SECTION 7.0 | CODE OF SAFE PRACTICES

7.1 | General Safety Guidelines

1. Follow the established safe job procedures. You are to perform only those jobs you have been assigned and properly instructed to perform.
2. Wear the protective equipment required for your job as established by your supervisor through job instruction. It is your responsibility to see that protective equipment is in good repair. Damaged equipment should be reported to your supervisor immediately.
3. Report unsafe acts or unsafe conditions to your supervisor without delay.
4. Report all accidents to your supervisor immediately whether anyone is hurt or not. In cases of injury, get first aid as soon as possible.
5. Keep all mechanical safeguards in position during operation.
6. Put the main switch in an "off" position when making adjustments, when setting up jobs or when the machine is to remain idle for any length of time. Don't allow machinery to operate unattended.
7. Use only the machinery, equipment, and tools you are qualified and authorized to use by the supervisor.
8. Horseplay, such as scuffling, practical jokes, or throwing articles at each other will not be tolerated.
9. No employee is permitted to make repairs on any electrical device or equipment unless authorized to do so. Electrical equipment is not to be tampered with in any way.
10. Machine master switches are to be tagged or locked open when major repair, oiling and greasing or maintenance is being performed.
11. The covers on switch boxes and fuse stations are to be kept closed at all times.
12. All employees are requested to walk - not run while they are within the work area.
13. No employee will be permitted to remove any guard installed over the point of operation, power transmission, or moving parts without permission from the supervisor and then only after proper safety procedures have been followed.
14. Compressed air should never be used for cleaning clothes, cooling or practical jokes. Violation of this rule can result in serious injury or death.
15. Fire extinguishers, sprinklers or fire exits are not to be blocked by supplies, stock, or parts at any time.
16. No worker will be permitted to use flammable solvents in an open container. Flammables must be stored and handled in approved safety containers.
17. First aid will be administered only by the First Aid Department or specifically authorized personnel. Under no circumstances shall any employee attempt to remove foreign objects from the eyes or ears of a fellow employee.
18. Riding hand trucks and hitching rides on forklifts is prohibited.
19. The use of any tools, machinery, or equipment for the personal use of any employee, whether on company time or not shall not be permitted.
20. Only qualified maintenance persons authorized by supervision are permitted to repair machinery and equipment.
21. Safety equipment such as brushes, safety glasses, shields, safety shoes, etc., shall be used whenever the operation or job requires them.

Employees who violate these safety guidelines may be subject to disciplinary action.

7.2 | Asbestos

Friable (loose and crumbly) asbestos is very hazardous. Inhaling asbestos fibers can cause lung cancer. Remember these safety rules for working around asbestos.

1. Always check for asbestos warning labels and signs and take the necessary precautions.
2. If you're not sure something contains asbestos, ASK!
3. Never cut, hammer, or otherwise damage asbestos-containing materials.
4. Use ventilation systems, enclosures, wet processes, and other protections to prevent release of asbestos fibers.
5. Wear respirators and other required personal protective equipment (PPE).
6. Never wear your contaminated clothing outside the work area.
7. Make sure you don't contaminate clean areas or street clothing with asbestos.
8. Treat any dust or waste that could contain asbestos carefully. Wet it when possible, and use a high-efficiency particulate air (HEPA) vacuum to clean it up.
9. Dispose of asbestos-contaminated clothing and waste in proper labeled, sealed containers.
10. Don't smoke if you work around asbestos – better yet, don't smoke at all!
11. Cooperate with air monitoring and medical surveillance programs. They're designed to protect you.

7.3 | Compressed Air

1. Check the condition of the hose. Air hoses are designed to withstand pressure, but become weakened at bends, kinks, and connections to shut-off valves and nozzles. Such weak points may swell and burst, throwing pieces of hose in every direction, also causing the hose to thrash about dangerously.
2. Keep the air hose off the floor. It is a tripping hazard and is subject to damage by trucks, doors, and dropped tools.
3. Always coil the hose, without kinks, and hang it over a broad support when not in use.
4. Where you have a choice of pressure, use the lowest pressure possible.
5. Air pressure against the skin may penetrate deeply to cause internal hemorrhage and intense pain. Air that enters body openings may burst internal organs.
6. It is dangerous to use compressed air to remove dust from clothing. Use safer, better ways of cleaning dust from your clothes. Dust blown from anything merely rises and settles again to become a nuisance.
7. Air compressors shall be equipped with pressure relief valves and pressure gauge.
8. Use low pressure (under 30psi) and the correct nozzle to remove duct or particles from jigs, fixtures, or deep holes in parts. Wear cup type goggles and set up shields to protect others in the area.
9. For transferring liquids from properly rated pressure vessels, check air pressure, attach hose connection tightly, remain at the control valve to shut off in emergency, and make sure bleed-off valve and pressure relief valve work. Never use compressed air to transfer flammable liquids.
10. Air filters shall be installed on the compressor intake to ensure only clean, uncontaminated air enters the compressor.
11. Safety devices on compressed air systems shall be checked frequently.
12. Before any repair work is done on the pressure system of a compressor, the pressure shall be bled off and the system locked-out.
13. Signs shall be posted to warn of the automatic starting.
14. Feature of the compressors.
15. The belt drive system shall be totally enclosed to provide protection for the front, back, top and sides.
16. When compressed air is used with abrasive blast cleaning equipment, the operating valve shall be of the type that must be held open manually.
17. A clip-on chuck and an in-line regulator (preset to 40psi) shall be required when compressed air is used to inflate auto tires.

7.4 | Construction Site Safety

1. **Perimeter Barricades:** Entire construction site should be fenced, or otherwise secured, to prevent unauthorized persons from intentionally or unintentionally entering the work site.

2. **Internal Barricades:** Barricades will help warn workers of hazardous areas where dangerous conditions might exist.
3. **Tools:** Tools should be well maintained. They should be properly stored when not in use. The correct tool should always be used for the job.
4. **Walkways:** Walkways should be clearly marked and roped off, allowing employees to safely enter and leave the work site.
5. **Housekeeping:** All debris, tools, and equipment, should be picked up and either stored or disposed of in the proper location.
6. **Excavations:** Excavations should get special attention and a detailed company procedure should be followed.
7. **Above Ground Work:** Ladders and scaffolds should be regularly inspected for damage and weakness. Specific safety rules should be adopted for these devices.
8. **Electricity:** Electrical power sources not necessary for construction should be shut off. Insulate all wiring and post warnings around live wires. Fuses, circuit breakers, and ground fault interrupters should be used to help prevent shock injury. Be aware of the dangers of overhead wires.
9. **Fires:** Fire protection equipment should be made available, and employees trained in proper use.
10. **Personal Protective Equipment:** Safety equipment such as shoes, gloves, hard hats, and eye protection should be provided to all employees at the site. All employees should use and maintain these items.

