SAFETY BRIEFINGS

General Industry Topics

NCDOL
N.C. Department of Labor

Cherie Berry
Commissioner of Labor

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I hope that this safety briefings booklet will help lead job safety and health discussions that will raise awareness, reduce injuries and illness, and prevent fatalities.

This informational booklet is intended to provide a generic, non-exhaustive overview of particular standards-related topics. This publication does not itself alter or determine compliance responsibilities, which are set forth in standards themselves and the Occupational Safety and Health Act of North Carolina.

Moreover, because interpretations and enforcement policy may change over time, for additional guidance on occupational safety and health compliance requirements, the reader should consult current administrative interpretations and decisions by the Occupational Safety and Health Review Commission of North Carolina and the courts.

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Asbestos

Hazards: Exposure to asbestos has been shown to cause lung cancer, mesothelioma, and cancer of the stomach and colon. Smoking increases the health risk.

Asbestos Exposure:
Asbestos fibers are very small. If you inhale them, they can go deep into your lungs and cause disease up to 40 years later. Asbestos products can release fibers into the air when they become friable, or are abraded, cut or disturbed. Asbestos products are called friable when you can crush them with finger and hand pressure alone. Exposure to asbestos fibers commonly occurs when renovating or demolishing older structures.

Common Sources:
Asbestos may be in automotive brake and clutch linings, roofing felt, roof patch material, vinyl, tile, linoleum backing, transite, asbestos cement pipe and sheet, pipe insulation, fireproofing and spray-on decorative acoustical ceiling material. Most new products don't contain asbestos (but imported foreign materials may contain it).

Safe Practices:
- Assign a competent person to administer the company's asbestos compliance program.
- Send suspected materials for testing.
- Conduct daily or periodic air monitoring.
- Train crews who work with asbestos.
- Have workers get regular medical exams.
- Train housekeeping staff about cleaning and buffing asbestos floors.

Controls:
- Restrict access to asbestos regulated areas.
- Post warning signs.
- Employee rotation cannot be used to comply with the permissible exposure limits.
- Use high efficiency particulate air (HEPA) filtered National Institute of Occupational Safety and Health (NIOSH) respirators and full body coverage. Filtering facepiece respirators ("dust masks") cannot be used to protect against asbestos.
- Use power tools equipped with HEPA-filtered local exhaust ventilation.
- Keep asbestos-containing materials wet to reduce dust.

Asbestos

continued

- Asbestos-containing waste and asbestos-contaminated clothing must be disposed of in leak-tight 6-millimeter thick plastic bags, plastic-lined cardboard containers or plastic-lined metal containers.
- When stripping asbestos flooring, use burnishing pads are speeds below 300 revolutions per minute (rpm) and use wet methods.
- Dry buff only asbestos or suspected asbestos flooring with sufficient finish.
- Follow compliance methods for brake and clutch repair.

Beryllium

Hazards: Exposure to beryllium can lead to beryllium sensitization, chronic beryllium disease (CBD, also known as berylliosis) and lung cancer.

Beryllium Exposure:
Exposure to beryllium can occur through inhalation of, or skin contact with, beryllium-containing dust, fumes, mist or solutions.

Common Sources:
Beryllium is used industrially as a pure metal, as beryllium oxide and, most commonly, as an alloy with copper, aluminum or nickel. Beryllium is stronger than steel and lighter than aluminum. Because of its great strength-to-weight, high melting point, and excellent thermal stability and conductivity, reflectivity and transparency to x-rays, it is an essential material for use in the aerospace, telecommunications, information technology, defense, medical and nuclear industries.

Safe Practices:
- Medical exams for certain employees who are exposed to beryllium.
- Training for employees.
- Written Exposure Control Plan that identifies sources of exposure to beryllium and the control measures implemented in that establishment.

Controls:
- Engineering controls: substitution, isolation, local exhaust ventilation, or process control.
- Limit employee access to high exposure areas.
- Provide personal protective clothing where high exposures or dermal contact are possible.
- Provide respirators when necessary.

Bloodborne Pathogens/First Aid

Hazards: Delayed medical treatment and infection from bloodborne pathogens can lead to disease.

Safe Practices:
- Have a written exposure control plan identifying at-risk workers, safe work practices and provide training.
- Implement engineering and work practice controls.
- In absence of a medical professional or facility that is reasonable located, ensure trained first aid providers are available.
- Ensure first aid and cardiopulmonary resuscitation (CPR) providers are certified by an accredited trainer.
- Ensure first aid supplies are available in a weatherproof container and checked weekly for replacement of expended items.
- Specify the means to protect employees (examples include providing personal protective equipment).
- Offer hepatitis B vaccination and post-exposure evaluation and follow-up.
- Have emergency numbers available and ensure communication systems are functioning.

During an Emergency:
- Act promptly.
- Assess injured workers' situation and call for emergency help.
- Use one-way protective device to perform mouth-to-mouth resuscitation.
- Use pressure to stop bleeding; ensure gloves are used to protect from blood exposure.
- Use a tourniquet only when absolutely necessary.
- Prevent shock by wrapping the victim in blankets.
- Do not move a person with a back or neck injury unless a greater hazard exists (e.g., fire). Move victim on a backboard.
- Splint broken bones and joints.
- Do not give liquids to an unconscious victim.
- Clean and bandage surface wounds with sterile bandages.

