits and supplies are clean, filled and ready for use.
- Check all safety equipment (hard hats, shoes, goggles, gloves, gas masks, etc.) and ensure that they are clean and in good repair.

Oil and Gas Safety Tips

These must be communicated and addressed with workers.

1. Talk with your local emergency response team in the community.

Do this sooner rather than later. Initiate the conversation. Cooperate with emergency responders in your area. Present scenarios, and plan what's best.

2. Invest in a safety training program that educates & unites workers.

Open, honest communication and respect among workers and supervisors represents the ideal.

3. Keep in touch with workers and their mental health.

"Worker culture" is a real thing. Your employees may put up a tough front, but keep an eye and ear out for exhaustion, stress, and much more. These mental states can lead to injuries and worse.

4. Be sure workers understand their roles and hazards.

A worksite is a busy place. New workers should understand their new roles. But even your veterans should be careful with changes and shift handovers. Require your employees to know the safety rules in the oil and gas industry.

5. Remind everyone in the workplace that housekeeping is

important.

Oil industry safety topics aren't fully discussed until you mention this. It gets overlooked, keep all work areas, floors, and pathways clear of trash, equipment, spills, etc.

6. Workers should be informed and warned with signs. Communicate clearly. Keep everything updated.

Effective signs, labels, and color-coding can save lives. Efficiency is also improved. Workers can locate tools, equipment, and workspaces quickly when they're directed. Point out dangers and safety instructions when possible. Replace outdated or faded information. Always reassess your signs when projects shift.

7. Monitor employee driving behavior.

Safety precautions in oil and gas industry also depend on this huge factor. Driving and even riding in a vehicle accounts for the most fatalities in this field. Report issues, analyze drivers, and heavily monitor and correct concerning behavior and habits.

8. Machine maintenance is key.

This is paramount in OSHA standards for oil and gas industry. It plays an important role in keeping workers safe and keeping machines from failing. Offshore rigs can be hundreds of miles from land. Regular maintenance checks should be part of your company's oil and gas safety management.

FINAL WORD

Good Housekeeping is the bedrock of the start of sound safety protocols and programs in the oil and gas sector. Without a buy – in by workers and owners, safety of workers is severely compromised.

Radiation (Non-Ionizing)

WHAT'S AT STAKE?

Radiation or Electromagnetic Radiation (EMR), is energy in a wave form. Non-ionizing radiation is very prevalent and comes from both natural and human – made sources. It includes electric and magnetic fields, radio waves, microwaves, infrared, ultraviolet and visible radiation.

The litmus test is how do workers protect themselves or limit their exposure to non – ionizing radiation.

WHAT'S THE DANGER?

Ultraviolet light	• Generated by black light, sunlight
Visible light	• Generated by sunlight, LEDs, light bulbs, lasers
Infrared light	• Generated by sunlight, thermal radiation, incandescent light bulbs, lasers, remote controls
Microwave radiation	• Generated by microwaves, cellphones, and data transmission
Radio frequency radiation	• Generated by AM and FM radio signals, cellphone and data communications, and by radio frequency heaters used to bond vinyls and plastics
Extremely low frequency radiation	• Generated by transmission lines, old CRT computer monitors

TYPES OF NON – IOZINING RADIATION

Most people are not aware that they are being exposed to these non – ionizing radiation.

MORE DANGERS

Each type of radiation causes different effects on human tissue. The closer workers are to the source of non – ionizing radiation, the more exposure they will experience.

Some jobs expose workers to more non-ionizing radiation than others. Higher exposure work includes:

- Maintenance on radio, cell or TV towers
- Roofing
- Painting
- Building maintenance
- Building inspection
- Window washing
- Welding
- Glassmaking
- Furnaces
- Outdoor workers

RADIATION HEALTH EFFECTS

Workers will be exposed to radiation dependent on what type of radiation they are exposed to:

Extremely low frequency radiation	• Little to no health effects even when working directly at the source of the radiation
Radio frequency radiation and microwave radiation	• Nerve or muscle stimulation • Heat stress as the body warms up, especially in warmer weather • Eye damage (cataracts) • Numbness in the hands
Ultraviolet radiation	• Sunburn • Skin cancer • Welder’s “arc-eye” • Cataracts
Infrared radiation	• Skin burns • Cataracts • Retinal burns

There is increasing concern around the world that exposure to Very Low Frequency and Extra Low Frequency increases the incidence of a number of cancers. A number of studies have found:

- Increased rates of cancer, in particular leukemia and brain tumors in adults and children living close to power transmission lines.
- Workers in the electricity supply, electronics and communications industries.
- For workers exposed to electronic equipment such as computers and telephone equipment a possible association between the exposure and effects such as miscarriage and various cancers.