7.5 | Corrosives

Corrosives are substances that can destroy other materials on contact. They can eat through skin, clothing and sometimes metal. Corrosives may react violently when they contact other substances – like water. Some examples of corrosive substances include

- **Acids** – they are often used for cleaning solutions and in the manufacture of textiles, fertilizers, and explosives
- **Alkalines** (also called bases or caustics) - they are widely used in cleaning agents, fertilizers, and pharmaceutical products.
- **Oxiders** – Fluorine and Chlorine have corrosive properties

To work safely with Corrosives, follow these general safety rules.

1. ALWAYS read the Safety Data Sheet (SDS) to know the proper type of protection.
2. Use chemical-resistant safety goggles and full-face shields. Bases are particularly dangerous causes of eye damage or even blindness.
3. Use body protection like rubber gloves, rubber aprons, or full-body suits plus safety shoes. Skin exposure can produce irritation like contact dermatitis, burns, or blisters.
4. Use a properly fitted respirator as breathing corrosive mist can cause nose, mouth, and throat irritation, and large amounts can cause bronchitis or severe lung cancer.
5. DO NOT swallow corrosives. This can severely damage the throat or stomach or even cause death.
6. Always follow safety procedures
7. Make sure there is adequate ventilation
8. Keep cigarettes, food, and drinks out of work area and away from corrosives.
9. Thoroughly wash hands after using corrosives.
10. If you haven't had special training, don't try to clean up a corrosive spill yourself. Call in the workers who have been trained.
11. In case of exposure, follow the first-aid instructions on the SDS right away.
    a. For skin contact, remove contaminated clothing and wash thoroughly
    b. For eye-contact, flush with water for at least 15 minutes
    c. For inhaling vapors, get to fresh air immediately.
    d. Always get prompt medical attention

7.6 | Electrical

1. When electrical equipment or lines are to be serviced, maintained, or adjusted, necessary switches should be opened, locked-out and tagged-out whenever possible.
2. All portable electrical tools and equipment should be grounded or double insulated.
3. Extension cords should have grounded conductors and insulation in good condition.
4. Use of metal ladders is prohibited in areas where the ladder or the person using the ladder could encounter energized parts of equipment, fixtures, or circuit conductors.
5. Exposed wiring and cords with frayed or deteriorated insulation should be repaired or replaced.
6. All cord, cable and raceway connections should be intact and secured. All unused openings in electrical enclosures and fittings closed with appropriate covers, plugs, or plates. Electrical enclosures such as switches, receptacles, or junction boxes should be provided with tight fitting covers or plates.
7. Ground fault circuit interrupters should be installed on each temporary 15 or 20 amperes, 120-volt AC circuit at locations where construction, demolition, modifications, alterations or excavations are being performed.
8. Electrical installations in hazardous dust or vapor areas should meet the National Electrical Code (NEC) for hazardous locations Class I, Division 1.
9. Inspect all electrical equipment before using. Use only equipment in good condition.
10. Start and end electrical equipment with switch in "OFF" position. Do not leave the switch in the "ON" position and use the plug to turn the equipment on and off.
11. Installation work should follow the National Electric Code Standards, OSHA, local building codes and ordinances. This work should be performed by a qualified and fully licensed electrician.
12. Fixtures, appliances, and equipment used should be listed or labeled by Underwriters Laboratories or another nationally accepted testing organization.

7.7 | Eye Protection

In all operations where striking and struck tools are used, or where the cutting action of a tool causes particles to fly, eye protection (American National Standards Institute Z87.1- Practice for Occupational and Educational Eye and Face Protection) is needed by the user of the tool and by others who may be exposed to flying particles.

1. Protective equipment, including personal protective equipment for eyes and face, shall be used, and maintained in a sanitary and reliable condition. This protection should be used whenever it is necessary by reason of hazards of processes or entrainment, chemical hazards, radiological hazards, or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation, or physical contact.
2. Where employees provide their own protective equipment, the employee shall be responsible to assure its adequacy, including proper maintenance, and sanitation of such equipment.
3. Protective eye and face equipment shall be required where there is a reasonable probability of injury that can be prevented by such equipment.
4. Persons whose vision requires the use of corrective lenses in spectacles, and who are required by this standard to wear eye protection, shall wear goggles or spectacles of the following types: spectacles whose protective lenses provide optical protection or goggles that can be worn over corrective lenses mounted behind the protective lenses.
5. Safety goggles or face shields should be worn when woodworking or cutting tools, such as chisels, brace bits, planes, scrapers, and saws are used and there is a chance of particles falling or flying into the eyes.
6. Eye protection should be worn when working with grinders, buffing wheels and scratch brushes.
7. Jobs such as cutting wire and cable, hand drilling, removing nails, chipping concrete, shoveling material, or working under objects where particles of materials may fall require eye protection.
8. Wear eye protection, keep it clean and fit for use, wear the right protection for the job.
9. Follow appropriate first aid for eye injuries.

7.8 | Fire Extinguishers

1. A fire extinguisher rated not less than 2A 10B:C, should be provided for each 3,000 square feet of the protected building area or major fraction thereof. Travel distance from any point of the protected area to the nearest fire extinguisher shall not exceed 75 feet.
2. One or more fire extinguishers should be provided for each floor. In multi-story buildings, at least one fire extinguisher should be posted adjacent to the stairway.
3. Fire extinguishers should be conspicuously located and readily accessible at all times. They should be periodically inspected and maintained in operating condition.
4. Carbon tetrachloride and other toxic vaporizing liquid fire extinguishers are prohibited.
5. Each fire extinguisher is considered professional equipment and its effectiveness in protecting property depends on knowing: What it can and cannot do, how to use it, where to install it, how to maintain it, knowledge of classes or types of fires, what class or classes of fire the extinguisher is capable of extinguishing.
6. Training should be provided for the use of fire extinguishers.

Classes of Fires

Class A — Fires in ordinary combustible materials (wood, paper, cloth)
Class B — Fires involving flammable liquids, gasses and greases
Class C — Fires which involve energized electrical equipment
Class D — Fires in combustible metals
Class K — Fires associated with cooking oils, fats, and grease

7.9 | Flammable and Combustible Liquids

A flammable liquid is defined as any liquid whose flash point, the temperature at which vapors can ignite when there is a spark, flame, or static electricity, is below 100 degrees F. At higher concentrations and higher temperatures, the vapors of the liquid can ignite or explode without a spark. Most flammable liquids are volatile, evaporate quickly, and reach a concentration in the air that could lead to an explosion. Some highly volatile flammable liquids are gasoline, acetone, and alcohol. Containers with these flammable liquids must be marked with a red label indicating the hazard. To work safely with flammable liquids the three potential hazards: temperature, concentration of vapor and ignition sources must be controlled. A combustible liquid is defined as any liquid whose flash point is at or above 100 degrees F.