Compressed Gases

Hazards: Burns, poisoning and bodily injury.

Storage:
- Mark empty cylinders and close valves.
- Always keep gas cylinders properly secured and in an upright position.
- Keep valve protection caps in place whenever cylinders are not in use.

Safe Practices:
- Do not use cylinders as rollers or supports.
- Keep all cylinders, cylinder valves, couplings, regulators, hoses and apparatuses free of oily or greasy substances.
- Unless secured on special trucks, regulators must be removed, and valve-protection caps put in place before moving cylinders.
- Never crack open a fuel gas cylinder valve near sources of ignition.
- Close valve and release gas from the regulator before removing it.
- Visually inspect compressed gas cylinders regularly for signs of defect, deep rusting or leakage.
- Use pressure-reducing regulators only for the gas and pressures for which they are intended.
- Open cylinder valves slowly and carefully.
- When a cylinder wrench is needed on the valve, keep the wrench nearby to turn off the valve quickly if necessary.
- Use red to identify the acetylene (and other fuel gas) hose, green for the oxygen hose, and black for the inert gas and air hose.
- Only qualified technicians should clear or repair a regulator.
- Do not tamper with the relief valve or remove it from a regulator.
- Read safety data sheets (SDSs) and train employees about fuel gases.
- Never allow oxygen to contact oil, grease or other flammable substances.
- Never use oxygen as a substitute for compressed air.
- Never use oxygen to dust off clothing, in pneumatic tools or for ventilation.

Confined Spaces, Permit-required

Hazards: Suffocation, poisoning, burns, electrocution, and entanglement.

OSHA uses the term “permit-required confined space” (permit space) to describe a confined space that has one or more of the following characteristics: contains or has the potential to contain a hazardous atmosphere; contains a material that has the potential to engulf an entrant; has walls that converge inward or floors that slope downward and taper into a smaller area that could trap or asphyxiate an entrant; or contains any other recognized safety or health hazard, such as unguarded machinery, exposed live wires or heat stress.

Safe Practices:

- All employees should be instructed of the nature of the hazards involved, the necessary precautions to be taken, and in the use of required protective and emergency equipment.
- Confined spaces should be emptied of any corrosive or hazardous substances or vapors, such as acids or flammables, before entry.
- All lines to the confined space that contain inert, toxic, flammable or corrosive materials should have valve turned off and blanked or disconnected and separated before entry.
- All impellers, agitators or other moving parts inside confined spaces should be locked out.
- Provide mechanical ventilation before confined space entry.
- Test the atmosphere sequentially for oxygen deficiency, explosive concentrations and toxic substances before entry.
- Test the atmosphere continuously or frequently during the work.
- Check the confined space for possible industrial waste that could contain toxic properties.
- Check the space for animal matter or decaying vegetation that may produce methane, carbon dioxide and other hazardous gases.
- Provide approved and appropriate respiratory equipment if the atmosphere inside the confined space cannot be made acceptable for breathing.

Confined Spaces, Permit-required

continued

- Provide adequate illumination for the work to be performed in the confined space.
- Assign a safety standby person outside of the confined space who will be responsible to watch the work in progress, sound an alarm if necessary and render assistance.
- Safety standby employees should be trained and equipped to handle an emergency.
- Rescue equipment and personnel should be immediately available.
- Provide a means of communication for the standby person to summon emergency help.
- Ensure all portable electrical equipment used is either grounded and insulated or equipped with ground fault protection.
- Ensure hot work permits are provided for any hot work conducted in a confined space.
- Before gas welding or burning is started in a confined space, ensure hoses are checked for leaks, compressed gas bottles are forbidden inside of the space, torches are lighted outside of the space area, and the confined area is tested for an explosive atmosphere each time before a lighted torch is taken into the confined space.
- Any employee who will be using oxygen-consuming equipment (e.g., salamanders, torches and furnaces in a confined space) should be provided with sufficient air to ensure combustion without reducing the oxygen concentration of the atmosphere below 19.5 percent by volume or creating a toxic atmosphere.
- Whenever combustion-type equipment is used, make provisions to exhaust gases to outside of the enclosure.
- Check for carbon monoxide if the space is below ground level or near areas where motor vehicles operate.
- All safe work practices should be incorporated into a written permit space program.

Electrical

Hazards: Burns, shock and electrocutions.

Safe Practices:

- All tools and equipment (both company and employee owned) should be maintained in good condition.
- Work on or near energized electrical circuits is prohibited unless done by a qualified person.
- Use of frayed or worn electrical cords or cables is prohibited.
- Keep a minimum clear working space of at least 3 feet for electrical equipment of 150 volts or less.
- Working space in front of electrical equipment should be the width of the equipment or 30 inches, whichever is greater.
- Inspect portable electric tools before use to ensure that the cord and plug are in good condition.
- Broken or damaged tools and equipment are to be removed from service.
- Portable electrical tools and equipment should be grounded or double insulated.
- When performing activities using temporary wiring, use a ground-fault circuit interrupter (GFCI) with every power tool to protect against electrical shock hazards.
- Ensure that electrical equipment and cords used in wet or damp locations are approved for those locations.
- Listed, labeled or certified equipment should be used in accordance with their instructions.
- When a circuit breaker is removed from a circuit breaker panel, it needs to be replaced with either another breaker or a blank.
- Unused openings in electrical boxes should be effectively closed.
- Bypassing protective systems or devices designed to protect employees from contact with electrical current is prohibited.
- Electrical cords should be protected from physical damage.
- Electrical equipment should only be used as approved.
- When employees are exposed to areas of arc flash potential, always perform a flash hazard analysis and acquire the appropriate flame-resistant clothing.
- Utilize lockout/tagout procedures when working on equipment that can be energized.

