SIDING CONTRACTOR SAFETY & HEALTH PROGRAM

Prepared For

The National Association Of Home Builders

Contributed by Dan Johnson, CSP

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FOR INFORMATION CONTACT

National Association of Home Builders
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nahb.org/safety

ABOUT NAHB

The National Association of Home Builders (NAHB) helps its members build communities. Each year, NAHB members construct about 80% of the new homes built in the United States, both single-family and multifamily. A federation of more than 700 state and local associations, NAHB represents more than 140,000 members. About one-third are home builders and remodelers. The rest work in closely related specialties such as sales and marketing, housing finance, and manufacturing and supplying building materials.

SAFETY 365

NAHB has created a member and public awareness campaign to provide information and resources to help keep construction workers safe and eliminate preventable accidents, injuries, and deaths, with the focus on supporting construction safety every day--365 days a year: #safety365. The campaign with align with NAHB's current educational resources, safety training materials, and news updates that are intended to help educate employers and workers on the various safety and health hazards the industry faces on the jobsite, and to better understand and comply with Occupational Safety and Health Administration (OSHA) requirements.

ABOUT JAMES HARDIE

As the industry leader, James Hardie views safety for everyone as a top priority. According to Sean Gadd, CMO and EVP of Segments & Products, "Investing in safety is a critical component of our company. Understanding our shared values, James Hardie is pleased to partner with the NAHB to become the Diamond Sponsor Level of Safety." The company launched a Zero Harm initiative in 2016 to focus on safety: people, places and systems. And this extends to customers. "It goes beyond building great quality products at James Hardie," notes Gadd. "We don't just protect homes; we strive to help protect the people who build them and live in them." James Hardie website address is: jameshardie.com.

FOR SAFETY CONSULTANT INFORMATION CONTACT

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ABOUT SFI COMPLAINCE

Improving Lives & Empowering America's Workforce

SFI has over 100 years of workplace safety and risk management experience, industry recognition for excellence, extensive bilingual capabilities, and advanced certifications. Turn to SFI consultants for expert services in OSHA compliance, risk management, on-site safety evaluations, safety policy management, review and preparation, and safety training. SFI offers Complete Safety Management™ services nationwide.

Local Commitment, National Presence
COLORADO | TEXAS | ARIZONA | GEORGIA | FLORIDA | CAROLINAS

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INSTRUCTIONS – HOW TO USE THIS PROGRAM

The SIDING CONTRACTOR SAFETY & HEALTH PROGRAM is a model company safety program ***ONLY*** for establishments primarily engaged in installing siding of fiber cement, wood, aluminum, vinyl, or other exterior finish material (excluding brick, stone, stucco, or curtain wall) of residential buildings and is intended to cover ***their employees only***. It contains the materials needed to effortlessly set up a safety program for your company. It is intended to be used by management, who can take the safety program and provide it to each project so that each site (or superintendent, if applicable) will have a site-specific program.

The SIDING CONTRACTOR SAFETY & HEALTH PROGRAM is designed with small companies in mind. It is intended as a practical, hands-on guide for implementing an effective safety program without hiring an additional employee or consultant to develop it.

There are places in the SIDING CONTRACTOR SAFETY & HEALTH PROGRAM that are highlighted in **BLUE** in which companies should input their company specific information. It is intended for management (or the superintendent, if applicable) to fill out the information prior to starting the job. Be sure to insert your company's name and the name of any company personnel in the appropriate places highlighted.

The SIDING CONTRACTOR SAFETY & HEALTH PROGRAM is made up of twenty (20) sections. **START** with the "Start-up Checklist" that walks remodelers and superintendents through each of the sections when starting up a new program.

Siding Contractors can print out this document, which make up the SIDING CONTRACTOR SAFETY & HEALTH PROGRAM and use the cover page, table of contents, 3-ring binder divider tabs to separate each section and insert it into a 3-ring binder.

In addition to the SIDING CONTRACTOR SAFETY & HEALTH PROGRAM, ***forms*** are provided that could be used on the site, by the office, or posted near the working area. Siding Contractors can also use these forms that should be filled out, returned, and then filed in the 3-ring binder.

Siding Contractors are encouraged to reproduce this program, or any portion(s) of it, for use in their own companies. *NOTE: this SAFETY & HEALTH PROGRAM is meant to be adaptable—not all the information is necessarily applicable to every siding project.*

More information is available at nahb.org/safety.

SIDING CONTRACTOR SAFETY & HEALTH PROGRAM

COMPANY NAME: _____

JOBSITE: _____

Provided by SFI Compliance, Inc.

Complete Safety Management™ services offering our clients a National Commitment and Local Presence

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SAFETY & HEALTH PROGRAM

COMPANY NAME

JOBSITE

SIDING CONTRACTOR PROGRAM

RESOURCE GUIDE

Provided by SFI Compliance, Inc.

www.sficompliance.com
800-727-5051

Safety Program Start Up Checklist

The supervisor should use this checklist when starting up a new job. This checklist will guide the supervisor in setting up the new site. When a task is complete, please date and initial the appropriate column.

Review each section of your safety program and make sure all employees review:	Date Complete	Initials
• Section 2: Safety Goals and Responsibilities: This section details overall company goals for safety as well as responsibilities for Employees, Site Management and Upper Management.		
• Section 3: Safety and Health Guidelines: This section covers the basic safety and health guidelines for all employees. These guidelines should be followed at all times.		
• Section 4: Emergency Action Plan: This section covers the basic emergency procedures for medical, fire, chemical, weather-related, and bomb threat emergencies that may occur on a project.		
• Section 5: Hazard Analysis: This section outlines the process for identifying hazards in the workplace.		
• Section 6: Hazard Communication Plan: This section contains the requirements for the communication of hazardous chemicals, including all GHS requirements. Sample GHS labels, as well as all GHS pictograms, are detailed in this section.		
• Section 7: Chemical Inventory List: This form should be used on the projects. Site management should complete the chemical list for the chemicals that the company uses or supplies. SDS forms should be filed in the same order as listed in the chemical inventory list behind the list.		
• Section 8: Heat Illness Safety Plan: This section covers safe work practices for working in hot or humid environments. Plan ahead and remember: Water. Rest. Shade.		
• Section 9: Healthy Workplace: Use these guidelines to establish and maintain a healthy workplace.		
• Section 10: Silica Safety Resource Guide: All employees must not be exposed to crystalline silica during their work duties. This health hazard must be taken very seriously. Subcontractors who are exposed to crystalline silica should create an Exposure Control Plan. This section covers the requirements for an exposure control plan and provides safe work practices to prevent exposure.		
• Section 11: Employee Disciplinary Policy and Action Form: Review this section with employees. Use the included form if you need to discipline any employee following the discipline policy found in this program.		
• Section 12: OSHA Inspection Procedures: This section covers the procedures to be followed by site management if OSHA wants to conduct an inspection on one of our projects. Site management should be familiar with and follow these procedures during an inspection. Plan ahead and be ready.		
• Section 13: OSHA Inspection Report: This report should be completed during or immediately following an OSHA inspection.		

Safety Program Start Up Checklist

Review each section of your safety program and make sure all employees review:	Date Complete	Initials
• Section 14: Incident Investigation Procedures: Project incidents such as injury events, near-miss events, and property damage events should be investigated to prevent future occurrences. This section covers the procedures for these investigations.		
• Section 15: Injury Accident Investigation Report: This report is to be completed immediately after an injury occurs.		
• Section 16: Property Damage Incident Investigation Report: This report is to be completed immediately after a property damage incident occurs.		
• Section 17: Non-Injury Near Miss Investigation Report: This report is to be completed after any "near miss" event.		
• Section 18: Incident Witness Statement: This form is to be completed with any witnesses to an incident.		
• Section 19: OSHA Records and Reporting: OSHA requires the company to record certain workplace injuries and illnesses. OSHA also requires serious injuries to be reported. This section contains details as well as the forms used to track recordable events for company employees.		
• Section 20: Safety Inspection Checklist: This checklist should be completed at each jobsite on a frequent and regular basis.		
• Forms: There are additional resources available at the link below to help keep your project safe, which includes various forms, such as a Safety Inspection Checklist, Scaffold Inspection Form, OSHA Recordkeeping Forms, and Incident Investigation Forms, as well as OSHA compliance assistance resources on topics such as Scaffolding, Ladder Safety, Fall Prevention, Silica Fiber Cement Board, Nail Gun Safety, Asbestos Safety, Lead Safety, and OSHA Posters. https://www.nahb.org/advocacy/industry-issues/safety-and-health/safety-365		

Checklist filled out by (Print Name): _____ Date: _____

Signature: _____

Title: _____

Safety Goals and Responsibilities

It is our Company's policy to perform its work in the safest manner possible, consistent with safe work practices, and according to all governing laws and regulations. The safety and health of our employees, subcontractors, and others who may be in our work areas is paramount. This program has total management support. Managers at every level are charged with the task of translating this policy into positive and productive action.

This Safety Program, as revised from time to time, contains safety and health policy and rules for the workplace. They represent a wealth of practical experience and have been tested on many successful projects. Putting these procedures to work can protect the well-being of our employees, preserve vital company resources, and minimize financial losses caused by accidents. We also require all subcontractors, trade partners, suppliers, and vendors to develop, implement and follow their specific safety program, including providing the proper, competent person (s) for the specific task they are responsible for. Therefore, as a condition of employment, each employee is required to study, understand and abide by these procedures. This Safety Program is provided for the sole purpose of improving safety and health conditions and is NOT to be considered as an agreement or contract of employment.

This Safety Program follows the OSHA Safety and Health Program Management Guidelines, which provide for developing, implementing, and maintaining a program of policies, procedures, and practices that are adequate to protect employees from occupational safety and health hazards. Our program provides ways to systematically identify, evaluate, and prevent or control workplace hazards, specific task hazards, and hazards that could arise from operations. This Safety & Health Program is not a one-time plan but is a dynamic program that is always open to improvement.