1. Only approved containers and portable tanks shall be used for storage and handling of flammable and combustible liquids.
2. No more than 60 gallons of flammable or combustible liquids shall be stored in any one storage cabinet. No more than three storage cabinets may be in a single storage area.
3. Inside storage rooms for flammable and combustible liquids shall be of fire resistive construction, have self-closing fire doors at all openings, 4 inch sills or depressed floors, a ventilation system that provides at least six air changes within the room per hour, and electrical wiring and equipment approved for Class I, Division 1 locations.
4. Storage in containers outside buildings shall not exceed 1,100 gallons in any one pile or area. The storage shall be graded to divert possible spills away from building or other exposures or shall be surrounded by a curb or dike. Storage areas shall be located at least 20 feet from any building and shall be free from weeds, debris, and other combustible materials not necessary to the storage.
5. "No Smoking" signs shall be posted in service and refueling areas.
6. Drums containing Class I flammable liquids shall be grounded and bonded before and during dispensing into containers.
7. All flammable and combustible liquid wastes shall be kept in fire-resistant, covered containers.
8. Appropriate fire extinguishers shall be mounted within 50 feet of outside areas containing flammable liquids and within 10 feet of any inside storage area for such materials.
9. Listed Safety containers shall be used for the dispensing of flammable or combustible liquids.
10. All spills of flammable or combustible liquids shall be cleaned up promptly.

11. All flammable or combustible liquid storage tanks shall be adequately vented to prevent the development of excessive vacuum or pressure as a result of filling, emptying or atmosphere temperature changes.
12. All flammable or combustible liquid storage tanks shall be equipped with emergency venting that will relieve excessive internal pressure caused by fire exposure.
13. Flammable liquids shall be stored separately from other chemicals, especially reactive such as oxidizers.
14. All containers containing a flammable or combustible liquid shall be labeled correctly and clearly.

7.10 | Foot Protection

Foot protection is guarding your toes, ankles, and feet from injury. Manufacturers now offer a wide variety of protective devices for hazards in many industries. Manufacturers also continually update materials and engineering of their products to insure protection from new hazards.

The Occupational Safety and Health Administration (OSHA) have outlined regulations that specify foot protection for the workplace. These regulations can be found in the Code of Federal Regulations, 29 CFR 1910.136.

Types of Foot Injuries

Your feet are vulnerable to many types of skin diseases, cuts, punctures, burns, sprains, and fractures, but sharp or heavy objects falling on the foot are the primary source of injury. Other hazards include:

1. **Compression** — the foot or toe is squeezed between two objects or rolled over.
2. **Puncture** — a sharp object, like a nail, breaks through the sole.
3. **Electricity** — a hazard where workers use power tools or electric equipment.
4. **Slipping** — surface hazards such as oil, water, or chemicals causing falls.
5. **Chemicals** — chemicals corrode ordinary safety soles and can harm your feet.
6. **Extreme Heat or Cold** — insulation or ventilation is required; depends on climate.
7. **Wetness** — hazard may be slipping, but also discomfort and even fungal infections in your feet are wet for long periods of time.

Many facility operations or manufacturing processes involve a combination of hazards listed above.

Specific Types of Safety Shoes

1. **Safety Boots** — rubber or plastic safety boots offer protection against oil, water, acids, corrosives, and other industrial chemicals. They are also available with features like steel-toe caps, puncture resistant insoles, and metatarsal guards. Some rubber boots are made to be pulled over regular safety shoes.
2. **Electric Hazard Shoes** — these are used in areas where employees work on live or potentially live electrical circuits. The toe box is insulated from the shoe so there is no exposed metal. These shoes are most effective when dry and in good repair.
3. **Foundry Shoes** — foundry shoes are used by welders and molders where there is a hazard from hot splashes of molten metal or flying sparks. Instead of laces they have elastic gores to hold the top of the shoe close to the ankle. This way they can be removed quickly if hot metal or sparks get inside the shoe.
4. **Conductive Shoes** — this type of protective footwear is used where there is a danger of shock from high voltage. They permit the static electricity that builds up in the body of the wearer to drain off harmlessly into a conductive grounded floor. These shoes must have rubber or cork heels, no exposed metal parts, and a connector (from calf to heel) to pass electricity to the ground.
5. **Non-Conductive Shoes** — unlike conductive shoes, they do not require that the floor be conductive and grounded. They offer protection from the hazards of electric current in live circuits and equipment. Non-conductive shoes have rubber soles and no metal parts, so they insulate feet from the ground.
6. **Add-On Foot Protection** — Metatarsal guards and shoe covers can be attached to shoes for greater protection from falling objects. Strap-on wooden-soled sandals can be used for protection against the underfoot hazards of oils, acids, hot water, caustic, or sharp objects. Rubber spats protect feet and ankles against chemicals. Puncture-proof inserts made of steel can be slipped into shoes to protect against underfoot hazards. Strap-on cleats fastened to shoes provide greater protection.

Footwear should always be matched to the job and to the hazards that are encountered there. It is important during the selection and purchases of safety footwear that shoes and boots meet the requirements recommended by the American National Standards Institute (ANSI) or ASTM International (ASTM), according to the OSHA regulations. ANSI approved footwear will show ANSI Z41 on the label inside shoes or boots made until 2005. The most current “Standard Specification for Performance Requirements for Protective Footwear” is ASTM F-2413.

7.11 | Forklift Trucks

Forklifts can haul and dump tubs of material, carry containers of molten metal and transport pallets of heavy products. A forklift can be adapted for almost any lifting and transporting task. Forklifts can be dangerous to people and property when operated incorrectly. Most forklift accidents result from operator error, increasing the importance of operator training. Suggested requirements for drivers are: satisfactory vision, hearing and health to perform the job safely, a mature attitude, a good vehicle driving record, a positive safety attitude, and a completion of a forklift operator training course.