Emergency Action Plans

Purpose: Ensure employees evacuate safely in the event of an emergency.

Safe Practices:

- Incorporate emergency procedures within an emergency action plan.
- Procedures for reporting fires and other emergencies.
- Emergency evacuation procedures, type of evacuation and evacuation route assignments.
- Procedures for staff remaining to operate critical plant operations before evacuating.
- Procedures to account for all employees after evacuation.
- Rescue and medical duties for employees who are supposed to perform these duties.
- Ensure employee alarm system can be heard above ambient noise or light levels, is distinctive or recognizable, tested every two months, and unobstructed and readily available
- Names/job titles of employees to contact for more information about the plan or an explanation of assigned job duties.
- Procedures established for sounding alarms in the workplace.
- Employees trained initially upon employment, whenever duties change and whenever plan changes.

Fire Prevention

Hazards: Burns and smoke inhalation.

Safe Practices:

- Ensure fire extinguishers are provided near all welding, soldering and other sources of ignition.
- Ensure fire extinguishers are available and readily accessible in case of an emergency.
- Ensure that portable fire extinguishers are periodically inspected and maintained in accordance with Maintenance and Use of Portable Fire Extinguishers, National Fire Protection Association document NFPA 10A.
- Ensure that flammable and combustible materials are not stored in stairways or exits.
- Ensure that adequate ventilation is provided in areas where paints, solvents or other flammable materials are being applied.
- Ensure that gasoline and other flammable liquids are stored in safety cans or in an approved flammable storage cabinet or room.
- Ensure that flammable liquid leaks or spills are cleaned up immediately.
- Smoking prohibited near operations that constitute a fire hazard, and conspicuously post “No Smoking or Open Flames” signs.
- Solid fuel salamanders prohibited in buildings and on scaffolding.
- Ensure that space heaters are set horizontally level and used according to the manufacturer’s instructions.
- Ensure that an alarm system is established, so that employees and the local fire department can be alerted for an emergency.
- Procedures to control the accumulation of flammables and combustible waste materials.
- Incorporate fire prevention procedures within a fire prevention plan.

Flammable and Combustible Materials

Hazards: Fire, explosion and burns.

Safe Practices:

- Ensure combustible debris, waste materials (oily rags, etc.) and waste solvents are stored in covered metal receptacles.
- Remove waste materials from the worksite promptly.
- Provide approved containers and tanks for the storage and handling of flammable liquids.
- Use safety cans for dispensing flammable liquids at the point of use.
- Make connections on drums and piping tight to prevent leaks.
- Ensure all flammable liquids are kept in closed containers when not in use.
- Bond and ground drums of flammable liquid containers during transfer.
- Ensure storage rooms have explosion-proof lights and mechanical or gravity ventilation.
- Where flammable liquids are used or stored, post “No Smoking or Open Flames” signs.
- Physically guard liquefied petroleum gas storage tanks to prevent damage from vehicles (e.g., forklifts).
- To ensure support and stability, place firm separators between stacked containers of flammables.
- Separate fuel gas cylinders and oxygen cylinders by distance or fire-resistant barriers while in storage.
- Do not block or obstruct fire extinguishers.
- Keep fire extinguishers serviced, maintained and tagged at intervals not to exceed one year.
- Clean up all spills promptly.
- Ensure storage tanks are adequately vented to prevent excessive vacuum or pressure because of filling, emptying or atmosphere temperature changes.
- Ensure tanks are equipped with emergency venting.

Hazard Communication

Hazards: Chemical exposures through inhalation, skin absorption, and ingestion.

Safe Practices:

- Handling and using chemicals safely.
- What safety equipment or personal protective equipment is required.
- Do not remove or deface labels on incoming containers of hazardous chemicals.
- Know where safety data sheets (SDS) are maintained, how to use them and how they can be accessed. (Electronic access to SDSs is acceptable provided the employer can ensure employees are competent to access the information and adequate back-up is provided in the event of a power failure.)
- How to identify chemical hazards using warning labels, pictograms, and SDSs.
- Ensure all hazardous chemicals in the workplace are labeled.
- Know which operations have hazardous chemicals present.
- Adhere to posted hazard warnings (physical and health), protective measures, equipment requirements and reframe from prohibited activity.
- Consumer products used in the workplace in such a way that the duration and frequency of use are the same as that of a consumer are not covered in the hazard communication program.
- Incorporate safe procedures into a written hazard communication program.

Heat Illnesses

Symptoms: Headaches, dizziness, lightheadedness, weakness, mood changes (e.g., irritability or confusion), upset stomach, nausea, vomiting, decreased or dark-colored urine, fainting or passing out, and pale, clammy skin.