Safety is as critical to our company's operations as planning, scheduling, and billing. Further, we believe that accidents are preventable and that it is up to each of us to ensure that we practice safety as a routine part of our daily work. One of our safety goals is to have the best safety and health conditions possible in the workplace. To achieve that goal, we must first have a good attitude about safety. Then we must THINK SAFETY and WORK SAFELY.

WE BELIEVE IN SAFETY AND INSIST UPON IT

Sincerely,

Signature of Company Representative

COMPANY SAFETY GOALS

Managers and supervisors are accountable to the upper management for the successful achievement of targeted company safety and health goals. The project safety and health goals are:

1. Have the best safety and health conditions possible in the workplace.
2. Minimize all injury accidents and health impairment.
3. Prevent any major fires, vehicle accidents, or property damage losses.
4. Zero permanent disabilities.
5. Zero environmental accidents.
6. Zero fatalities.

These goals are implemented to control and prevent construction site failures, which cause fatalities, injuries, illness, equipment damage, fire, and damage or destruction to property.

No phase of operations is more important than accident prevention. Each employee is expected to be aware of and actively pursue safety goals. There is only one way to do a job properly - THE SAFE WAY!

COMMITMENT

Company—the personal safety and health of each employee are of primary importance. The prevention of occupational injuries and illness is so important that it is to have precedence over operating productivity whenever necessary. The company will, to the greatest degree possible, provide safe mechanical and physical facilities, provide for employee safety training, and implement safe work practices that will make our work areas safe places to work. We are committed to a safety and health program that will reduce the number of injuries and illnesses to a minimum, not merely in keeping with, but hopefully surpassing, the best experience of similar industry operations.

Employees—this Safety Program conforms to the best practices of organizations in our industry. To make the program work, all employees must have good attitudes about preventing injury and illness. Success requires cooperation between each employee and his or her co-workers. With cooperative effort and positive attitudes, the Safety Program will benefit all the employees, our clients, and our visitors. Each employee is required, as a condition of employment, to read, understand, and sign the EMPLOYEE COMMITMENT TO WORK SAFELY, which will be kept in the personnel files.

ENFORCEMENT

General—all employees must understand that THE FIRST AND MOST IMPORTANT WORK RESPONSIBILITY IS TO BE RESPONSIBLE FOR ONE's OWN SAFETY! Disregarding safety and health guidelines provided for one's benefit is not only dangerous to oneself, but also to those with whom one works. An employee who disregards safety is a significant liability. Safety guidelines apply to all employees, without exception, and will be enforced by management. Warnings and reprimands will be issued for known violations of the safety guidelines as soon as the infraction is observed, and it will become part of an employee's work record.

Willfully Violating Safety Rules—any employee who refuses to work safely, or to observe the safety and health guidelines, who refuses to use proper protective equipment, or who fails to obtain proper permits, where required, or fails to observe required procedures, will be subject to verbal and written warnings resulting in disciplinary action, which may lead to termination of his or her employment. The severity of disciplinary action will be determined by the frequency and severity of infractions and may include reprimand, time off without pay, or termination. Willfully endangering one's life or the life of another person is gross misconduct and may be cause for immediate dismissal.

SAFETY PROGRAM LOCATION

This Safety Program, with its file of SDS, is to be kept in the jobsite trailer for immediate availability to employees, emergency personnel, and regulatory agencies.

GENERAL RESPONSIBILITIES

EMPLOYEES—safety is a management responsibility; however, management cannot be solely responsible for the acts of employees. Therefore, each employee shall, as a condition of employment for which he or she is paid, be responsible for working safely, including but not limited to the following specific responsibilities and duties:

General Safety and Health:

a. Study, understand and comply with the requirements of the SAFETY PROGRAM and comply with any other laws or regulations which may apply to his or her work.
b. Work in a manner that will avoid self-injury and prevent injury to fellow workers.
c. Attend any required employee safety and health orientation, and any regular or special employee safety training.
d. Acknowledge, by personal signature, any training received.
e. Refuse to perform any potentially hazardous or non-routine task, or to use any hazardous material, until properly trained about the hazards involved, and about the proper safety and health procedures to follow.
f. Properly use and care for personal protective equipment required for the task at hand.
g. Report any hazardous condition to the employee's supervisor, including any negligent act, a physical or health hazard, any unsafe use of hazardous materials by employees, or by an employee of some other employer in the workplace.
h. Report any job-related injury or illness to the employee's supervisor and seek treatment immediately and in no case, more than 24 hours.
i. Know what emergency telephone numbers to call in the event of a fire, accident, or personal injury.
j. Help to maintain a safe and clean work area.

Hazard Communication:

a. Know the location of the written Hazard Communication Plan, the SDS Master list, and the SDS files with emergency contact numbers.
b. Refuse to use any hazardous material if not trained in its use. Request a refresher training if unsure about the use, storage, handling, or personal protective equipment requirements.
c. Know how to read an SDS, the SDS Master List and labels.
d. Never remove nor deface hazardous chemical labels.
e. Know how to detect the presence of a hazardous chemical in the workplace by odor, appearance.
f. Never waste hazardous chemicals on site. (i.e., do not dump hazardous materials on the earth)
g. Become trained in the proper use of required protective equipment, and wear or use such equipment properly while working with hazardous chemicals.
h. Be properly trained about the hazards of any assigned work tasks, about which the employee has not been previously trained, before attempting to perform such "non-routine" tasks.

SUPERVISORS—unless notified otherwise, the supervisor of each jobsite (may be a Project Manager, Project Supervisor, Superintendent or foreman) is responsible for the implementation of the Safety Program at each workplace he or she supervises. Add the following supervisory duties to those he or she has as an employee:

General Safety and Health:

a. Set the example for good safety and health practices.
b. Provide a bulletin board in each job trailer and display all required postings.
c. Establish and implement procedures for workplace safety, health, first aid, fire prevention, site security, environmental pollution control, and others that comply with SAFETY AND HEALTH GUIDELINES, contract documents and specifications, and with local, state and federal laws and regulations.
d. Conduct an employee Safety Orientation whenever a new employee comes into the workplace.
e. Prepare for job site Tool Box safety meetings, with rules and regulations for each site. Tool Box safety meetings shall occur _____.
f. Train employees under his or her supervision about the provisions of these SAFETY AND HEALTH GUIDELINES, about workplace hazards, safe working procedures and policies, how working safely can prevent accidents, and how one can avoid injury and prevent property damage.
g. Monitor the safety and health performance of employees. Prepare written warnings and reprimands for violations of this Safety Program.
h. Monitor the status of project safety and health, by personally conducting project safety inspections and by directing corrective action. These project safety inspections need to be formally documented on a _____ basis.

i. Assure the availability of required safety equipment and personal protective equipment needed for the work being done, giving special attention to non-routine tasks.
j. Cooperate with other employers and subcontractors to improve overall safety and health conditions in the workplace.
k. When the company is working as a subcontractor, the supervisor is to provide a copy of the Hazard Communication portion of the program to the general contractor and determine how this Safety and Health program will be coordinated with what is being provided by the general contractor, including attendance at safety meetings held by the general contractor.
l. Investigate and document accidents and losses immediately, analyze the causes, and prepare recommendations to prevent similar accidents in the future. Prepare reports for worker's compensation, employee reprimands or disciplinary action immediately following an incident. This must be completed within 24 hours of the accident or incident.
m. In the event of a serious accident or a government safety or environmental inspection, notify management ASAP.
n. Be familiar with the OSHA Standards for the Construction Industry and be able to find information in OSHA Standards when necessary. These are available at www.osha.gov or the reference programs normally on each site.
o. Report any reportable event that occurs to an employee of the company to OSHA:
    - Fatality: within 8 hours
    - Hospitalization: within 24 hours
    - Amputation: within 24 hours
    - Loss of Eye: within 24 hours

Hazard Communication:

a. Maintain the Hazard Communication Plan found in this program for each workplace supervised.
b. Conduct Hazardous Chemical Inventories. Maintain and preserve the SDS Master List after the Hazard Communication Plan.
c. Supervise the proper procurement of all hazardous chemicals to be present in the workplace supervised. Receive and check all shipments of hazardous chemicals for SDS and labels.
d. Verify that labeling is properly done. Maintain a supply of labels and other hazard warnings.
e. During the employee Safety Orientation, make sure employees know where to find the Hazard Communication Plan, explain labels and other hazard warnings, and the SDS Master List and teach him or her how to read a SDS.
f. Train all employees under his or her supervision as required by this Hazard Communication Plan. Prepare a Training Report for each hazardous chemical training done, which certifies by each employee's signature, the training received. Keep the training record on file in this Safety Program.
g. Provide special training and equipment needed to perform non-routine tasks safely.
h. Coordinate hazard communication with other employers, such as subcontractors, in a company workplace, as needed to protect employees.

i. Direct the proper cleanup of any hazardous chemical spill, prepare required reports and notify management. Check your Storm Water Plan for local jurisdictions that may require notification of spills or unintentional releases.

UPPER MANAGEMENT—Upper Management is responsible for providing direction, motivation, and accountability to ensure a dynamic safety and health program for all projects.

Specific responsibilities include:

a. Set the example for good safety and health practices.
b. Establish annual safety goals and objectives.
c. Establish an adequate budget to fund the safety program. Subcontractors, trade partners, suppliers, and vendors are also responsible for developing, implementing, and following their own safety program, including providing the proper funding to achieve the goals of the safety program successfully.
d. As part of performance evaluations, hold project supervisors accountable for the success or failure of achieving specific safety and health performance and insurance cost control goals.
e. Periodically take part in employee safety training.
f. Review all injury and accident reports and OSHA 300 Logs.

RELATED STANDARDS—The following Standards are incorporated herein by reference:

- OSHA Standard 29 CFR Part 1926 "SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION," the latest edition

The requirements of the above standards are general. They contain far more detailed information than the Safety Program. Where information is lacking, or in the event of any conflict between the information in this program and the requirements of the OSHA standards, the OSHA Standards shall govern.