1. Follow the manufacturer's instructions. Do not modify or extend the forks unless approved by the manufacturer.
2. When carrying a load, drive up a ramp or grade. Never drive down when you are carrying a load. Never make a turn while your forklift is on the ramp. Lower the forks to keep the center of gravity low.
3. Always use a proper dock board when loading a vehicle from the dock. Keep the forklift away from the edge of the loading dock.
4. Use dock boards with run-off protection where there is a hazard of running off the dock board edge.
5. Anchor portable dock boards to prevent the dock board from moving out of a safe position.
6. Make sure the parking brake is set and the wheels are chocked on the vehicle being loaded.
7. Place the forks all the way under the load. Space forks apart so they fit the load being lifted. This will help to maintain proper balance and prevent the load from falling. Never lift a load that appears to be unstable. Use belts to secure the load onto the forks.
8. Center the forks beneath the load being lifted. Lifting an uncentered load can cause the load to fall. Tilt the uprights slightly back when raising and carrying a load.
9. Do not carry any riders unless the truck is specifically designed for them. Always keep hands and feet inside. Never speed or allow unauthorized persons to drive a forklift.
10. Never smoke when refueling or when checking the battery of a forklift. Always turn off the engine when refueling.
11. Use a properly secured safety platform when the truck is to be used as a lifting device.
12. Never carry loads that obstruct your view.
13. When the forklift is parked, fully lower the forks, put the controls in neutral, turn off the engine, set the parking brake and remove the key.
14. When turning, reduce your speed and maneuver carefully.
15. Stay a safe distance away from other forklifts. Never drive side by side.
16. At blind corners, stop the forklift and sound the horn.
17. Know where low clearances, pipes, sprinklers, or low doorways are located.
18. A complete inspection of the forklift should be made prior to any operation of the unit.

If you find anything wrong, report it to your supervisor.

7.12 | Hand Safety

1. Analyze the workplace for hazards to the hands. Look at each job and consider the possible hazards to the hands.
2. Make sure all tools and machines are well maintained. Make sure all guards are in place.
3. Employees must be properly trained in the use of the tools and machines in their area.
4. Determine the proper protective equipment and make sure it is available to all employees who need it. Reinforce it by developing a company-wide hand protection policy.

Preventing Hand Injuries

1. Use protective gloves or other protection whenever necessary. There are gloves to protect against heat, cold, sharp objects, chemicals, electricity, and a wide variety of other hazards.
2. Gloves should not be worn around tools and machinery with rotating or moving parts, such as grinders, drills, lathes or milling machines.
3. Watches, rings, bracelets, or other jewelry should be removed, and loose-fitting clothing avoided.
4. Use tools and equipment only for the job they were designed for.
5. The workplace should be clean and well organized, and the tools and equipment well maintained.
6. Tools and equipment should have their guards in place.

7.13 | Hoists and Cranes

These are the suggested general guidelines for hoists and cranes. Additional safety guidelines may be required to meet your specific safety needs.

The proper installation, operation, testing and maintenance of cranes and hoisting devices are a continuing responsibility of the owner/user. All hoists and cranes should be inspected according to OSHA and industry standards. This includes annual, as well as daily pre-use inspections. These should be documented, signed, and dated. Special attention should be paid to swivel bolts, load hooks, ropes, brakes, limit switches, and anti-two blocking devices. A competent person trained in the applicable safety requirements must be present to oversee the operations.

1. Only trained and certified (as necessary) employees are permitted to operate any hoisting device or crane. The crane operator will check to make sure the crane is level, stable, and fit for use before lifting operations.
2. Special rules and regulations apply when using a hoist or crane for a personnel lift.
3. The safe load capacity of each hoist should be clearly posted on the hoist body.
4. All employees working with hoisting apparatus should be trained on safe lifting/rigging practices and operating rules. The operator is responsible for compliance to safe procedures and to maintaining safe operating conditions of the lifting equipment.
5. Communicate in advance with site workers about the planned lift.
6. A load should be picked up only when it is directly under the hoist.
7. All hoists should be attached to their supports and have adequate design factor for the maximum loads to be hoisted.
8. All lifting hooks will have operating safety latches.
9. All slings will be inspected prior to use.
10. Any modifications to equipment or attachments must be approved.
11. Use appropriate tag lines to control the load.
12. Each control cord should be nonconductive unless they are grounded.
13. Each control cord should be clearly marked "hoist" or "lower."
14. Equipment should be kept away from energized power lines.
15. When using hand signals, standard hand signals should be posted on the equipment or in the vicinity of the hoisting operation. Other communication such as voice or audible must be clear, understandable, and reliable.

7.14 | Hot Work

Hot work is any operation producing open flames, heat, or sparks. Some examples of hot work are cutting, grinding, brazing, welding, soldering, thawing pipe, and torch-applied roofing. Hot work introduces a potential ignition source to combustible materials. Failure to follow a hot work policy can contribute to an extreme fire loss. It is important to support the Hot Work Policy of any facility where work is done. These facilities may require the use of a Hot Work Permit system where a permit is issued for a specific hot operation to be conducted during a set period. This is a method of work authorization that includes fire safety checks.

Fire Prevention and Protection

1. Get a "Hot Work Permit" filled out by the facility manager before doing any hot work.
2. If the object to be welded, cut, or soldered cannot be moved, all movable fire hazards in the vicinity should be taken to a safe place away.
3. If the object to be welded or cut cannot be moved, and all the fire hazards cannot be removed, then guards must be used to confine the heat, sparks, and slag for protecting the immovable fire hazards. Only approved welding blankets should be used to cover combustible materials.
4. If hot work operations are conducted in a building protected by automatic sprinklers, verify the sprinkler system is in-service before conducting any hot work operations.
5. A fire watch must be continuously present during the entire hot work activity and 30 minutes after completion. In addition, a follow up check of the work area should be done every 30 minutes for 4 hours after the welding and cutting are completed where moderate combustion may occur.
6. If the requirements listed above cannot be followed, welding and cutting should not be performed.

The use of permits may be discretionary in certain situations. Permits are required when a recognized fire hazard exists or there is a need for special precautions. When "hot work" is routine such as a minor soldering required in day-to-day maintenance, or plumbing, and there is no unusual fire hazard, then a permit may not be required. Even when a permit may not be required, persons undertaking any "hot work" are responsible for fire safety precautions appropriate to the situation.

7.15 | Ladders

A ladder is an appliance usually consisting of two side rails joined at regular intervals by cross pieces called steps, rungs, or cleats, on which a person may step in ascending or descending. There are variations called step ladder, single ladder, extension ladder, fixed ladder, job-made ladder, platform ladder, and sectional ladder. Ladders are constructed of wood, metal, aluminum, or fiberglass.

Proper Selection

1. Select a ladder of proper duty rating to support combined weight of user and materials.
2. Ladders are available with duty ratings of 200, 225, 250, and 300 lbs.
3. Select a ladder of proper length to safely reach the desired height.