First Aid:

- Act immediately because heat exhaustion can quickly progress to heat stroke or death.
- Move the victim to a cool, shaded area to rest and stay with the person.
- If symptoms include dizziness or lightheadedness, lay the victim on his or her back and raise their legs 6 to 8 inches.
- If symptoms include nausea or upset stomach, lay the victim on their side.
- Loosen and remove any heavy clothing.
- Have the person drink cool water (a cup every 15 minutes) unless sick to the stomach.
- Cool the person's body by fanning and spraying with a cool mist of water or applying a wet cloth to the person's skin.
- Call 911 for emergency help if the person does not feel better in a few minutes.
- Heat stroke is a medical emergency.

Safe Practices:

- Do heaviest work during the coolest part of the day.
- Build up tolerance to the heat and the work activity over a two-week period.
- Work in pairs.
- Drink plenty of cool water, about a cup every 15 minutes.
- Wear light, loose-fitting breathable clothing.
- Take frequent short breaks in cool shaded areas to allow the body to cool down.
- Avoid eating large meals before hot work.
- Avoid alcoholic and caffeinated beverages.

Risk Factors:

- Certain medications increase sensitivity to heat so check with your pharmacist to see if any medicines you are taking affect you during hot work.
- A previous heat-induced illness.
- Personal protective equipment can add to physical stress.

Hexavalent Chromium

Hazards: Nasal irritation and ulceration, and lung cancer.

Hexavalent Chromium Exposure:
Workers can become exposed to hexavalent chromium, Cr(VI), through the preparation, addition and use of hexavalent chromium compounds for chrome plating operations, in the preparation and use of pigments and paints and corrosion-resistant protective coatings, and in hot work, such as welding and torch cutting on stainless steel.

Safe Practices:

- Do not blow dust off protective clothing and equipment.
- Do not use dry sweeping or compressed air for removing dust that may contain hexavalent chromium; use high efficiency particulate air (HEPA) filtered vacuuming.
- Keep working surfaces free of accumulations of Cr(VI)-containing materials.
- Medical surveillance for employees exposed above the action level 30 or more days a year.
- Include hexavalent chromium as part of the hazard communication training.

Control Methods:

- Use engineering controls such as substitution (using a less toxic material or process that results in lower exposures); isolation (enclosing the source of exposure); and ventilation (such as local exhaust ventilation near the source of the exposure).
- Use work practice controls such as making adjustments in the way a task is performed. For example, welders positioning the object being welded between themselves and the local exhaust ventilation.
- When engineering controls and work practice controls are not sufficient to maintain exposures below the permissible exposure limit (PEL) or cannot be implemented, use respirators.

Industrial Trucks (Forklifts)

Hazards: Roll-over injuries and struck-by injuries.

Safe Practices:

- Only trained personnel are allowed to operate industrial trucks.
- Substantial overhead protective equipment is to be provided on high lift rider equipment.
- All lift truck operating rules are posted and will be followed.
- Ensure directional lighting (head lights) is provided on each industrial truck that operates in dark areas.
- Each industrial truck should have functioning warning horn, whistle or other device that can be clearly heard above the normal noise in the area.
- Brakes on each industrial truck should be capable of bringing the vehicle to a complete and safe stop when fully loaded.
- Ensure truck's parking brake prevents the vehicle from moving when unattended.
- Ensure that industrial trucks operating in hazardous areas (e.g., where flammable gases or vapors, combustible dust, or ignitable fibers may be present) are approved for such locations.
- When industrial trucks with internal combustion engines operate in building or enclosed areas, carefully check to ensure such operations do not cause harmful concentrations of gases or fumes.
- Always use seatbelts.
- Do not remove passenger compartment guards or roll-over protection devices.
- Do not allow riders on sides or forks.
- Do not alter the truck in any way without the authorization of the manufacturer.

Industrial Trucks (Forklifts)

continued

- When transferring liquid propane (LP) gas from the storage containers to the fuel container of industrial trucks:
  - The vented gas from the gauge must not exceed the maximum flow allowed.
  - The filling operation must be performed outdoors, not less than 10 feet from the nearest masonry-walled building or not less than 25 feet from the nearest non-masonry-walled building or building opening.
  - The engine of the industrial truck must be shut off and the operator must get out of the truck during refueling.
  - Only trained and designated personnel may refill LP-gas containers.
- Ensure the wheels of trailers are chocked or dock locks are engaged before loading and unloading.
- Ensure dockboards and bridge plates are secured and in place before loading and unloading begins.
- Ensure that the weight of industrial trucks and their load does not exceed the rated capacity of dockboards and bridge plates.

Ladder Safety

Hazards: Falls and electrocution.

Inspection: Check to ensure shoes and ladder are free of oil, grease, wet paint and other slipping hazard; warning labels are legible; spreader device can be locked in place; and area around the top and bottom of the ladder is cleared of material.