MODIFICATIONS, UPDATES AND EXPANSION

Local, State, and Federal regulations can change, and new and better safety and health procedures are often discovered. Such changes create, from time to time, a need to modify or update this Safety Program.

Because working conditions vary from site to site, some procedures may need to be changed to meet the site-specific safety needs for a particular project. The Project Supervisor, therefore, may modify or expand the procedures for his jobsite, as needed, with the prior written approval of the SFI Compliance, Inc.

ADDITIONAL RESOURCES

There are many training requirements found in OSHA standards that would apply to siding contractors. Many of these training requirements are covered in Section 3 – Safe Work Practices portion of this safety program. The NAHB has many safety training resources available including video tool box talks available in English and Spanish. These training resources can be found here: https://www.nahb.org/advocacy/industry-issues/safety-and-health/safety-365.

EMPLOYEE COMMITMENT TO SAFETY & HEALTH

It is the policy of the company that every employee is entitled to work under the safest possible conditions in the construction industry. To this end, every reasonable effort shall be made in the interest of accident prevention to provide for safe and healthy working conditions and to eliminate hazards that can cause injury to workers or damage to property and equipment. Accident prevention is a field responsibility and as such, supervisory personnel and employees shall be accountable for the safe operation of their projects. Our policy is to develop and maintain an effective program for safe production. This policy illustrates Management's acceptance and recognition of the fact that accident prevention and production are synonymous. Therefore, planning for Accident Prevention will be incorporated in all phases of the company's work.

The company is sincerely interested in your safety. The policy of the company is to provide safe equipment, adequate tools, and the necessary protection equipment. It is your responsibility to follow the rules of safety as established for your protection and to use the protective devices, which the company furnishes.

WE BELIEVE IN SAFETY AND INSIST UPON IT

I, _____ (PRINT NAME) HAVE READ AND UNDERSTAND THE COMPANY SAFETY & HEALTH PROGRAM. I UNDERSTAND THAT ANY QUESTIONS SHOULD BE DIRECTED TO MY SUPERVISOR. I ALSO UNDERSTAND THAT THE FULL PROGRAM WILL BE MADE AVAILABLE UPON REQUEST.

_____ _____

EMPLOYEE SIGNATURE **DATE**

General Safety and Health Guidelines

The General Safety and Health Guidelines in this section are for all employees to ensure they understand many of the basic safety and health guidelines found in the construction industry. Additional sections of this Safety & Health Program may provide additional safe work practices. Employees should never work in an unsafe environment and should request additional guidance from their supervisors when needed.

Table of Contents

FIRST AID AND MEDICAL TREATMENT

First aid supplies are provided at the project. Qualified personnel is available to render minor treatment and to maintain required records.

- Report all injuries immediately, no matter how minor, to your supervisor and or project office. Treatment will be forthcoming, and the incident will be recorded.
- You must notify your supervisor and or the project office before leaving the project because of an injury or illness, whether personal or work-related.
- All medical treatment for work-related injuries must be obtained from the medical treatment facility authorized for the project unless you have received PRIOR WRITTEN AUTHORIZATION from the management to use another facility.
- Before returning to work after a lost-time injury or illness, you must present a medical clearance to the project office or safety department from the attending physician.
- If you have a physical handicap, such as diabetes, impaired eyesight, hearing, back or heart trouble, hernia, or aversion to heights, inform your supervisor or safety department. You won't be expected to do a job, which might result in injury to yourself or someone else.
- Never move an injured or seriously ill person unless necessary to prevent further injury. Non-designated employees should not administer first aid except in cases of severe bleeding or cessation of breathing.
- When an accident is reported late, it will be challenged for that reason.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

The company provides all Employees with required PPE to suit the task and known hazards.

General Policy

Engineering controls shall be the primary methods used to eliminate or minimize hazard exposure in the workplace. When such controls are not practical or applicable, personal protective equipment shall be employed to reduce or eliminate personnel exposure to hazards. Personal protective equipment (PPE) will be provided, used, and maintained when it has been determined that its use is required and that such use will lessen the likelihood of occupational injuries and/or illnesses. Personal Protective Equipment that is recommended by SDS sheets or Tool Manufacturers must be followed. Company policy may dictate PPE, which exceeds the requirements of the sources mentioned above.

In order to provide an effective means of protection, all PPE must be sized to fit the worker properly. If assigned PPE is improperly fitting, the worker must report the condition to their supervisor immediately, and before performing any work using the inappropriate PPE.

General Rules

All personal protective clothing and equipment will be of safe design and construction for the work to be performed. Only those items of protective clothing and equipment that meet the National Institute of Occupational Safety and Health (NIOSH) or American National Standards Institute (ANSI) standards will be procured or accepted for use.

Hazard assessment and equipment selection

Hazard analysis procedures shall be used to assess the workplace to determine if hazards are present, or are likely to be present, which necessitate the use of personal protective equipment (PPE). If such hazards are present, or likely to be present, the following actions will need to be taken:

- Select, and have each affected employee use the proper PPE.
- Communicate selection decisions to each affected employee.
- Select PPE that properly fits each affected employee.
- Train each employee on proper use of assigned PPE.

Defective and damaged equipment

- Defective or damaged personal protective equipment shall not be used.

Head Protection

- Workers must wear hard hats when overhead, falling, or flying hazards exist or when the danger of electrical shock is present.
- Inspect hard hats routinely for dents, cracks, or deterioration.
- If a hard hat has taken a heavy blow or electrical shock, you must replace it even when you detect no visible damage.
- Maintain hard hats in good condition, do not drill, clean with strong detergents or solvents, apply paint, or store them in extreme temperatures.
- If helmets are in use, the chin strap must be used.

Eye and Face Protection

- Workers must wear safety glasses, goggles, and/or face shields for welding, cutting, nailing (including pneumatic), or when working with concrete and/or harmful chemicals.
- Eye and face protectors are designed for particular hazards, so be sure to select the type to match the hazard.
- Replace poorly fitting or damaged safety glasses.
- Prescription glasses are not acceptable unless lenses and frames are ANSI Z-87 rated, and that rating is stamped on the eyewear.

Hearing Protection / Conservation

- The company will use engineering and administrative controls to prevent exposure to loud noises.
- When engineering and administrative controls fail to reduce sound levels, ear protective devices (ear plugs, ear muffs) will be provided by your employer, and they must be used.
- Workers must wear and properly care for these ear protective devices as assigned.

Foot Protection

- Workers must wear shoes or boots with slip-resistant and puncture-resistant soles (to prevent slipping and puncture wounds).

- Safety-toed shoes are recommended to prevent crushed toes when working with heavy rolling equipment or falling objects.
- Specialty footwear (non-conductive, anti-static, conductive) must be worn as dictated by a specific task, exposure, or protocol.

Hand Protection

- Gloves must have an appropriate ANSI/ISEA cut resistance.
- Gloves should fit snugly.
- Glove gauntlets should be taped for working with fiberglass materials.
- Workers should always wear the right gloves for the job (for example, heavy-duty rubber for concrete work, welding gloves for welding).
- Ratings, from A-1 to A-9, indicate the level of cut resistance provided by the glove. The higher the number, the more cut resistance.
- Select gloves that are adequate for the exposure.

HOUSEKEEPING AND ACCESS

Attention to general cleanliness, storage, and housekeeping can prevent numerous accidents. This section covers items not discussed in other areas and is not intended to cover all specific housekeeping requirements. Good housekeeping efforts are a part of the company fire prevention and accident prevention program.

Hazard

- Slip & trip hazards
- Fall hazards
- Chemical exposure
- Contact with sharp objects
- Fire & Explosion hazards
- Overloading of storage shelves and bins

Hazard Control

- Keep all walkways and stairways clear of trash/debris and other materials such as tools and supplies to prevent tripping.
- Keep boxes, scrap lumber, and other materials picked up. Put them in a dumpster or trash/debris area to prevent fire and tripping hazards.
- Provide enough light for workers to see and to prevent accidents.

SANITATION

Drinking Water

An adequate supply of potable drinking water should be provided for workers. If portable containers are used to dispense the water, they must be tightly closed, and water dispensed by a tap. Cups and/or water bottles shall not be dipped into the containers. Workers should have their own drinking cups; no shared cups are allowed. If single-use cups are provided, trash facilities must be provided as well.

Portable Toilets

An adequate supply of portable toilets shall be provided for workers. These toilets shall be maintained and serviced regularly to maintain sanitary conditions. The number of toilets shall meet this minimum:

Number of Employees	Number of Toilets
20 or less	1
20 or more	1 toilet seat and 1 urinal per 40 workers.
200 or more	1 toilet seat and 1 urinal per 50 workers.

OSHA 1926.51(c)(1) Table D-1

ILLUMINATION/TEMPORARY LIGHTING

Good illumination is important to maximize production and maintain quality control. Poor lighting on the project may lead to personal injury accidents: tripping, falling, and injuries from tools and equipment.

OSHA requires that all construction areas, including stairs, ramps, corridors, storage areas, shops, offices, etc. be lit by natural or artificial illumination. Table D-3 in OSHA Standard 1926.56 indicates the intensities required for specific areas. OSHA uses a foot-candle measurement for determining the intensity of illumination. For general construction areas, illumination must be equal to 5-foot candles. If you can read drawings and follow layout marks without difficulty and use cutting tools effectively and with ease, there is sufficient lighting on the site. Plant and shop areas, first aid stations and offices require higher intensities of illumination.

Temporary lighting should follow these guidelines:

- All temporary wiring and lighting on the site must comply with the same codes as permanent wiring.
- Undersized wiring or overloaded circuits lead to work stoppages, electrical shocks and even fires.
- Be sure wiring is protected from damage in high traffic areas.
- Flexible cords used for temporary or portable lights must be designed for hard or extra-hard usage.
- All lamps for general illumination must be protected from accidental contact or breakage.
- Metal case sockets must be grounded.
- Temporary lights must not be suspended by their cords unless specifically designed for this means of suspension.
- 120-volt, portable lighting may be used in wet or other conductive locations such as vessels, drums and tanks but only if protected by a ground fault circuit interrupter, otherwise the maximum permitted is 12 volts or less.
- Temporary wiring must be removed immediately upon completion of construction.