There is a great deal of controversy regarding the potential health effects of some types of non-ionizing radiation. There is no doubt that UV radiation causes cancer, but the effects of lower frequency radiation (for example radiation from mobile phones, power lines, electric equipment) are not well known. The truth is that no-one really knows exactly how dangerous some forms of radiation are. There are various reasons for this: the effects may be small and difficult to detect. We are all exposed to various types of radiation in our daily lives, and not enough research has been done.

HOW TO PROTECT YOURSELF

The best way to reduce the risk of exposure to non-ionizing radiation is to eliminate the source of exposure. If that's not possible, there are other **RISK CONTROLS** to use which will be identified in your exposure control plan. To protect workers from discreet sources, creating distance between them and the source of the non-ionizing radiation is often effective. As the worker moves away, exposure quickly decreases. If the source is not from a specific location or increasing the distance from the source is not possible, shielding might be appropriate.

RISK CONTROLS

Engineering

Making physical modifications to facilities, equipment, and processes can reduce exposure. Some questions to consider:

- Can guards or barriers be used to restrict access to high exposure areas?
- Can antennas be raised so they are above the working level of the roof?
- Can shields be erected to eliminate nearby workers from exposure?

Administrative

Changing work practices and work policies, and using awareness tools, and training, can limit the risk of non-ionizing radiation exposure. Some questions to consider:

- Can the equipment be turned off to do work around it?
- Is access to communication and data transmitting equipment secured or restricted?
- Can warning signs be posted to indicate high radiation areas?
- Can the amount of time workers spend near the antenna be limited?
- Can a notification system be set up to alert contractors when an antenna is present?
- Is a UV protection program in place?

Personal protective equipment

This is the least preferred control. It must always be used in addition to at least one other control. Some questions to consider:

- Do workers have the proper eyewear and protective clothing?
- Has personal protective equipment been verified to ensure it is working properly?
- Is sunscreen provided?

FINAL WORD

Talk to your members of your work group about the hazards of radiation and their control and any effects they may be experiencing on a regular basis.

Reasonable Suspicion for Supervisors

WHAT'S AT STAKE?

Every organization needs supervisors who are able to appropriately and effectively identify possible substance abuse on the job.

Reasonable Suspicion Supervisor Training delivers the necessary tools and skills to recognize and appropriately handle employees exhibiting signs of substance abuse.

Supervisors must determine whether or not reasonable suspicion exists and what to do when they suspect it.

WHAT'S THE DANGER?

Delivery drivers, machine operators, field workers and warehouse personnel regularly perform safety-sensitive tasks as part of their normal work day.

And while performing those safety-related activities under the influence of drugs or alcohol may seem unthinkable for most of us, it surely happens; every day in thousands of workplaces across the country.

8% of full-time workers report that they are current illicit drug

users, and 4% of workers reported using alcohol 4 hours prior to reporting for work.

These statistics only further highlight the need for implementing a program to identify workers with substance abuse issues.

Substance abusers cost employers approximately \$10,000/year due to absenteeism, low productivity, lost time accidents, and increased health and Workers Compensation Board (WCB) costs.

Many employers solely focus their efforts on drug and alcohol testing programs but overlook education for their employees. Many employees are not aware of how drugs and alcohol negatively impact safety, productivity, and culture on a job site.

HOW TO PROTECT YOURSELF

The importance of reasonable suspicion for supervisors.

Significant training for any position in companies is required.

It is also important that supervisors feel confident and comfortable in their role. Reasonable Suspicion Training increases the safety of company's work-site and their workforce.

Underlying the proposition that Reasonable Suspicion Training is beneficial and necessary for companies and workers, what is reasonable suspicion??

Supervisors are trained to find any of the following signs in workers.