Safe Practices:

- Base of a job-made wooden ladder should be one-eighth its length away from the wall.
- Read and follow all labels/markings on the ladder.
- Look for overhead power lines before handling a ladder and avoid using a metal ladder near power lines or exposed energized electrical equipment.
- Always inspect the ladder prior to using it. If the ladder is damaged, it must be removed from service and tagged until repaired or discarded.
- Do not use a self-supporting ladder (e.g., step ladder) as a single ladder or in a partially closed position.
- Do not use the top step/rung of a ladder as a step/rung unless it was designed for that purpose.
- Always maintain a three-point (two hands and a foot, or two feet and one hand) contact on the ladder when climbing.
- Keep your body near the middle of the step and always face the ladder while climbing.
- Only use ladders and appropriate accessories (ladder levelers, jacks or hooks) for their designed purposes.
- Ladders must be free of any slippery material on the rungs, steps or feet.
- Use a ladder only on a stable and level surface unless it has been secured (top or bottom) to prevent displacement.
- Do not place a ladder on boxes, barrels or other unstable bases (e.g., to obtain additional height).
- Do not move or shift a ladder while a person or equipment is on the ladder.

Ladder Safety

continued

- An extension or straight ladder used to access an elevated surface must extend at least 3 feet above the point of support.
- Do not stand on the three top rungs of a straight, single or extension ladder.
- The proper angle for setting up a ladder is to place its base a quarter of the working length of the ladder from the wall or other vertical surface.
- A ladder placed in any location where it can be displaced by other work activities must be secured to prevent displacement or a barricade must be erected to keep traffic away from the ladder.
- Store ladder so it will not warp, sag or be damaged; secure the ladder during transport.
- Be sure all locks on an extension ladder are properly engaged when in use.
- Do not exceed the maximum load rating of a ladder. Be aware of the ladder's load rating and of the weight it is supporting, including the weight of any tools or equipment.

Lockout/Tagout

Hazards: Amputations, fractures, electrocution and death.

Purpose: A way to ensure that electricity or other types of energy are not turned on (or released) while someone is performing repair or maintenance on equipment. Turning off a power switch is not enough. The equipment must be deenergized (prevented from starting or moving), locked out, stored energy released (for instance, bleed air from a pneumatic hose), and tested to verify the energy is off.

Safety Practices:

- Each piece of equipment should have its own lockout/tagout (LOTO) procedures.
- Notify operators and supervisors that power is being disconnected or isolated.
- Review specific written procedures that explain the shutdown and restart process.
- Shut down by turning off the equipment (depress the stop button, open switch, close valve, etc.).
- Separate all energy sources using proper isolating devices (manual circuit breakers or disconnect switches).
- Equipment will likely have more than one type of energy that needs to be isolated; push buttons or selector switches cannot be the only way to de-energize.
- Each employee who can be exposed to hazardous energy must be part of the LOTO process.
- Control stored energy or residual energy (e.g., discharge capacitors or drain hydraulic lines, release spring, air, gas, steam or water pressure, etc.).
- Verify equipment has been de-energized by trying to restart and using testing equipment (such as an electric circuit tester).
- Only the worker who puts on a lockout or tagout device may remove it.
- When work is finished, inspect to ensure all tools, mechanical restraints and electrical devices have been removed before you turn on power.

Lockout/Tagout

continued

- Warn affected employees that power will be restored.
- If the LOTO job is interrupted for testing or positioning equipment, the procedures must start over from the beginning.
- Notify affected employees when the servicing or maintenance is completed and that the machine or equipment is ready to use.

Material Handling

Hazards: Falling material and struck-by injuries.

Safe Practices:

- Inspect motorized vehicles and mechanized equipment daily or prior to use.
- Shut off vehicles and set brakes before manually loading or unloading.
- Secure trucks and trailers from movement during loading and unloading operations.
- Before unloading, inspect load for shift, displacement or instability.
- Do not store material under energized electrical lines or in emergency exit ways.
- Keep hand trucks in safe operating condition.
- Ensure safe clearance for equipment through aisles, doorways and roadways.
- Equip chutes with sideboards of sufficient height to prevent materials from free-falling.
- Equip hooks with safety latches when hoisting materials so that slings or load attachments will not slip off the hoist hooks accidentally.
- Ensure securing chains, ropes, chokers and slings are adequate for the job.
- Ensure no one will be passing under suspended loads.
- Prohibit employees from riding on top of any load that can shift, topple or otherwise become unstable.
- Ensure personnel do not ride in material hoist; post “No Riders Allowed” at the hoist.
- Ensure entrances to hoistways are protected with caution gates or bars.
- Ensure operators of vehicles on public roads have valid driver licenses.
- Ensure cutting tools or tools with sharp edges are placed in closed boxes or containers that are secured in place when tools are carried in passenger compartments of employee transport vehicles.
- Ensure safety data sheets are available to employees handling hazardous substances.

Personal Protective Equipment (PPE)

Hazards: Misuse or incorrect use and improper selection of equipment for the hazard can result in an injury or illness.

Purpose: Hazards should be abated through engineering or administrative controls first. If those controls are infeasible or not available, then personal protective equipment should be used to put a barrier between you and the hazards.