FALL PROTECTION

Falls are the leading cause of death in the construction industry. OSHA requires fall protection be provided anytime a fall hazard of six (6) feet or more exists. OSHA recognizes conventional fall protection to be: Personal Fall Arrest Systems (PFAS), Guardrails and Safety Net Systems. Additional methods of fall protection include floor hole covers, fall restraint systems and administrative controls.

Prior to construction, the fall protection system utilized should be pre-planned and during construction, the fall protection system should be continually monitored and adjusted as necessary. The following hierarchy of fall protection should be followed:

- Hazard Elimination: eliminating the hazard is the first and most preferred option. Can the fall hazard be eliminated? Can a different process be used to keep the workers from being exposed to fall hazards?
- Passive Fall Protection: physical barriers such as guardrail systems and floor hole covers are considered passive fall protection. These systems, once installed, provide continued protection for the employees.
- Fall Restraint Systems: devices that prevent access to the fall area for the worker. These would physically limit a worker from getting to the edge of a roof or other fall hazard.
- Fall Arrest Systems: these are the traditional Personal Fall Arrest Systems that include an anchor point, full-body harness and lanyard/lifeline. A PFAS is designed to stop the worker after a fall. These devices have other issues because an injury can still occur to the worker during the fall, and once the fall has occurred, how are you going to rescue the worker?
- Administrative Controls: these are rules employees are expected to follow to prevent falls. These are the least likely to prevent a fall and the least preferred method. OSHA is likely to issue citations to companies that rely on administrative controls for their fall protection systems.

Personal Fall Arrest Systems (PFAS)

These consist of an anchorage point, full-body harness and lanyard/lifeline. If a personal fall arrest system is used for fall protection, it must do the following:

- Limit maximum arresting force on an employee to 1,800 pounds.
- Be rigged so that an employee can neither free fall more than 6 feet nor contact any lower level.
- Bring an employee to a complete stop and limit maximum deceleration distance an employee travels to 3.5 feet.
- Have sufficient strength to withstand twice the potential impact energy of an employee free falling a distance of 6 feet.
- Personal fall arrest systems must be inspected before each use for wear, damage, and other deterioration.
- Workers must be trained in the use and maintenance of the equipment they are using.
- Rescue planning should be undertaken before allowing any worker to work in a PFAS. Consideration should be given to the availability of rescue personnel, ladders , self rescue equipment, or other means for rescue.

Guardrails and Hole Covers

- Approved guardrails or covers must protect floor openings and/or holes. If covers are used, they must be able to support 2 times the intended loads imposed upon them, must be marked and must be secured to prevent accidental displacement.
- Do not remove covers on floor openings without approval from your supervisor. When a cover has been removed to bring in equipment or material, replace the opening immediately upon completion of material handling.
- Install guardrails around openings in floors and across openings in walls when the fall distance is 6 feet or more. Be sure the top rails can withstand a 200-lb load.
- Construct guardrails with a top rail approximately 42 inches high with a midrail about half that high at 21 inches.
- Install toe boards when other workers are to be below the work area.

STAIRWAYS

- Install permanent or temporary stair rails on stairs before stairs are used for general access between levels to prevent someone from falling or stepping off edges.
- The top edge of the stair rails should be 36” above the stair tread and the midrail installed at 18”.
- Block off access to stairs that are not ready to be used, or where activity, such as welding, grinding, or scaffold use, create a hazard for other workers using the stairs.
- Pan stairs and landings must not be used until infilled, except during installation.
- Do not store materials on stairways that are used for general access between levels.
- Keep hazardous projections such as protruding nails, large splinters, etc. out of the stairs, treads, or handrails.
- Correct any slippery conditions on stairways before they are used.
- Stairs with 4 or more risers shall be equipped with at least one handrail at 36”.

LADDERS

- Ladders that your work requires should be available on the worksite. If the appropriate ladder is not available, discuss it with your supervisor.
- Keep all ladders in good condition and free of defects.
- Inspect ladders before use for broken rungs or other defects. Broken or damaged ladders must not be used. Repair or destroy them immediately. Ladders to be repaired must be tagged “DO NOT USE.” Ladders to be destroyed must be cut vertically down the middle of the rungs.
- Secure ladders near the top and/or at the bottom to prevent them from slipping.
- When you can't tie the ladder off, be sure the ladder is on a stable and level surface, so it cannot be knocked over or the bottom of it kicked out.
- Place ladders at the proper angle (1 foot out from the base for every 4 feet of vertical rise).
- Extend ladders at least 3 feet above the landing to provide a handhold or for balance when getting on and off the ladder from other surfaces.

- Do not set up a ladder near passageways or high traffic areas where it could be knocked over. Where a ladder must be used near a door, a sign must be placed on the opposite side of the door stating that a ladder is in use.
- The areas around the top and base of ladders must be free of tripping hazards such as loose materials, trash, and electrical cords.
- Use ladders only for what they were intended for and not as a platform, runway, or as scaffold planks. Extension ladders must never be used in a horizontal orientation.
- Always face the ladder and maintain 3 points of contact when climbing or descending a ladder.
- Be sure that your shoes are free of mud, grease, or other substances, which could cause a slip or fall.
- Do not carry materials up a ladder. Use a hand line or other means to get materials to a higher level.
- Always move the ladder to avoid overreaching; the midline of your body should never extend beyond the ladder's side rail.
- Always move the ladder from ground level. Do not “walk” the ladder, or attempt to move a ladder while in use by another worker.
- Do not splice together short ladders to make a longer ladder.
- Stepladders must be fully opened to permit the spreader to lock; they are not allowed to lean on a wall, unless specifically designed and engineered to do so.
- You are prohibited from standing on the top two steps of a stepladder.
- Metal ladders must not be used for electrical work or in areas where they could contact energized wiring. The use of metal ladders is restricted to special applications where the heavier wooded ladders are not practical.
- Use only Type I or Type II ladders. Type III ladders are never to be used as they are designed for household use.

SCAFFOLDING

- Follow all local codes, ordinances, and regulations pertaining to scaffolding. Federal OSHA regulations are found in CFR Part 1926 Subpart L.
- Scaffolds shall be erected under the supervision of a competent person.
- Workers should only work on scaffolding or access scaffolding if they are authorized and have received scaffold user training.
- Be sure you inspect all equipment before use and daily thereafter. Check for cracks or bent parts, connectors, bracing, guard rails, access ladders, and especially footings. Never use any equipment that has been damaged. Be sure the scaffold is not overloaded.
- Inspections should be conducted by a competent person and documented.
- Never ride a rolling scaffold and be sure to lock or block the wheels after moving it.
- The working platform height of a rolling scaffold must not exceed 4 times the minimum base dimension.
- Keep platforms and the area around the scaffold free of debris and unnecessary material or other hazards that could cause you to trip or fall.
- Be sure to plank all work areas and only use lumber that is graded as scaffold plank.

- Never allow unsupported ends of planks to extend an unsafe distance beyond supports and be sure all planks are secured so they cannot be dislodged.
- Fasten all braces securely and do not mismatch side braces.
- Provide overhead protection if there is a hazard above the work area.
- Use toeboards where scaffold is greater than 10’ in height, and workers and/or points of building access are below.
- Don't use scaffolds near power lines.
- Make sure you have safe ladder access. Cross bracing or guardrails must never be used as a means of access.

CRANES & RIGGING

General Crane

- Only certified operators will be permitted to operate cranes.
- Operators are responsible for the exercise of caution necessary for the safe operation of their equipment.
- Operators shall immediately report unsafe conditions, including defects in the machine, to their supervisor.
- Operators shall not permit anyone to ride the hook or load.
- When the operator leaves his machine or repairs are being made, it is his/her responsibility to set the brakes, secure the boom, take the machine out of gear and turn off the engine.
- When making a lift, the operator will take operational signals only from the signal person authorized to give them. An emergency stop signal given by anyone will be acted upon by the operator.
- It is the joint responsibility of the operator and the qualified riggers to see that all hitches are secure and that all loose material is removed before the loads are lifted. The material should not be hoisted until it is ready to be put into place.
- Lifting hooks with proper latches shall be used on all operations where loads are being handled. Suspended loads shall be controlled by tag lines whenever necessary.
- Booms shall be equipped with a boom angle indicator and a device designed and constructed to prevent the boom from falling over backward. Boom heads, load blocks, and hooks shall be painted with high visibility paint.
- Where necessary to increase stability, cranes, except crawler cranes and boom type excavators, shall be equipped with outriggers of design and strength suitable for the work being performed.
- Hooks, wire rope, bearings, gears, friction clutches, chain drives, and other parts subject to wear must be inspected at regular intervals and repaired or replaced as required. The contractor shall maintain records of such inspections and resultant action taken.
- A thorough annual inspection of the hoisting machinery shall be made by a competent person or by a government or private agency recognized by the U.S. Department of Labor-OSHA. A record of these inspections must be maintained in office files.
- Crawler, truck, and locomotive cranes must be inspected monthly. Certification of the performance of these inspections is required.
- A designated competent person shall inspect machinery and equipment prior to each use, and during use, to make sure it is in safe operating condition.

- Rated load capacities, recommended operating speeds, special hazard warnings, or instructions shall be placed on all equipment so that it is visible to the operator while he/she is at his/her control station. Also, post hand signals for crane and derrick operators at the job site and on the equipment. Signals prescribed by applicable ANSI standards shall be used.
- Accessible areas within the swing radius of the rear of the rotating superstructure of the crane, either permanently or temporarily mounted, shall be barricaded to prevent employees from being struck or crushed by the crane.
- When loads are being hoisted, avoid walking under the lift or permitting an employee to be exposed to the swing of the lift.