Inspection Before Each Use

1. Inspect thoroughly for missing or damaged components. Never use a damaged ladder and never make temporary repairs.
2. Inspect thoroughly for loose fasteners. Make sure all working parts are in good working order. Lubricate if necessary.
3. Clean ladder of all foreign material (wet paint, mud, snow, grease, oil).
4. Destroy ladder if damaged, worn, or exposed to fire or chemicals. Bring back the ladder to the shop, tag for inspection; put a note on your daily report and management will make the decision of destruction.

Consider Before Each Use

1. Metal ladders conduct electricity. Keep away from electrical circuits or wires.
2. Consult manufacturers for use in chemical or other corrosive environments.
3. Use ladder only as outlined in instructions. Ladders are designed for one person only.
4. Do not use it in high winds or during a storm.
5. Keep shoes clean. Leather shoes should not be used.
6. Never leave ladder set-up and unattended.

Proper Setup and Use

1. Use help in setting up the ladder if possible.
2. Do not place it on unstable, loose, or slippery surfaces. Do not place it in front of unlocked doors. Ladders are not intended to be used on scaffolds.

3. Secure base section before raising ladder to upright position. Do not raise or lower with the fly section extended.
4. Extend and retract the fly section only from the ground when no one is on the ladder.
5. Do not overextend. A minimum overlap of section is required as follows:
    - Ladder size up to and including 32 feet: 3-foot overlap
    - Over 32 feet up to and including 36 feet: 4-foot overlap
    - Over 36 feet up to and including 48 feet: 5-foot overlap
    - Sizes over 48 feet: 6-foot overlap
6. Position ladder against upper support surface. Make sure the ladder does not lean to the side. Ladder must make a 75-degree angle with the ground.
7. Erect ladder approximately 3 feet beyond upper support point.
8. Check that the top and bottom of the ladder are properly supported. Make sure rung locks are engaged before climbing.
9. Face ladder when climbing up or down. Maintain a firm grip. Use both hands in climbing.
10. Keep the body centered between side rails. Do not overreach. Get down and move the ladder as needed.
11. Fly section must have safety shoes if used as a single ladder.

Proper Care and Storage

1. Hang ladder on racks at intervals of 6 feet for support.
2. Never paint a wooden ladder. Treat with wood preservatives.
3. Protect wooden ladder from exposure to the elements but allow good ventilation. Keep away from heat and moisture.

7.16 | Lead

Lead is a toxic metal that is widely used in construction sites and manufacturing facilities. It is also found in various types of batteries, glazes, plastics, and many other building materials. By prioritizing prevention, working environments can significantly reduce the risks associated with lead exposure and ensure the health and safety of all individuals.

1. Wear appropriate Personal Protective Equipment (PPE). This includes disposable coveralls, gloves, hats, and shoes or disposable shoe covers. Do not rub your sleeves against your face or hands.
2. Use a properly fitted respirator. Only HEPA respirators will filter lead dust and fumes.
3. Keep the work area clean by using wet cleaning methods or by using a vacuum with a HEPA filter. Do not use compressed air or dry sweep to clean.
4. Use shears instead of a saw or torch for cutting metal. If using a torch, use a long-handled torch and stand away from the smoke when cutting metal.
5. Strip back paint before cutting or welding.
6. Mist surfaces with water before sanding or scraping lead-contained paint.
7. Attach power tools to a commercial HEPA vacuum. Make sure the tool also has a shroud for better dust collection.
8. Don’t take lead dust home. Wash, shower, and change out of your work clothes and shoes before leaving work. Don’t wear work clothes in rest areas or keep them with personal clothing worn outside of work. Don’t take contaminated work clothing or shoes exposed to lead home.
9. Don’t take shortcuts! Always follow recommended ways of doing your job.
10. Request a blood lead level test every 6 months if exposed to lead for long periods of time.

7.17 | Machine Guarding

1. Guards are put on machines for one purpose.....**to protect!**
2. Machines without guards or suitable safety devices in place must not be operated.
3. Only authorized personnel should remove or adjust guards or safety devices.
4. Be sure the main power switch for the machine is locked and tagged before removing the guard or safety devices.
5. Guards isolate hazards from workers. Safety devices also save fingers, limbs, and lives. They protect from distractions, impatience and accidents caused by inattention.

6. A guard or safety device not secured or functioning improperly can create an additional hazard. Inspect guards or safety devices regularly and keep them in good repair.
7. Manufacturer installed guards and safety devices may not be enough. Review the working purpose of your machine. If need be, install additional guards or safety devices at point-of-operations at other hazardous areas.
8. Do not bypass guards or safety devices. Trying to speed up production and save time only increases the chance for serious injury. Guard or safety devices are a vital part of any safe environment.

7.18 | Material Handling

1. Aisles and doorways should provide adequate clearances.
2. Aisles and doorways should be designated, permanently marked, and kept clear to allow unhindered passage.
3. Hand operated and motorized vehicles should be adequate for the load and operation.
4. All dock plates and loading ramps should be constructed and maintained with sufficient strength to support the required load.
5. Maintain hand operated and motorized vehicles in a safe operating condition.
6. Pallets should be of the proper size and strength to the imposed load.
7. Shelving should be maintained and of proper strength to support the required load.
8. Hooks with safety latches should be used when hoisting materials.
9. Securing chains, ropes and slings should be adequate to support the required load.
10. Keep floors clean, dry and free of oil.
11. Practice proper lifting techniques.
12. Use hand operated or motorized vehicles to move heavy loads.
13. Employees should be trained in the proper operation of material handling equipment.

7.19 | Office Safety

1. Each office should have fire extinguishing equipment available and a training program on how to use extinguishers.
2. An evacuation plan should be in place with periodic fire drills and training.
3. Inspect the workplace using a Facility Inspection Form.
4. Exit signs should be lighted and clearly visible and emergency lighting should be installed.
5. Aisles should be kept clear to allow for easy travel and exit in the event of an emergency.
6. Doors to stairwells and to exits should not be blocked. These areas should be clearly marked.
7. Store inks, solvents and any other flammable or combustible liquid properly and use in small amounts only.
8. Trash and rubbish should be properly stored and discarded daily.
9. Machines should be grounded, and the use of extension cords should be avoided.
10. Non-carpeted walking surfaces should be swept and mopped frequently to prevent grease and dirt buildup. Carpeted floors should be vacuumed regularly.
11. Spills should be cleaned immediately.
12. Use signs or barriers to warn of wet floors.
13. Loads of 40 pounds or more should not be lifted manually. Proper lifting techniques should be utilized.
14. Chairs should never be used in place of a ladder.
15. Chairs should be stable and have at least a 5-point base.
16. Adjustable seating should be used for different builds of people and for different tasks.
17. Armrests for chairs should be low and short enough to fit the chair under the work surface and allow the user to get close enough to the work surface to use the chair backrest.
18. Thin keyboards should be used to minimize wrist deviation or keyboard palm rests should be used.
19. A short rest break should be encouraged after each hour of video display work is performed.
20. A physician approved first aid kit should be available for emergency use.
21. Work areas should be well illuminated; however, glare should be reduced by lowering the lighting.
22. Window glare can be reduced by providing drapes or blinds.
23. Items stored on racks and shelves should not be overhanging or protruding so as to cause personal injury.