Safe Practices:

- Hearing protection should be used when noise exposures are at or above 90 decibels (dB) on a time-weighted average (TWA).
- Hard hats should be used when there are exposures to falling objects.
- Gloves and arm protection should be used when there are exposures to chemicals, heat, cold, radiation agents, abrasive surfaces or biological hazards.
- Respirators—Reference the Respirators topic page.
- Safety harnesses with lanyards should be used when there are exposures to fall hazards.
- Safety glasses should be used to protect the eyes from impact hazards, such as when using saws.
- Safety goggles should be used to protect the eyes from splash hazards.
- Face shields should be used to protect the face from splash hazards and worn with safety glasses or goggles.
- Welding hoods should be worn when performing cutting, welding or brazing operations.
- Airline abrasive blasting hoods should be used when sandblasting. Also reference Respirators topic page.
- Flame resistant (FR) protective clothing should be used when there are exposures to arc flash hazards or while working within the flash protection boundary; ensure all parts of the body are protected.
- Steel-toe shoes should be worn when there are exposures to heavy or falling objects.

Personal Protective Equipment (PPE)

continued

PPE Exempted From Employer Payment Requirements —Examples:

- Non-specialty safety toe protective footwear (e.g., steel-toe shoes/boots)
- Non-specialty prescription safety eyewear
- Sunglasses/sunscreen
- Lineman’s boots
- Ordinary rain gear
- Logging boots required under 1910.266(d)(1)(v)
- Ordinary cold weather gear (coats, parkas, cold weather gloves, winter boots)
- Back belts

PPE Payment Required by Employer—Examples (If used to comply with an OSHA standard):

- Metatarsal/toe cap foot protection
- Rubber boots with steel toes
- Non-prescription eye protection/goggles
- Prescription eyewear inserts/lenses for full face respirators and welding helmets
- Hardhat
- Hearing protection
- Welding PPE
- Face shields
- Firefighting PPE (helmet, gloves, boots, proximity suits, full gear)
- Items used in medical/laboratory settings to protect from exposure to infectious agents (aprons, lab coats, goggles, disposable gloves, shoe covers, etc.)
- Non-specialty gloves:
  - Payment is required if they are PPE. i.e., for protection from dermatitis, severe cuts/abrasions.
  - Payment is not required if they are only for keeping clean or for cold weather (with no safety or health consideration).
- Rubber sleeves
- Rubber insulating gloves
- Barrier creams (unless used solely for weather-related protection)

Personal Protective Equipment (PPE)

continued

- Self-contained breathing apparatus (SCBA), atmosphere-supplying respirators
- Atmosphere-purifying respirators (half-face, full-face, powered air purifying respirator (PAPR))
- Fall protection
- Climbing ensembles used by linemen (belts, climbing hooks)
- Personal floatation devices (life jackets)
- Window cleaner safety straps
- Encapsulating chemical protective suits
- Reflective work vests

Recording and Reporting

Purpose: To identify industries and establishments that have higher than average injury and illness rates; to facilitate timely investigations of fatalities and catastrophes.

Employers and Establishments That Must Record Injuries and Illnesses:
Unless the employer has an establishment that falls in one of the low hazard industries listed in Appendix A of Subpart B of Part 1904, employers having a total company employment of 11 or more employees must record any work-related event that results in one or more of the following: death; loss of consciousness; medical treatment beyond first aid; days away from work; restricted work or transfer to another job; a significant injury or illness diagnosed by a physician or other licensed health care professional.

Employers that are partially exempted from maintaining the OSHA Form 300 must still report any work-related fatality, loss of an eye, amputation, or in-patient hospitalization of one or more employees.

Forms That Must Be Used by the Employer to Record Work-Related Injuries and Illnesses:
The employer must use the OSHA Form 300 to log the event and complete a supplemental Form 301 or its equivalent for each entry on the OSHA Form 300. In North Carolina, employers can substitute a completed Workers Compensation (WC) Form 19 for the OSHA Form 301 since it also obtains the same information.

Recording the Incident:
The employer must record the incident on the OSHA 300 and accompanying OSHA 301 (or WC Form 19) within seven (7) calendar days of learning that a recordable injury or illness has occurred.

Recording and Reporting

continued

Posting the Annual Summary:
The OSHA Form 300-A, annual summary, must be posted for each establishment between February 1 and April 30 of the calendar year following the year for which the 300 log was maintained. The annual summary must be posted in a conspicuous place where employees can readily view the information. Following the end of the annual summary posting period, the employer must retain the annual summary with the corresponding injury and illness log and supplemental forms.

Electronically Reporting Injury and Illness Data:
Employers that are required to maintain injury and illness records must electronically report this information for each establishment having 250 or more employees using the OSHA Injury Tracking Application (ITA). In addition, employers who are required to maintain injury and illness records and have establishments having 20 to 249 employees in certain high hazard industries listed in Appendix A to Subpart E of Part 1904 must report the data for each affected establishment using the OSHA ITA.

Maintaining the OSHA 300, 301 and 300-A Forms:
The employer must maintain the OSHA 300, supplemental OSHA 301 (or WC Form 19) forms, and OSHA 300-A (annual summary) for five calendar years following the year to which they apply.

Reporting a Work-Related Incident:
The employer must report the following to the NC Department of Labor, Occupational Safety and Health (OSH) Division within the specified time frames:

- Fatality—8 hours
- Amputation (with or without bone loss)—24 hours
- Loss of an eye—24 hours
- In-patient hospitalization of one or more employees—24 hours

Reports can be made by calling 1-800-625-2267 or 919-779-8560.