Rigging

- Only qualified riggers and signal persons shall be used.
- Appoint one member of the crew to act as a signal person and instruct the crane operator not to accept signals from anyone else.
- The signal person must not order a move until getting an "all ready" from each crew member. Each worker, in turn, must be in the clear before giving an "all ready" to the signal person.
- If you must hold on to the chain, sling, choker, etc. to maintain tension, be sure your hands and feet are out of the way of pinch points before giving an "all ready."
- If it isn't possible to release the chain, sling, or choker, make sure your hand is clear of pinch points. Keep your hand far enough away so that a frayed wire or splinter on the chain can't catch your glove and jerk your hand into a pinch point.
- It's almost impossible to position the hook exactly over the load center, so watch out for a swing or roll. Anticipate the direction of the swing or roll and work away from it.
- Never place yourself between material, equipment, or other stationary objects and the load.
- Stay away from stacked material that may be knocked over by a swinging load.
- Never get under a suspended load, and keep out from under the crane's boom, too.
- When it's necessary to guide a load, use a tag line or hook. If you must walk with a load, keep it as close to the ground as possible.
- Beforehand, look over the spot where the load is to land. Remove unnecessary blocks or the objects that might fly up when struck by the load. When lowering or setting a load, keep your feet and all other parts of your body out from under. Set the load down easily and slowly. Then, if it rolls on the blocking, it will shift slowly, and you'll be able to get away.

FORKLIFTS & AERIAL LIFTS

Forklifts

- A trained and certified operator should only operate a forklift. Never let someone operate a forklift that is not certified to operate a forklift. Forklift certification is good for no longer than 3 years; retraining is then required.
- Retraining is also required after an incident or accident, and/or when the worker is to operate a new piece of equipment.
- Inspect prior to use. Check the equipment for any broken or cracked weld-points. Be sure the forks are spaced apart equally and free from cracks. Check the tires for proper inflation and the fuel and hydraulic fluid levels.

- Some forklifts are battery-powered; others use gasoline or diesel, and some use propane. If the forklift is battery powered, make sure workers DO NOT SMOKE in the charging area. If the lift is propane powered, make sure to change the fuel cylinder outside, away from any buildings, and remember NO SMOKING is the rule. As always, NO SMOKING when refueling with gasoline or diesel.
- Avoid using gasoline or diesel powered forklifts indoors.
- Use the forklift only as it was designed. No workers are allowed to ride in or on the forklift—only the operator.
- Personnel platforms used to raise workers must be engineered and designed to be used with the specific forklift model. This requires manufacturer approval. Also, the workers in the personnel platform must always wear fall protection.
- Personnel platforms must be securely attached to the forks.
- The forklift shall not be moved horizontally while the platform is occupied.

Aerial Lifts

- Lift controls shall be tested each day before use to determine that such controls are in safe working condition.
- Only qualified persons shall operate an aerial lift.
- Using an adjacent pole, structure, or equipment to tie off to while working from an aerial lift shall not be permitted.
- Employees shall always stand firmly on the floor of the basket and shall not sit or climb on the edge of the basket or use planks, ladders, or other devices for a work position.
- A harness shall be worn, and a short lanyard attached to the manufacturers engineered anchor point when working from an aerial lift.
- Boom and basket load limits specified by the manufacturer shall not be exceeded.
- The brakes shall be set, and when outriggers are used, they shall be positioned on pads or a solid surface.
- Wheel chocks shall be installed before using an aerial lift on an incline provided, they can be safely installed.
- An aerial lift truck shall not be moved when the boom is elevated in a working position with men in the basket, except for equipment that is specifically designed for this type of operation in accordance with the provisions of 1926.556(a)(1) and (2).
- Articulating boom and extensible boom platforms, primarily designed as personnel carriers, shall have both platform (upper) and lower controls. Upper controls shall be in or beside the platform within easy reach of the operator. Lower controls shall provide for overriding the upper controls. Controls shall be marked as to their function. Lower level controls shall not be operated unless permission has been obtained from the employee in the lift, except in case of emergency.
- The insulated portion of an aerial lift shall not be altered in any manner that might reduce its insulating value.

TRENCH & EXCAVATIONS

- Cave in protection must be provided in all trenches and excavations 5 feet deep or greater.
- Evaluation of shoring, sloping, or other means to eliminate the potential for cave-ins must be performed prior to the start of work by a competent person who is knowledgeable in the areas of soil analysis, the use of protective systems, and the requirements of applicable standards and regulations.
- Work in an excavation or trench must always be under the immediate supervision of a competent person.
- Excavated material, tools and equipment must be placed at least 2 feet from the edge of any trench or excavation.
- Adequate precautions must be taken to ensure that vibrating equipment and vehicular traffic do not cause a cave-in.
- Always consider groundwater seepage as a potential cause of the collapse of any trench or excavation.
- Safe access/egress must be provided (ladder, ramp, etc.). The access equipment must be securely fastened in place. Access must be provided and located so no worker must laterally travel more than 25 feet to access the egress point in any trench or excavation deeper than four feet.
- There are specific standards for the materials used for shoring, and for the angles of slopes used to protect workers. All the protection methods depend on the composition of the soil.
- If you aren't certain that the shoring, benching, or sloping is adequate, stay out of the excavation. Entering an unprotected excavation or trench may be the last thing you ever do.

TOOLS

Hand & Power Tools

- Only tools in safe working condition should be used.
- Inspect your tools daily to ensure that they are in proper working order. Damaged or defective tools must be immediately removed from service until repaired or replaced.
- Power saws, grinders, and other power tools must have proper guards in place at all times.
- Power tools should be hoisted or lowered by a hand line, never by the cord or hose.
- Cords and hoses must be kept out of walkways and off stairs and ladders. They must be placed so as not to create a tripping hazard for employees or to be subjected to damage from equipment or materials.
- Electrically powered tools and equipment must be grounded at all times when in use.
- Hand tools should be used for their intended purpose only. Unauthorized attachments should not exceed the design capacity of hand tools.
- When using the tool listed below or working near others using such tools, you must use personal protective equipment. If you have questions about the protective equipment or safety rules, ask your foreman.
- Use GFCI protection at all times.

Pneumatic Tools

- Eye protection is required, and face protection is recommended for employees working with pneumatic tools.
- Working with noisy tools such as jackhammers requires the proper, effective use of hearing protection.
- Pneumatic tools are to be fastened securely to the hose to prevent them from becoming disconnected. A short wire or positive locking device attaching the air hose to the tool will serve as an added safeguard.
- A safety clip or retainer must be installed to prevent attachments, such as chisels on a chipping hammer, from being unintentionally shot from the barrel.
- Screens must be set up to protect nearby workers from being struck by flying fragments around chippers, riveting guns, staplers, or air drills.
- Compressed air guns should never be pointed toward anyone. Users should never "dead-end" it against themselves or anyone else.

Powder-Actuated Tools

- Powder-actuated tools must be operated only by specially trained employees.
- These tools should not be used in an explosive or flammable atmosphere.
- Before using the tool, the worker should inspect it to determine that it is clean, that all moving parts operate freely, and that the barrel is free from obstructions.
- The tool should never be pointed at anybody.
- The tool should not be loaded unless it is to be used immediately. A loaded tool should not be left unattended.
- Powder actuated strips with unspent loads shall never be left unattended.
- Powder actuated strips with unspent loads shall be stored in their original container, and secured from unauthorized access.
- Powder actuated strips with unspent loads shall not be discarded with general trash or debris. Refer to manufacturers documentation, as well as local ordinances with regards to hazardous waste disposal.
- In the event of a misfire, wait 30 sectionds before releasing the tool from its depressed condition. Then release the tool from the work surface without changing the direction the tool is pointing. Manually advance the strip one cartridge, and use the remaining shots.
- Misfired charges must not be used again.
- Hands should be kept clear of the barrel's end.
- To prevent the tool from firing accidentally, two separate motions are required for firing: one to bring the tool into position, and another to pull the trigger. The tools must not be able to operate until they are pressed against the work surface with a force of at least 5 pounds greater than the total weight of the tool.

Hydraulic Power Tools

- The fluid used in hydraulic power tools must be an approved fire-resistant fluid and must retain its operating characteristics at the most extreme temperatures to which it will be exposed.

- The manufacturer's recommended safe operating pressure for hoses, valves, pipes, filters, and other fittings must not be exceeded.

Jacks

- All jacks - lever and ratchet jacks, screw jacks, and hydraulic jacks - must have a device that stops them from jacking up too high.
- The manufacturer's load limit must be permanently marked in a prominent place on the jack and should not be exceeded.
- A jack should never be used to support a lifted load. Once the load has been lifted, it must immediately be blocked up.
- Use wooden blocking under the base if necessary, to make the jack level and secure. If the lift surface is metal, place a 1-inch-thick hardwood block or equivalent between it and the metal jack head to reduce the danger of slippage.

To set up a jack, make certain of the following:

- the base rests on a firm level surface
- the jack is correctly centered
- the jack head bears against a level surface
- the lift force is applied evenly

Proper maintenance of jacks is essential for safety. All jacks must be inspected, at a minimum, every six months. If a jack is used outside of a controlled environment (warehouse, shop, etc.), it should be inspected prior to being sent out and after being returned. If a jack is subjected to an abnormal load or shock, it should be thoroughly examined to make sure it has not been damaged.

Hydraulic jacks exposed to freezing temperatures must be filled with adequate antifreeze liquid.

ELECTRICAL

This section is designed to prevent injuries and incidents related to worker exposure to electrical energy. Exercise caution when working with and around electricity.

Electricity flows through a wire or conductor, just as water flows through a hose. A conductor that forms a path from the source of electricity to tools and equipment, and back to the source is called a circuit or loop. When the loop is closed, the path along the conductor is unobstructed and the circuit is complete, and electricity can then be distributed to tools and other equipment on that loop.

Electrical current is always looking for the path of least resistance back to ground. Shocks and electrocution occur when the human body becomes part of that loop, and our bodies become the quickest path to ground for current to flow.

Below are steps to minimize exposure to hazardous electrical current.

Isolate

- Regularly inspect temporary and flexible cords for visible damage. Cords with damage to the outer jacket, damaged insulation around wires, missing ground prongs, spliced cords, and cords

exposed to abnormal conditions should be removed from service until they can be repaired by a qualified electrician.