24. Available heating, air conditioning and ventilation systems should be kept in proper working order.
25. Do not leave file drawers open and unattended.

7.20 | Portable Hand Tools

1. The correct tool should be utilized for the job and used in a correct manner.
2. If a job requires excessive force or bending of the wrist creating stress, a powered tool or a differently shaped tool should be used.
3. Tools should be kept in good working condition. Damaged, worn, or defective tools can cause injuries and should not be used.
4. Keep tools in a safe place. Do not leave tools on the floor or above work areas.
5. Sharpened tools should not be carried in pockets or left in toolboxes with cutting edges exposed.
6. Appropriate personal protective equipment, such as safety goggles and gloves, should be worn to protect against hazards that may be encountered while using hand tools.
7. Keep the blades of all cutting tools sharp.
8. Carry all sharp tools in sheaths or holsters.
9. Do not use a tool if its handle has splinters, burrs, cracks, splits or if the head of the tool is loose.
10. Do not use impact tools such as hammers, chisels, punches, or steel stakes that have mushroomed heads.
11. When handing a tool to another person, direct sharp points and cutting edges away from yourself and the other person.
12. Do not chop at heights above your head when working with a hand ax.
13. Do not carry sharp or pointed hand tools such as screwdrivers, scribes, aviation snips, scrapers, chisels, or files in your pocket unless the tool or pocket is sheathed.
14. Do not perform "make-shift" repairs to tools.
15. Do not use "cheaters" on load binders or "boomers."
16. Do not carry tools in your hand when climbing. Carry tools in tool belts or hoist the tools to the work area with a hand line.
17. Do not throw tools from one location to another, from one employee to another, from scaffolds or other elevated platforms.

7.21 | Power Tools

1. Electric power operated tools should either be approved double insulated, be properly grounded, or used with ground fault circuit interrupters.
2. Power tools should not be used until proper instruction has been given and authorization given by a supervisor.
3. Guards on machinery and equipment should not be removed without authorization.
4. The power tool should be off, and motion stopped before the tool is set down.
5. Disconnect the tool from the power source before changing bits or blades or attempting any repair or adjustment. Never leave a running tool unattended.
6. Inspect electrical extension cords and other wiring to be certain they are properly insulated and grounded. Do not use frayed or damaged cords.
7. A power tool must never be used with a safety guard removed.
8. All fixed power-driven woodworking tools should be provided with a disconnect switch that can either be locked or tagged in the off position.
9. Only trained employees will be allowed to operate power actuated tools. All power actuated tools will be tested daily before use and defects discovered before and during use will be corrected. Tools will not be loaded until immediately before use.
10. Never operate power actuated tools in, near or around water.

7.22 | Safe Backing

1. Whenever possible, avoid backing situations. Find a parking spot that will allow you to leave without backing.

2. Avoid blocking the rearward, inside view with equipment and stock. Does the cargo safety cage block the view? How high is the load stacked?
3. Increase the size of the side mirrors to gain a larger, clearer picture of hazards behind the vehicle.
4. Install a wide-view, convex mirror on the upper rear driver's side of the vehicle.
5. Drivers should walk completely around the vehicle, looking for dangers. Watch for overhangs too.
6. When preparing to go back, roll down the window and turn off the radio. The driver should check all mirrors and look over both shoulders before starting to back. Sound the horn twice to provide further warning for pedestrians. Back up s-l-o-w-l-y!
7. If a second person is available, use this person to guide the backing vehicle. The guide should stand at the left rear driver's side of the vehicle (if room) and use full motion arm signals . . . not hand signals . . . to assist the driver. If the driver loses visual contact with the ground guide, backing should stop at once.
8. Use orange traffic cones set out behind the vehicle if backing will be required upon leaving.

7.23 | Safe Lifting

Most back injuries are the result of improper lifting techniques. The worst lifting situations occur when the body is extended over the load. Keep the back straight to shift the weight of the load being lifted onto powerful leg muscles, thus reducing the lever effect caused when the body is extended over the load.

1. Keep in good physical condition. Difficult lifting tasks should not be attempted if not accustomed to vigorous exercise.
2. Think before lifting. Make certain there is adequate space and clear aisle ways. Also, plan for a place to set the load down.
3. Maintain a good grip on the load by using the palms of the hands.
4. Lift with the load close to the body. The closer the load is to the spine, the less force it exerts on the back. This is one of the most important rules in lifting.
5. Test the load before handling it. If it appears to be too heavy or bulky, get help or some type of mechanical aid.
6. Place the feet close to the load. The feet should be far enough apart for stability, have one foot slightly ahead of the other and pointed in the direction of movement.
7. Tighten stomach muscles. Abdominal muscles support the spine when lifting, offsetting the force it exerts on the back.
8. Lift with your legs. The stronger leg muscles are better suited for lifting than the weaker back muscles.
9. Keep the back straight, head up whether lifting or putting down the load. Avoid twisting, it can cause injury.

Think Before You Lift

1. **Mental Lifting** — Lift the load twice, by first lifting the load mentally.
2. **Find a Better Way** — Mechanical help can be used to avoid heavy loads, twisting motions, repetitive motions, bulky loads, vertical lifting, and uneven surfaces. Pushcarts, conveyors, two wheeled carts, hoists, or forklifts are good examples of material handling devices that can be used.
3. **Push, Don't Pull** — Twice as much can be pushed than pulled, while running less risk of back injury.
4. **Watch Your Footing** — Wear proper footwear, take small steps, go slowly, and clear a proper pathway free from tripping hazards.
5. **Hand Safety** - Inspect materials for slivers, jagged or sharp edges, burns, and rough or slippery surfaces. Wipe off greasy, wet, or dirty objects before trying to handle them.

7.24 | Scaffolding

When work cannot be performed safely from the ground, or from solid construction, scaffolds must be supplied and erected according to the applicable standards for the employees involved.

1. Scaffolds must be erected by a qualified individual (they must certify the scaffolding is safe to use)
2. Scaffolds, by their very nature, present a danger of falling or being struck by something falling. Because this possibility exists, certain safety precautions must be kept in mind when working on or around scaffolds. Follow OSHA standards in 29 CFR 1926 Subpart L.