Respirators

Hazards: Pulmonary system damage, acute or chronic.

Safe Practices: Respirators protect only the employee wearing them from an airborne contaminant, rather than reducing or eliminating the hazard from the workplace. Engineering and work practice controls are preferable because they eliminate and control the hazard.

- Conduct an exposure assessment to determine the type of respirator needed based on the type and amount of air contaminants present.
- Ensure that a written respirator program, which includes medical fitness and proper maintenance procedures, has been implemented when respirator use is required.
- Constantly ensure that respirators are properly fitted and worn.
- All respirator users must be fit tested annually to ensure they have a face-to-mask seal using either qualitative or quantitative methods to determine whether the mask still provides an acceptable fit to the wearer.
- Facial hair should not interfere with the face seal when fitting respirators.
- A copy of Appendix D should be provided to employees using a filtering facepiece (dust mask) voluntarily.
- Annually train respirator users regarding the respiratory protection program and its content.
- Inspect respirators for basic functions prior to each use.
- Clean reusable respirator facepieces as often as necessary to prevent unsanitary conditions.
- Half-face and full-face respirators can be used for protection against most vapors, acid gases, dusts or welding fumes.
- A self-contained breathing apparatus should only be used for entry and escape from atmospheres that are considered immediate dangerous to life and health (IDLH) or oxygen-deficient.

Scaffolding

Hazards: Falls that result in fractures or death.

Safe Practices:

- Scaffolds should only be erected according to the manufacturer's instructions.
- Safety instructions should be included when renting, leasing or purchasing scaffold equipment.
- Use screw jacks, base plates and mudsills to ensure adequate support.
- A guardrail system or fall arrest system should be used for scaffolds more than 10 feet above a lower level.
- Guardrails should be installed on all open sides and the ends of platforms.
- Safe access should be provided to scaffold platforms.
- Employees are prohibited from climbing the cross bracing as a means of access.
- Unstable objects will not be used to support scaffolds.
- Fully plank the working platform.
- Platforms should not deflect more than 1⁄60 of span when loaded.
- Scaffold should have locked wheels while employees are on the scaffold.
- Scaffolds are to be inspected before each shift by a competent person who can identify scaffold hazards and who has the authority to correct the hazards.
- Only employees that have been trained by a person qualified to recognize hazards associated with the type of scaffold and to understand the procedures to control or minimize hazards should be working on them.
- Employees erecting, dismantling, moving or inspecting the scaffolds must be trained to recognize hazards by a competent person.
- Employees will be retrained if they demonstrate a lack of skill or understanding of the scaffold safety requirements.

Silica, Respirable Crystalline

Hazards: Overexposure to respirable crystalline silica can lead to silicosis, an irreversible lung disease, lung cancer and kidney disease.

Respirable Crystalline Silica Exposure:
Exposure to respirable crystalline silica occurs through inhalation of silica-containing dust from silica compounds or that result when some type of mechanical action is done on silica-containing material. Respirable particles are those small enough to enter the air exchange regions deep within the lungs.

Common Sources:
Occupational exposure to respirable silica in general industry occurs in operations that process or use large quantities of sand, such as foundries, glass, pottery and concrete products industries, and in jewelry manufacturing. In addition, abrasive blasting using silica sand as the blast agent is a common source of exposure to respirable crystalline silica.

Safe Practices:

- Medical exams for certain employees who are exposed to respirable silica.
- Training for employees.
- Written compliance plan that identifies sources of exposure to respirable silica in the workplace and the control measures implemented in that establishment.
- Prohibit the use of compressed air or dry sweeping for removing silica dust from clothing or equipment.

Controls:

- Engineering controls: substitution, isolation, local exhaust ventilation, or process control.
- Limit the number of workers exposed to silica dust-generating processes.
- Provide respirators, but only when necessary.

Stairways

Hazards: Falls that result in fractures, strains and sprains.

Safe Practices:

- Provide fixed stairs from one structure level to another where operations necessitate regular travel between levels.
- Provide fixed stairs to access operating platforms at equipment requiring routine attention during operations and where employees may be exposed to acids, caustics, gases or other harmful substances.
- Ensure stair rails are installed on all stairways with four or more risers.
- Ensure that stair rail height is not less than 30 inches on installations before 1/17/2017 or not less than 42 inches on installations on and after 1/17/2017.
- Ensure guardrails are installed on all stairs prior to use.
- Ensure stairway platforms are no less than the width of a stairway and a minimum of 30 inches in length measured in the distance of travel.
- Ensure fixed stairways are at least 22 inches in width.
- Design and construct stairways to carry a load of five times the normal live load anticipated but never less than the strength to withstand a moving concentrated load of 1,000 pounds.
- Ensure that the unprotected sides and edges of stairway landings are protected by a standard guardrail system.
- Install stairways at least 30-degrees, and no more than 50-degrees, from the horizontal.
- Ensure that a platform is provided at all locations where doors or gates open directly into a stairway.
- Ensure that the swing of gates and doors do not reduce the effective width of the platform to less than 30 inches.
- Ensure the vertical clearance above any stair tread to an overhead obstruction be at least 6 feet 8 inches.

Vehicles

Hazards: Struck-by and roll-over injuries.