- Electrical tape or duct tape are NOT acceptable means of repair, as that material will not restore the original strength, flexibility, or insulation characteristics of that conductor.
- Use only 3-wire type extension cords designed for hard or junior hard service. (Look for any of the following letters imprinted on the casing: S, ST, SO, STO, SJ, SJT, SJO, SJTO.)
- Verify conductors are properly protected by means of outlet covers, intact knock outs, breaker panels, blanks, or other “dead front” devices.
- Utilize insulation barriers to prevent physical contact with conductors.

Distance

- Always maintain a minimum of 10’ from any energized overhead power lines when erecting or using scaffolding, using a ladder, or are in a situation where tools or material could potentially contact a power line. Always maintain a minimum of 20’ from any energized overhead power line when operating a crane nearby.
    - Refer to TABLE A in Subpart CC of the CFR 1926 Safety and Health Regulations for Construction for additional information on minimum distances required.
- Elevate cords when possible, including extension cords, power cords for tools, temporary light strings, portable distribution stations or “Spider Boxes”.
- Do not suspend cords by conductive material, such as nails, screws, or wire.
- Do not allow cords to come into contact with sharp edges, such as metal frame track or metal door sweeps.
- Do not allow cords to be pinched or crushed by vehicle or equipment traffic, or in closed doors or windows.

Control

- Deenergize and visibly ground electrical distribution and transmission lines.
- Utilize Ground Fault Circuit Interrupters (GFCI) on all temporary circuits.
    - Portable GFCI’s must be used on all circuits that are not otherwise protected by nonportable GFCI’s such as wall receptacle GFCI’s
    - If GCFIs are unavailable, an Assured Equipment Grounding Conductor Program (AEGCP) must be utilized.
- Implement a Lock Out/Tag Out (LOTO) program.
    - LOTO practices are a means to control hazardous energy (electrical, mechanical, hydraulic, etc.) at its source, so that it cannot be reintroduced during servicing or repair. A lockout device, such as a padlock or other specialized lockout device, will be used to physically isolate an energy source, such as circuit breaker, valve, wall switch, or disconnect switch, from the system or equipment that uses it. The tagout device is utilized to communicate information regarding why the equipment is locked out, and the individual who is responsible for installing and removing the tag.

FIRE PREVENTION

Hazards

Fire and explosion hazards can exist in almost any work area. Potential hazards include:

- Improper operation or maintenance of gas-fired equipment.
- Improper storage or use of flammable liquids.
- Smoking in prohibited areas.
- Accumulation of trash.
- Unauthorized Hot Work operations.

Hazard Control

Elimination of Ignition Sources

All nonessential ignition sources must be eliminated where flammable liquids are used or stored. The following is a list of some of the more common potential ignition sources:

- Open flames, such as cutting and welding torches, furnaces, matches, and heaters should be kept away from flammable liquids operations.
- Cutting or welding on flammable liquids equipment, such as tanks, drums, and pipes, should not be performed unless the equipment has been properly emptied and purged with a neutral gas such as nitrogen.
- Potential sources of ignition such as DC motors, switches, and circuit breakers should be eliminated where flammable liquids are handled or stored. Only approved explosion-proof devices should be used in these areas.
- Mechanical sparks can be produced as a result of friction. Only non-sparking tools should be used in areas where flammable liquids are stored or handled.
- Static sparks are generated as a result of electron transfer between two contacting surfaces. The electrons can discharge in a small volume, raising the temperature to above the ignition temperature. Every effort should be made to eliminate the possibility of static sparks. Also, proper bonding and grounding procedures must be followed when flammable liquids are transferred or transported.

Removal of Incompatibles

Materials that can contribute to a flammable liquid fire should not be stored with flammable liquids. Examples are oxidizers and organic peroxides, which, on decomposition, can generate large amounts of oxygen.

Control of Flammable Gases

Generally, flammable gases pose the same type of fire hazards as flammable liquids and their vapors. Many of the safeguards for flammable liquids should also be applied to flammable gases. Flammable gas could produce toxic combustion products, and other properties such as toxicity, reactivity, and corrosivity also must be taken into account.

Fire Extinguishers

A portable fire extinguisher is a "first aid" device and is very effective for use on small fires, and as a means to clear fire from exit routes in the event of a fire emergency. The use of fire extinguisher that matches the class of fire, by a person who is well trained, can save both lives and property. Portable fire extinguishers must be installed in workplaces regardless of other firefighting measures. The successful performance of a fire extinguisher in a fire situation largely depends on its proper selection, inspection, maintenance, and distribution.

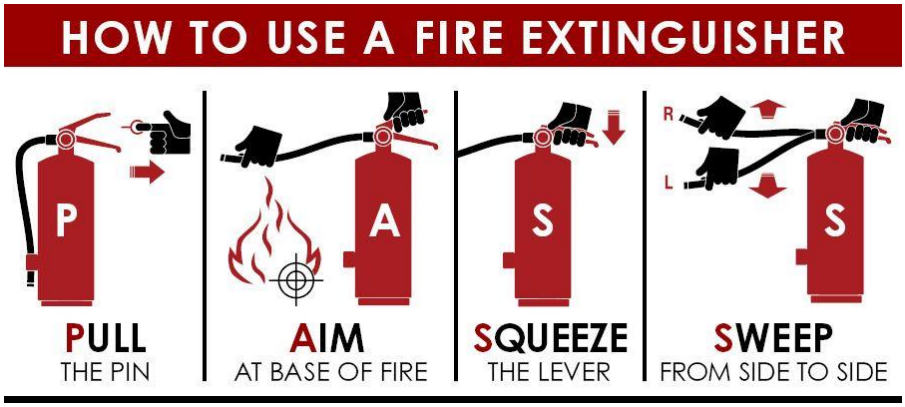
Classification of Fires and Selection of Extinguishers

Fires are classified into four general categories depending on the type of material or fuel involved. The type of fire determines the type of extinguisher that should be used to extinguish it.

- Class A fires involve materials such as wood, paper, and cloth that produce glowing embers or char.
- Class B fires involve flammable gases, liquids, and greases, including gasoline and most hydrocarbon liquids, which must be vaporized for combustion to occur.
- Class C fires involve fires in live electrical equipment or materials near electrically powered equipment.
- Class D fires involve combustible metals, such as magnesium, zirconium, potassium, and sodium.

Extinguishers will be selected according to the potential fire hazard, the construction and occupancy of facilities, hazard to be protected, and other factors pertinent to the situation.

Employees should be trained to use the P.A.S.S. method to operate a fire extinghisher:



WELDING & BURNING OPERATIONS

Welding and burning operations have a high potential for personal injuries and fires. When doing either, you must follow these precautions:

- A hot work permit must be completed prior to the start of any hot work activity. The permit must be posted and available for review within the area where the hot work will be taking place.

- An individual shall be assigned to act as a fire watch. This person must be trained to properly operate portable fire extinguishers, and methods for activating any fire alarm system. Personnel engaged as the fire watch cannot perform other duties, as their sole duty is to watch for and respond to fires that occur during hot work, for a minimum of 60 minutes after hot work is complete.
- Before starting to burn or weld, you must inspect your work area to ensure that sparks or molten metal won't fall on combustible materials, or into adjacent work areas. Fire blankets must be used to prevent hot material from falling on persons or combustible materials
- When welding near others, they must be protected from the arc rays by noncombustible screens or must wear adequate eye protection. If you can't provide the necessary safeguards, check with your supervisor.
- Ensure ventilation is adequate to prevent exposure to fumes and gasses.
- Do not weld or burn in a hazardous area without obtaining written authorization from the responsible authority.
- Make certain that suitable fire extinguishing equipment is available in your work area.
- Be aware of the locations of fire alarms and emergency exits.
- Inspect equipment for excessive wear and tear, such as frayed wires or leaking hoses.
- Utilize appropriate PPE, including, but not limited to eye protection with suitable filter lenses and impact resistance ratings, flame resistant gloves and outerwear, and leather workboots.
- Keep all welding leads and burning hoses off floors, walkways, and stairways.
- Never weld or burn on barrels, tanks, piping, or other systems, which may have contained either combustible or unknown products without first obtaining approval from your Safety Representative or other responsible authority.
- The frames of all welding machines must be grounded (except reverse polarity types).
- Ensure ventilation is adequate to prevent exposure to fumes and gasses.
- Do not use matches to light torches. Spark igniters must be used. Torches must not be used to light cigarettes, etc.
- When a crescent or special wrench is required to operate the acetylene cylinder valve, the wrench must be kept in position on the valve.

Storage & Handling of Cylinders

- The protective caps must be kept on all cylinders, not in actual use.
- Keep cylinder valves closed except when in use.
- All cylinders must be properly secured to prevent tipping.
- Do not lift cylinders by the caps.
- Cylinders must not be taken into confined spaces.
- Group and store compressed gasses based on their hazard class. Provide adequate space or segregation, and post conspicuous signage in the area.
- Cylinders should not be exposed to temeratures above 125° F.
- Cylinders should be regularly inspected for exterior corrosion, denting, bulging, gouges, digs, or leaks, and be removed from service as needed.

CONCRETE & MASONRY

There are some unique safety hazards associated with concrete and masonry construction. Here are a few to always remember:

- Do not place loads on any portion of a concrete structure until it has been determined that the structure can support those loads. This determination must be based on information provided by someone who is qualified in structural design and engineering.
- All protruding reinforcing steel, onto and into which someone could fall, must be guarded to eliminate the hazard of impalement. Square caps, channels, or troughs should be used. Mushroom caps are not appropriate for use as impalement protection; they are there primarily to prevent scratch injuries.
- Workers are not permitted to work under concrete buckets or hoppers while they are being raised or lowered into position.
- Workers are not permitted to position themselves between concrete buckets or hoppers and an adjacent structure, such as a building or piece of equipment.
- Formwork must be designed, fabricated, erected, supported, and maintained so that it can support all loads, vertical & horizontal, that may be applied to it.
- If a masonry wall over 8 feet high is not adequately supported by itself or another structure, then it must be braced to prevent it from tipping over or collapsing.
- A limited access zone must be established before starting to construct a masonry wall. The zone must be equal to the height of the wall plus four feet, run the entire length of the wall and be on the un-scaffolded side of the wall. Only those employees who are actively engaged in constructing the wall may enter the zone. The limited access zone must remain until the wall is adequately supported to prevent overturning or collapse.