3. When erecting a scaffold be sure it can support at least four times the maximum load, including the weight of materials, workers and the scaffold itself. The height must not exceed four times the minimum base dimensions as well. Footings should be sound and rigid.
4. Check the scaffolding for damage prior to use. Damaged scaffolding should not be used.
5. Planking should be at least 2x10's, of scaffold grade, placed together to help keep materials and tools from falling. Choose planks that are straight grained and free of shakes, large or loose knots and other defects. Extend the planks beyond the center line of supports from 6 to 12 inches, and cleat or otherwise fasten so the planking stays in place.
6. Always use a safe means of access when climbing a scaffold, such as a fixed or portable ladder, ramp, runway, or stairway. Climbing on cross braces is never acceptable.
7. While using a mobile scaffold, be certain to lock the wheels before beginning use. Do not ride or allow anyone to ride on scaffolding while it is being moved, unless the scaffolding is constructed of a specific alloy designed for occupied horizontal travel. All material and equipment should be removed or secured before moving the scaffold. Do not try to move a rolling scaffold without sufficient help. Be aware of holes in floors and overhead obstructions.
8. While working on a scaffold, do not allow tools and materials to accumulate in a manner that creates a hazard.
9. While working on a scaffold 10 feet or more above the ground, it must be equipped with guardrails including a toe board. Wear a safety belt and lifeline if a railing is impractical. When working near overhead electrical power lines, a minimum of 10 feet of clearance must be maintained. (Clearance will increase depending on voltage)
10. Always wear hard hats and other appropriate personal protective equipment.

Inspections

Scaffolding must be inspected by a qualified individual as per the manufacturer's recommendations. The qualified individual must also conduct inspections prior to each use and periodically throughout each shift.

1. A qualified individual inspects the scaffold after it is erected, prior to the start of the workday, and at the beginning of a shift change to ensure the scaffold is safe prior to and during use. At a minimum, the following shall be inspected:
    - Ensure there is no settling in the ground or surface footing.
    - Check for any signs of damage, missing pins, bolts, and any locks and/or safety keepers on all main supports and cross braces.
    - Check for damage, proper placement, and any possible movement of all walking surfaces and/or planks.
    - Check that all walkways and planks are secure to prevent movement.
2. The inspection will ensure that the scaffold is stable, and movement is prevented.
3. If a defect or damage to the scaffold is discovered during the inspection, the scaffold must be tagged out by the qualified individual. Use of the scaffold will be prohibited until the necessary repairs are made.

Mandatory Signs and Tags

1. Signs and tags must always be visible when performing work and must be promptly removed or covered when the hazards are abated. Tags shall also be used when defective equipment or unsafe conditions are found.
2. The qualified individual will tag out any defective or unsafe equipment or conditions (e.g., improper footings) shall use a weather resistant tag that is secured to the scaffolding structure on all four sides.
3. Only use danger signs where an immediate hazard exists. To alert other workers of possible danger from falling objects, post danger signs in the immediate area of the scaffold.
4. Caution - To mark off a larger area around scaffolding and warn other workers to use caution, use signs and/or barricade tape.

7.25 | Scissor Lifts

Scissors lifts are work platforms and are different from aerial lifts. Assess the worksite to identify possible hazards in order to select the appropriate equipment for the task.

1. Only trained and authorized workers are allowed to use scissor lifts.
2. Check to see that guardrails are secured in place before working on the scissor lift.
3. Only stand on the work platform; never stand on the guardrails.
4. Keep work within easy reach to avoid leaning away from the scissor lift.
5. Use the scissor lift outside only when weather conditions are good. Scissor lifts rated for outdoor use are generally limited to wind speeds below 28 miles per hour. CAUTION: Wind can make extended scissors lifts unstable!
6. Follow the manufacturer's instructions for safe movement—this usually rules out moving the lift while in an elevated position.
7. Isolate the scissor lift or have traffic control measures so other equipment cannot contact the scissor lift.
8. Have a firm, level surface, away from hazards that can cause instability (e.g., drop-offs, holes, slopes, bumps, ground obstructions, or debris).
9. Ensure that safety systems are maintained and not bypassed.
10. Never allow the weight on the work platform to exceed the manufacturer's load rating.
11. Never allow equipment other than the scissor mechanism to be used to raise the work platform (e.g., using a forklift to lift the work platform).
12. Keep the lift from being struck by other moving equipment on the worksite.
13. Use ground guides when operating or moving the scissor lift.
14. Select work locations that do not approach electrical power sources (e.g., power lines, transformers) by at least 10 feet and that do not pose other overhead hazards (e.g., other utilities, branches, overhangs, etc.).
15. If the job task requires work near an electrical source, ensure that the worker is qualified and has received the required electrical training.
16. Follow the manufacturer's instructions.
17. Test and inspect controls and components before each use. Report any equipment defects or maintenance needs.
18. Ensure that guardrail systems are in good working condition.
19. Verify that brakes once set will hold the scissor lift in position.

7.26 | Security

1. Protect building openings, docks, yards, and alleys with quality lighting.
2. Provide interior lighting over valuable merchandise and over the safe.
3. Control all security lighting by a timer or photo-electric cell.
4. All outside doors should have double cylinder deadbolt locks.
5. Utilize the bar extension lock on overhead doors, along with a case-hardened padlock.
6. Door hinges should not be located on outside of entrance doors or be secured in such a manner that pins cannot be removed.
7. Windows should be equipped with locks, bars, or wire mesh. Protect window bars and wire mesh from outside tampering.
8. Security fencing should be provided for the entire open lot. Try to make it a "man proof" type of fencing. Maintain the fence and check it regularly. Fence gates should have padlocks.
9. Develop a written procedure for securing the building and yard at the end of the business day.
10. Metal locking cross bars can also be added on outside doors to provide extra security.
11. For life safety purposes, provide single cylinder locks, panic bars or alarmed releasing bars on outside doors.

7.27 | Silica

Crystalline silica is a basic component of soil, sand, granite, and other materials. Quartz is the most common form of crystalline silica. Silica dust is formed when workers chip, cut, drill or grind objects that contain silica. Breathing silica dust can cause cancer and a disease called Silicosis. There is no cure for Silicosis and it can be disabling or even fatal. Following these general safety practices can help to keep you safe from silica exposure.

1. Be aware of operations and jobs that create crystalline silica exposures.
2. Use engineering controls such as local exhaust ventilation and blasting cabinets.