- The odor of alcohol or a controlled substance on the breath
- Unsteady gait
- Slurred speech
- Difficulty conversing or understanding
- Dilated or pinpoint pupils
- Red or glassy eyes
- Hyperactivity or drowsiness
- Confusion
- Anxiety

- Excessive thirst or hunger
- Distorted sense of time
- Flat emotions or exaggerated emotions
- Difficulty focusing eyes and/or attention
- Observation of the consumption of alcohol
- Observation of the possession of a controlled substance or use of a controlled substance that is reported by a credible source

The following is an overview for Supervisors Reasonable Suspicion Training:

- A worker must submit to a drug/alcohol test if the supervisor has reasonable suspicion to believe that the worker is using drugs/alcohol on the job.
- A supervisor must be knowledgeable in the signs and symptoms of drug/alcohol use.
- The supervisor must document the suspicion carefully.

Supervisor's Training

Key elements:

- Recognize the signs and symptoms of alcohol abuse and controlled substance use.
- Know how to approach workers in a professional and respectful manner.
- Have a high level of confidence in relation to reasonable suspicion testing responsibilities.
- Alcohol and drugs explained (Marijuana, cocaine, Amphetamines, Methamphetamines, Opiates, Phencyclidine)
- Assumptions:
 - No tolerance policy for this behavior in safety sensitive positions.
 - Professional and respectful methods must be employed.
 - Policy and procedure must be followed.
 - Zero tolerance does not necessarily equate with termination if the worker is found to be under the influence.

Reasonable Suspicion Training – The Benefits

1. Decreases the chance of mistakes and delays in the production line- in any workforce it is important that all workers are safe and efficiently completing their job tasks.
2. Decreases absenteeism rate- ensuring that all workers are regularly attending their scheduled shifts, this will increase productivity and efficiency.
3. Decreases the likelihood of theft and vandalism to equipment- equipment in any industry can be costly, so it is important to have a trusting workforce to ensure the equipment and tools being used at the worksite will remain in good hands.

Mechanics / Procedures of Reasonable Suspicion Training

Employers must understand that you cannot test employees randomly without proper documentation and proof.

Being trained in reasonable suspicion is a critical element in preventing impaired employees from endangering themselves and the people they interact with. What's required is a systematic approach to preparation, investigation and response. It's a valuable first line of defense that might just save someone's life.

The reasonable suspicion training process has five components – observation, confirmation, documentation, confrontation and testing.

Observation is witnessing, firsthand, behavior that is unusual, erratic, unpredictable or otherwise uncharacteristic. This step usually results in an employee informing a supervisor of something that he or she directly observed from a coworker (See Toolbox Talk below).

Confirmation is the process of verifying the observation. Upon notification, the person trained in reasonable suspicion will make his/her own observations that validate or refute the initial report.

Documentation should be done by the person that has been trained

in reasonable suspicion, and more specifically, by the person that participated in the confirmation process. By confirming the reported behavior, signs and symptoms observed can clearly be articulated in written form to memorialize that stage of the process. Proper documentation is critical, especially in cases that ultimately result in legal proceedings.

A written record must be prepared and signed within 24 hours of the observation. Any conversations that have taken place between the observer and relevant parties should be documented as well. Only signs and symptoms that have been observed can be noted. This is not an environment for hyperbole, supposition, intuition or unsubstantiated hearsay. Best practices for documentation are provided in the Toolbox Talk.

Confrontation must take place in a private setting. This is the phase in which the person trained in reasonable suspicion outlines what was observed and why alcohol/drug testing is required. The worker must be informed that he or she has been removed from all safety-sensitive functions until which time testing results allow for a return to normal work duty. Not all employees take this news graciously. Unpredictable responses are common. Proper training will include techniques that can prepare you for most situations that could arise. Follow-up documentation of the proceedings in this phase is a must.

Testing is a time-sensitive step. Only the supervisor trained in reasonable suspicion that has conducted the observation should order a test. Initiating a reasonable suspicion test based on third-party observations is prohibited. If the test is conducted away from the premises, the person being tested should not drive. Transportation to the testing site should be done by a person of the same gender. The supervisor making the determination that reasonable suspicion exists may not conduct the test.

FINAL WORD

It is essential to make sure your workers have a proper understanding of what reasonable suspicion training entails. Being

prepared is necessary and it is best for a company to ensure they are handling a substance abuse situation efficiently and effectively.

Safe Lifting and Ergonomics Safety Talk

Safe lifting practices and ergonomics go “hand in hand”. Ergonomic can be defined as the study of people in their working environment. The back is an apt starting point in the study of ergonomics. Why? Because back injuries are a major cause of lost workdays – and represent *nearly a quarter of lost time and half of all compensation costs*, both short and long-term.