VEHICLES AND MOBILE EQUIPMENT

- Train workers to stay clear of backing and turning vehicles and equipment with rotating cabs.
- When possible, designated equipment routes should be established away from foot traffic.
- Workers must wear high visibility garments when working around equipment.
- Be sure that all vehicles have fully operational braking systems and brake lights.
- Ensure equipment on site is equipped with rollover protective structures (ROPS), as needed.
- Maintain back-up alarms for equipment with a limited rear view or use someone to help guide them back.
- Spotters, positioned in the drivers line of site, should be utilized in high traffic areas.
- Workers may only ride in designated passenger areas equipped with seatbelts. Riding in beds of pick up trucks, and on equipment fenders and steps is prohibited.
- Operators must be trained, qualified, and, depending on the equipment, certified. Operator training records must be reviewed prior to the start of their work.
- Operators should make adjustments to seat, mirrors, etc. prior to operating the equipment
- Never leave unattended equipment running.
- When equipment is turned off, keys must be secured and parking brake set.
- Block up the raised bed when inspecting or repairing dump trucks.

- Maintain at least a 10-foot clearance from overhead power lines when operating equipment.
- Know the rated capacity of the crane and its attachments, and use it accordingly.
- Ensure the stability of the crane.
- Use a tag line to control materials moved by a crane.

CONFINED SPACES

A confined space is a space that meets all three of these requirements:

1. Is large enough or so configured that an employee can enter and perform work.
2. Has limited or restricted means for entry or exit.
3. Is not designed for continuous employee occupancy.

Permit required confined space is a confined space that has one or more of the following characteristics:

- Contains or has a potential to contain a hazardous atmosphere.
- Contains a material that has the potential for engulfing an entrant.
- Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly covering walls or by a floor, which slopes downward and tapers to a smaller cross-section.
- Contains any other recognized serious safety or health hazard.

Confined spaces must only be entered after evaluation by a competent person. All entrants are required to be trained. Permit required confined spaces must be planned out and rescue provided. Qualified and trained workers should only undertake all of these tasks.

MATERIAL STORAGE & HANDLING

- All material must be properly stacked and secured to prevent sliding, falling, or collapse. Aisles, stairs, passageways must be kept clear at all times.
- Protruding nails must be bent or pulled when stripping forms or uncrating materials.
- Pipe, conduit and bar stock should be stored in racks or stacked and blocked to prevent movement.
- Materials or scrap should never be dropped from elevated levels without trash chutes.
- Stored materials must not block any exit from a building.

MANUAL LIFTING (BACK SAFETY)

- Lifting equipment, such as forklifts, cranes, lifting slings, hoists, jacks, skates, and hand trucks, must be used to lift heavy, awkward, or over sized pieces of material. This equipment will be provided to workers, as needed. When the use of lifting equipment is impractical or impossible, or a load cannot be broken down into smaller units, two man lifts should be used.
- During a manual lift, follow these safe lifting techniques:
    - Stand or kneel close to the object.
    - If the object has handholds, use them.
    - With one knee resting on the floor, tighten your core muscles, and lift the object between your legs. Hold the object close to your body. Rest the object on your knee as you prepare to stand.

- As you stand, use your leg muscles, not your back. Do not twist while lifting; step to the side if you need to turn.

ERGONOMICS

Ergonomics is a principle concerned with safely and efficiently fitting a person to a job. The intention is to protect workers from musculoskeletal disorders (MSDs), which typically manifest as injuries to soft tissues: muscles, nerves, blood vessels, ligaments, and tendons. These injuries can be caused by lifting heavy items, bending, reaching overhead, pushing or pulling objects, maintaining an awkward body posture, and performing repetitive motions.

MSD Prevention

Working conditions, including but not limited to work stations, tools, environment, material, frequency of movements, distance an object is to be moved, both horizontally and vertically, and quality of the grasp or handhold, must be assessed prior to the start of work to identify the potential for a MSD to occur. Work stations, processes, and company policies will be continually reviewed by supervision in order to identify areas where ergonomic safety can be improved.

If a worker feels they cannot perform a specific task with the tools and processes provided, they must report this to their supervisor before continuing.

Injury Reporting

In the event of an injury suspected to be caused by ergonomic contributing factors, an Injury Accident Investigation Report must be completed, with the involvement of both the supervisor and the affected employee. Any findings from that investigation should be incorporated into future safe work practices whenever possible.

VIOLENCE PREVENTION

The company recognizes that workplace violence is an occupational hazard and that a proactive approach in preventing workplace violence is necessary.

Policy

It is the policy of the company to provide a place of employment that is free from recognized hazards that cause or are likely to cause death or serious physical harm to employees or the public. The company is committed to maintaining a safe, healthful, and efficient working environment where employees and the public are free from the threat of workplace violence. When these workplace violence hazards are recognized and identified, then proper training and appropriate security measures will be implemented.

Prohibited Behavior

Prohibited behaviors are those behaviors that:

- Threaten the safety of an employee and/or customer.

- Affect the health, life, or well-being of an employee and/or customer.
- Result in damage to the company, employee, or public property (excluding vehicle and equipment accidents).

Such acts include, but are not limited to:

- Threatening, intimidating, coercing, harassing, or assaulting an employee or the public.
- Sexually harassing an employee or the public.
- Allowing unauthorized people access to buildings without management permission.
- Using, duplicating, or possessing keys to buildings or offices within the building without authorization.
- Damaging or attempting to damage the property of the company, an employee, or the public.
- Carrying weapons (concealed or exposed) on company property.

Reporting & Investigation

Any employee (including a supervisor or manager) who has been threatened, is a victim of a violent act, witnesses any threats or violent acts, or learns of any threats or violent acts, is to report immediately such activity to their supervisor or the HR Manager. Each report will be promptly evaluated and investigated by the management to determine what follow-up actions are necessary. Management has the authority and responsibility to request law enforcement intervention if it is thought to be necessary.

Confidentiality

Information about an incident or threat will be disclosed only on a need-to-know basis so that a fair and thorough investigation can be conducted, and appropriate corrective action can be taken. Every effort will be made to ensure the safety and privacy of the individuals involved.

Discipline

An employee who engages in prohibited behavior will be subject to appropriate disciplinary action, as determined by the findings of the investigation. Such discipline may include warnings, demotion, suspension, or immediate dismissal. In addition, certain actions may cause the employee to be held legally liable under state or federal law.

Retaliation

Episodes of workplace violence can only be eliminated if employees are willing and able to report threats, violent acts, and other unsafe conditions. To encourage employees to come forward without the fear of retaliation, prompt investigation of all complaints of retaliation, and enforcement of appropriate disciplinary action, up to and including dismissal.

Counseling

Dealing with or being exposed to a violent or abusive situation can be emotionally unsettling. Appropriate counseling will be provided to reduce tension and stress. Follow-up counseling services may be provided and arranged by employee's supervisors as requested to affected employees. If employees

prefer external counseling for emotional and/or family support, they should be encouraged to contact the HR Manager. In all instances, confidentiality is certain.

Violence Prevention Assessment

Evaluate the physical layout of the facility. Check for and consider the following:

- External lighting to cover walkways and parking areas.
- Controlled access to all building entry points.
- Video surveillance cameras at critical points.
- Procedures for allowing access to the facility.
- Number/gender of employees on-site between 10 p.m. and 5 a.m.
- Cash transactions conducted with the public during working hours.
- Safe or lockbox on the premises for temporary cash deposits.
- Security history of the establishment and surrounding areas.
- Physical security measures and barriers.
- Work practices implemented to increase security.
- Security training for employees.
- Procedures to limit stress caused by workplace changes.
- Application of an Employee Assistance Program.
- Termination procedures.
- Pre-hire screening procedures.

VEHICLE SAFETY PLAN

Vehicular accidents are the number one killer of workers in the United States. This program covers safe operation and maintenance of all company vehicles except those company vehicles regulated by the Interstate Commerce Commission or US Department of Transportation. Examples of vehicles covered include company-owned-or-leased passenger vehicles, pickup trucks, light trucks and vans that do not require a commercial driver's license for operation. Privately owned vehicles used during and for work purposes should also follow this plan.

POLICY

- All company vehicles will be operated only by employees authorized by company management for specific company purposes.
- Vehicles will be maintained in a safe condition at all times. In the event of an unsafe mechanical condition, the vehicle will be immediately placed out of service and the appropriate manager notified.
- Only qualified company vehicle mechanics or approved service facilities are permitted to perform maintenance on company vehicles.
- All vehicles will be operated, licensed and insured in accordance with applicable local, state and federal laws.
- All employees authorized to operate any company owned or leased vehicle will be included in the company random drug-testing program.

- All authorized employees must possess a valid state driver's license for the class vehicle authorized.
- Authorized employees must have a driving record at least equal to that required for maintaining a commercial driver's license.

RESPONSIBILITIES

Management

- Provide annual defensive-driver training for all employees authorized to operate company vehicles.
- Train authorized employees on vehicle inspection and accident procedures.
- Maintain company vehicles are a safe condition.
- Maintain active insurance policies on all company vehicles.
- Allow only authorized employees to operate company vehicles.
- Arrange for defensive driving training prior to initial authorization
- Maintain a list of authorized employees in their department.
- Arrange for required periodic maintenance checks on assigned vehicles.
- Immediately remove from service any vehicle with any safety defect.
- Not allow operation of any company vehicle by an authorized employee taking medication that warns of drowsiness.
- Establish a key control program for all assigned vehicles.