3. Wear an N95 OSHA certified respirator or a Type CE abrasive-blast supplied-air respirator for abrasive blasting.
4. Vacuum the dust from your work clothes when you are finished working in operations where silica dust is produced. Remove work clothes and wash or shower before putting on street clothes.
5. Do not use compressed air to clean dust off of surfaces, equipment or yourself.
6. Don't eat, drink, or apply cosmetics in areas where silica dust is present. Wash your hands and face outside of the dusty areas before performing any of these activities.
7. Participate in training, exposure monitoring, and health screening and surveillance programs offered at the job site to monitor any adverse health effects caused by crystalline silica exposures.
8. Always report any symptoms of Silicosis. Acute Silicosis can occur after a few months to 2 years following exposures to *EXTREMELY HIGH* concentrations of silica dust. Symptoms of Acute Silicosis include severe, disabling, shortness of breath, weakness, and weight loss. Accelerated and Chronic Silicosis can occur after several years of low, moderate, or high exposure.

7.28 | Slip, Trip, and Fall Prevention

Slips, trips, and falls can happen to anyone, anytime, anywhere. The resulting injuries can be severe. While there is no single method to prevent all slips and falls, we should be deliberate to check the walking areas for conditions that may create slip, trip, or fall hazards. The most common causes of slips and falls include unsafe use of ladders, jumping on or off lift gates, slippery surfaces, inappropriate footwear, poor lighting, and obstacles on walkways, inattention and haste.

1. Mop the floor in the area of spills immediately and post a sign stating, "Wet Floor". Never leave spills unattended.
2. Follow the flooring surface manufacturer instructions for cleaning and treatment.
3. An oil absorbing material should be used to control small oil spills in the workplace.
4. During inclement weather keep rugs, mats, and floors dry. Snow and ice should be removed from all sidewalks, drives and access points used by the general public or employees. Post wet floor signs.
5. Keep all floors, stairs, ladders, walkways, sidewalks, and driveways in good repair.
6. Be aware that electrical cords cause many tripping injuries.
7. Good housekeeping is a must in accident prevention.
8. Stairs, aisles, and walkways should be clearly marked and kept free of any material.
9. Look at each job and work area to consider the possible hazards.
10. Special precautions such as the use of guardrails, a safety net, or personal fall protection systems are needed for when working at heights four feet above a lower level or on a roof.

7.29 | Spray Painting

1. Conduct all spray-painting operations according to NFPA Standard No. 33 "Standard for Spray Applications Using Flammable and Combustible Materials."
2. Conduct all spray-painting operations in a factory built, approved spray-painting booth.
3. Construct the walls, floors, ceiling and doorways of steel concrete, masonry, or other noncombustible material.
4. All electrical wiring and equipment should be approved for Class I, Division 1 hazardous locations.
5. No open flame or spark producing equipment should be located within the spray area.
6. Heat should be ducted into the booth, with no heat sources inside the booth.
7. Keep only one day's supply of flammable or combustible liquids stored inside the booth.
8. Mechanical ventilation, adequate to remove flammable or combustible vapors, mists, residues, dusts, or deposits to a safe location, should be provided and must be in operation while spray painting.
9. The mechanical ventilation exhaust motor should be located outside the path of escaping vapors.
10. The mechanical ventilation system should also be located within 18 inches of floor level.
11. Replace filters and clean the ventilation system frequently. Remove overspray from the spray area and mechanical ventilation system on a regular basis.
12. Always maintain good housekeeping practices.
13. Personal protective equipment should be worn by all employees engaged in spray painting operations.
14. Know and understand the SDS available to you.

15. "No Smoking" signs shall be posted in the spray-painting area.

7.30 | Trenching and Excavating

Guidelines are suggested for trenching and excavating. Additional safety guidelines may be required to meet individual specific safety needs. Utility installations, such as sewer, telephone, fuel, electric, water, or any other underground installations that reasonably may be expected to be encountered during excavation work, shall be determined prior to opening an excavation. This can be accomplished by contacting the local or state "one-call" system before digging.

1. When the excavation is open, underground installations shall be protected, supported, or removed as necessary to safeguard employees.
2. Each employee in an excavation shall be protected from cave-ins by an adequate protective system:
    a. Any excavation more than five feet deep, slope the sides no more steeply than the proper angle of repose or soil conditions.
    b. Proper shoring
    c. Trench box, as recommended by OSHA. (angle of repose-The greatest angle above the horizontal at which a material will lie without sliding. This varies for different soil conditions.)
3. Keep excavated materials a minimum of two feet from the edge of the trench.
4. In trenches more than four feet deep, locate adequate means of exit, such as ladders, or steps, so they can be reached in no more than 25 feet of travel from anywhere in the trench. Where atmospheric hazards could reasonably be expected, test or low oxygen and hazardous or toxic gasses.
5. Keep heavy loads of all kinds as far from the trench as possible.
6. Do not allow water, rain, ground water, surface water to accumulate in a trench. Water reduces soil stability.
7. Daily inspections of excavations, the adjacent areas and protective systems shall be made by a competent person prior to the start of work and as needed throughout the shift. If evidence of a situation that could result in a possible cave-in, indications of failure of protective systems, hazardous atmospheres or other hazardous conditions are found, exposed employees shall be removed from the hazardous area until the necessary precautions have been taken to ensure their safety.
8. Never touch a piece of excavation machinery while it is in operation.
9. Always stand in view of the machine operator, and out of the way. Never stand at the edge of the excavation.
10. In locations where oxygen deficiency or gaseous conditions are possible, the air in excavations shall be tested.
11. Unattended excavations must be lighted and barricaded. Keep non-workers away from the trench, particularly at night.
12. When excavating near traffic areas safety vests shall be worn by all employees involved.
13. Full bodied safety harness will be utilized for extreme conditions.
14. Head protection shall be required of everyone at the job site.

7.31 | Welding and Cutting

1. Wear proper eye safety protection during welding and cutting operations.
2. Ventilation should be provided whenever welding, cutting, or heating is being performed.
3. Arc welding and cutting operations will be shielded by noncombustible or flame-proof shields to protect employees from direct rays.
4. A suitable fire extinguisher should be readily available when welding, cutting, or heating operations are being conducted.
5. Always clear the area below cutting or welding operations so hot slag will not drop on hoses, cables, or employees.
6. When electrode holders are left unattended, electrodes should be removed, and the holder should be placed or protected so it cannot make electrical contact. All arc welding and cutting cables should be completely insulated.
7. Always wear required eye protection to guard against slag while chipping, grinding, and dressing of welds. Always wear a welding hood to protect eyes from flash burns.

8. Fuel gas and oxygen hoses must be easily distinguishable and not interchangeable. Inspect hoses daily and repair or replace if defective.
9. Always store cylinders properly on a welding cart or secured to a wall with a chain.
10. All tank valves should be closed when equipment is not in use.
11. Do not cut or weld around gasoline tanks or attempt to weld or cut a container that has stored a flammable or combustible liquid.
12. Welding or cutting equipment should not be operated unless proper training has been provided.