Safety Equipment: Seat belts, roll-over protective structure, brake, horn, reverse alarm.

Inspection: Inspect vehicles before each shift to ensure that all parts and accessories are in safe operating condition. Check brakes, trailer brake connections, parking system, tires, coupling devices, seatbelts, horn, steering mechanism, operating controls, safety devices (e.g., reverse signal alarm, roll-over protection structure (ROPS)), lights, reflectors, defrosters, windshield wipers, and fire extinguishers.

Safe Practices:

- Do not drive a vehicle in reverse gear with an obstructed rear view unless the vehicle is equipped with an audible reverse alarm or another worker signals that it is safe.
- Only drive on roadways or grades that are safely constructed and maintained.
- Make sure you and all personnel are in the clear before using dumping or lifting devices.
- While not in use, lower or block bulldozer and scraper blades, end-loader buckers, dump bodies, etc., and leave all controls in neutral position.
- Set parking brakes when vehicles and equipment are parked and chock the wheels.
- Vehicles that are loaded by cranes, power shovels, loaders, etc., must have a cab shield or canopy that protects the driver from falling materials.
- Do not exceed a vehicle's rated load or lift capacity.
- Do not carry personnel unless there is a seat available; no one should ride in buckets or on forks.
- Use traffic signs, barricades or flaggers when construction takes place near public roadways.
- All workers should wear highly visible clothing, such as red or orange vest, and reflected vests.
- Wear seatbelts when provided.

Walking-Working Surfaces

Hazards: Falls that can lead to fractures or death.

Safe Practices:

- Ensure that the workplace is assessed to determine if the walking and working surfaces have the strength and structural integrity to safely support workers and equipment.
- All employees exposed to fall hazards of 4 feet or more from an unprotected side or edge are to be protected by a guardrail system, safety net system or personal fall arrest system (consists of an anchorage, connectors, body harness and may include a lanyard, deceleration device, lifeline or a suitable combination).
- Skylight floor openings should be guarded by a standard skylight screen or fixed standard railing.
- Every floor hole into which persons can accidentally walk must be guarded by a standard railing with standard toe board on all exposed side or a floor hole cover.
- Ensure employees using ramps, runways and other walkways are protected from falling 4 feet or more by a guardrail system.
- Where wet processes are used, drainage must be maintained and gratings, mats or raised platforms must be provided.
- Where mechanical handling equipment is used, safe clearance must be maintained in aisle-ways and passageways. (It is recommended that aisles be at least 3 feet wider than the largest piece of equipment.)

Workplace Violence

Hazards: Beatings, rapes, stabbings, suicides, shootings, psychological trauma, threatening phone calls, intimidation, harassment, stalking and verbal abuse.

Sources of Violence: Strangers, clients, co-workers and personal relations.

Risk Factors: Contact with the public, working with unstable or volatile persons, delivery of passengers or goods, working alone or in small numbers, working late at night or during early morning hours, working in high-crime areas, guarding valuable property and money exchange.

Warning Signs: Fascination with weapons, alcohol or drug abuse, anguish over pending or recent demotion or termination, history of violent incidents, severe stress, social isolation, psychological deterioration, decreased or inconsistent job functioning, threats posted on social media, deterioration in personal hygiene, and major personality changes.

Safe Practices:

- Management should set a zero-tolerance policy for violence, threats, harassment, intimidations and other disruptive behavior in the workplace.
- Take all reports of incidents seriously.
- Supervisors are accountable to act upon reports of violence.
- Workers should report violent behavior to their supervisor or other person of authority.
- Management commitment to emotional and physical health of the employee.
- Implementation of security measures such as include locks on doors, cell phones and walkie-talkies, adequate lighting, lockers for valuables, night-time guards, identity badges, surveillance cameras, curved mirrors, and controlled access to work areas.
- Call 911 for any physical actions or threats that appear imminent, acts of physical harm, or property damage or out-of-control behavior.

General Industry References

For more information on hazards and OSHA standards, view www.labor.nc.gov and www.osha.gov and refer to:

- 29 CFR Part 1904—Recording and Reporting Occupational Injuries and Illnesses
- 29 CFR Part 1926—Safety and Health Regulations for Construction
- Subpart A—General
- Subpart B—Adoption and Extension of Established Federal Standards
- Subpart C—Reserved
- Subpart D—Walking-Working Surfaces
- Subpart E—Exit Routes and Emergency Planning
- Subpart F—Powered Platforms, Manlifts, and Vehicle-Mounted Work Platforms
- Subpart G—Occupational Health and Environmental Control
- Subpart H—Hazardous Materials
- Subpart I—Personal Protective Equipment
- Subpart J—General Environmental Controls
- Subpart K—Medical and First Aid
- Subpart L—Fire Protection
- Subpart M—Compressed Gas and Compressed Air Equipment
- Subpart N—Materials Handling and Storage
- Subpart O—Machinery and Machine Guarding
- Subpart P—Hand and Portable Powered Tools and Other Hand-Held Equipment
- Subpart Q—Welding, Cutting and Brazing
- Subpart R—Special Industries
- Subpart S—Electrical
- Subpart T—Commercial Diving Operations
- Subpart U-Y—Reserved
- Subpart Z—Toxic and Hazardous Substances

Notes