Authorized Employees

- Operate company vehicles in a safe, responsible manner and obey all traffic laws.
- Participate in driver-training programs.
- Participate in the company drug-testing program.
- Ensure all vehicle occupants use seatbelts before moving the vehicle.
- Follow safe fueling procedures.
- Conduct a pre-use inspection before any first daily use.
- Immediately report any safety defects or vehicle problems.
- Report use of all prescription medication.

TRAINING

All employees authorized to operate company-owned-or-leased vehicles will participate in initial and annual driver-safety training that will include:

- Defensive driving
- Vehicle inspection
- Accident procedures
- Hazardous weather driving
- Procedure for notification of unsafe vehicle
- Backing procedures (light truck & van operators)
- Cargo area storage (light truck & van operators)
- Loading & unloading (light truck & van operators)

VEHICLE INSPECTION

Driver Inspections- Prior to each first daily use the driver shall inspect the vehicle for proper operation of the following safety features, as applicable:

- Horn
- Backup warning
- Head, tail & signal light
- Windshield wipers
- Tire inflation (visual check)
- Brakes
- Steering control
- Mirrors
- No operational warning lights
- Accident kit in glove compartment
- Fire extinguisher (light trucks & vans)
- Broken glass

Mechanical Inspections - Every company vehicle will be inspected by a qualified vehicle mechanics at least every 6 months.

Inspection & maintenance points include:

- Road test
- Visual inspection of brake system - wheel removal required
- Fluid system levels & visual inspection
- Brake pad wear
- Belts & hoses
- Battery condition
- Filter replacement
- Lubrication
- Oil change
- Emissions systems visual inspection
- Tire treads

All vehicle inspections and maintenance records will be maintained by in the vehicle and in the office.

DRIVING SAFELY

Starting

- Conduct pre-use inspection
- Use seatbelts at all times
- Adjust seat & mirrors before starting vehicle
- Allow a 15 second warm up time
- Check for warning lights

Driving

- Do not drive if drowsy
- Think ahead - anticipate hazards
- Don't trust the other driver to drive properly
- Don't speed or tailgate
- Drive slower in hazardous conditions or hazardous areas
- Pass only in safe areas and when excessive speed is not required
- No loose articles on floor
- Do not read, write, apply make-up, drink, eat or use a phone while driving
- Stay at least four seconds behind the vehicle ahead
- Do not stop for hitchhikers or to provide roadside assistance

Backing

- Back slowly & be ready to stop
- Do not back up if anyone is in path of vehicle travel
- Check clearances
- Don't assume people see you
- Getting out & check if you cannot see from the driver's seat

Stopping

- Park only in proper areas, not roadsides
- Use warning flashers & raise hood if vehicle becomes disabled

Accidents

- Do not admit responsibility
- Notify your company and law enforcement as soon as possible
- Cooperate with any law enforcement officers
- Move the vehicle only at the direction of a law enforcement officer
- Fill out all sections of the accident report in the glove box
- Do not sign any forms unless required by a law enforcement officer
- At the scene get the following information
    - Investigating officer name and law enforcement agency
    - Make, Model & License Plate number of other vehicles
    - Names, addressed and phone numbers of all witnesses
    - Photos of accident
    - All 4 sides of all vehicles
    - Roads and intersection at the scene
    - Interior of all vehicles - seating & floor areas
    - Name, address & license of other drivers

Emergency Action Plan

If an emergency occurred on the site, employees should know how to handle certain situations. This plan will evolve as the construction progresses on the site.

Basic Procedures

- **CREATE ROLES AND ESTABLISH AN INCIDENT CHAIN OF COMMAND** – Roles, such as Incident Commander or Communication Coordinator, should be created to delegate duties in an emergency situation. A chain of command should be established to allow an Incident Commander to direct and control the actions of all personnel on the incident, and avoid confusion by requiring that orders flow from supervisors.
- **PREPARE EMERGENCY KITS** – The U.S. Department of Homeland Security recommends the following contents for basic disaster supply kits:
    - Water (one gallon per person for several days)
    - Food (non-perishable)
    - Battery-powered or hand crank radio
    - NOAA Weather Radio
    - Flashlight
    - First aid kit
    - Extra batteries
    - Whistle
    - Dust mask
    - Plastic sheeting, scissors, and duct tape to shelter in place.
    - Moist towelettes, garbage bags, and plastic ties
    - Wrench or pliers
    - Manual can opener
    - Local maps
    - Cell phone with chargers
    - Contact information for company supervisors.
- **DESIGNATE SHELTERS** – These should be in the basement, or in a small, interior, windowless room on the lowest level of the structure.
- **ESTABLISH MEANS TO ALERT WORKERS** – Use an air horn or similar emergency siren to alert all workers on the project of the emergency if evacuation of the site is needed. Workers will be trained during the safety orientation to go to proper muster points when they hear the emergency signal.
- **PREPARE EMPLOYEES TO CALL 911 –** Workers should be prepared with jobsite address and specific emergency location details to relay to first responders.
- **PREPARE EMPLOYEES TO GIVE FIRST AID**—Workers should be prepared to provide first aid, at the level to which they are trained, to the injured as soon as possible.
- **PREPARE TO PROTECT THE ACCIDENT SCENE**—Protect the accident scene from continuing or further hazards—for example, traffic, operating machinery, fire, or live wires. Panels, valves, and switches for terminating hazardous energy should be identified on site maps.
- **PREPARE TO GUIDE THE AMBULANCE**—Have a worker meet and direct the ambulance to the accident scene.

- **PREPARE TO ADVISE MANAGEMENT**—Inform any members of senior management not currently part of the Incident Chain of Command. They can then contact relatives, notify authorities, and start procedures for reporting and investigating the accident.
- **PREPARE TO ISOLATE THE ACCIDENT SCENE**—Implement provisions to barricade, rope off or post a guard at the scene to make sure that nothing is moved or changed until the authorities have completed their investigation.
- **PREPARE TO COLLECT INFORMATION** – Have the Injury Accident Investigation Report, the Non-Injury Near Miss Investigation Report, the Property Damage Incident Investigation Report, and the Incident Witness Statement Form readily available to complete as soon as possible.

Medical Emergencies

1. Call 911.
2. Do not attempt to move an injured person.
3. Send someone to meet responding personnel at building/project entrance and guide them to the emergency location.
4. Provide First Aid to the level to which you are trained.
5. Stay with the injured person until first responders arrive.

After the emergency:

1. Contact the appropriate company personnel.
2. Remain on site to assist the investigating officer with pertinent information about the incident.
3. Complete the Injury Accident Investigation Report found in Section 30 of this program.

Fire Emergencies

In the event of a fire:

1. Activate the fire alarm system (alarm pull station, air horn, etc.).
2. Walk to the nearest stairwell/exit and evacuate the building. DO NOT USE ELEVATORS.
3. Call 911.
4. Use a portable fire extinguisher to douse very small fires only.
5. If it is a large fire, do not try to extinguish it. Utilize the fire extinguisher only to douse any small fires obstructing your evacuation route.
    - Follow the PASS method when using a fire extinguisher.
        - Pull the pin.
        - Aim at the base of the fire.
        - Squeeze the handle.
        - Sweep the nozzle from side to side.
6. If safe to do so, turn off any gas being used in the building.
7. Go to the designated muster point and await instruction from incident managers or first responders.

Chemical Emergencies

In the event of a chemical spill:

Large Spills

1. Isolate the spill and notify personnel in the room/area of the spill to evacuate immediately.
2. Determine the identity of the chemical spilled and consult the Safety Data Sheet to determine potential hazards and controls.
3. Provide first aid or other assistance to workers in the area.
4. Call 911.

Small Spills

1. Isolate the spill and alert personnel in the area.
2. Determine the identity of the chemical spilled and consult the Safety Data Sheet to determine potential hazards and controls.
3. Don appropriate Personal Protective Equipment, as identified in the Safety Data Sheet.
4. If the spill is flammable, remove ignition sources and use plastic or nonmetallic instruments.
5. Use absorbent or neutralizing agent to contain the spill, applied from the outside of the spill inward.
6. Refer to the Safety Data Sheet of the spilled chemical, as well as that of any cleaning agent used, to identify any special disposal considerations.
7. Properly dispose of waste.

Possible Contamination of Clothing

1. If workers may have been exposed to sufficient amounts of a spilled chemical to contaminate their clothing, call 911.
2. Direct those workers to report to and remain in one safe location. This will decrease the chance of contaminating other personnel and other areas.
3. Remove contaminated clothing as quickly as possible.
    - Any clothing that has to be pulled over your head should be cut off instead of being pulled over your head.
    - If you are helping other people remove their clothing, try to avoid touching any contaminated areas, and remove the clothing as quickly as possible.
4. As quickly as possible, wash any chemicals from your skin with large amounts of soap and water.
5. If eyes are burning or vision is blurred, rinse your eyes with plain water for 10-15 minutes. If necessary, remove contact lenses. Dispose of them along with the contaminated clothing, even if they are not disposable contacts. Do not put them back in your eyes.
6. Place contaminated clothing, and anything that may have touched the contaminated clothing, in a sealed bag. Place that bag into another bag.
7. Tell emergency personnel what you did with your clothes. They will arrange for further disposal.

Lightning

1. Monitor weather forecasts and notify workers when the potential for thunderstorms/lightning activity is present.
    - Utilize websites and smartphone applications to monitor weather forecasts and alerts. Examples of weather monitoring apps found on the Apple App Store or Google Play Store:
        - Weather – The Weather Channel
        - Weather Underground: Local Map
        - AccuWeather: Weather Alerts
        - National Weather Service (NWS) – **No official NWS app.**
2. When lightning is within 10 miles of the jobsite, activate the alarm and stop all outdoor work.
3. Direct workers to designated shelters until it is safe to return to work.
    - These should be fully enclosed indoor spaces, and never outdoors.
4. Continue to monitor for lightning. Work should not resume until at least 30 minutes after the last lightning strike or the last sound of thunder.
5. If a worker has been struck by lightning, call 911 immediately. A lightning strike victim will not carry an electric charge. It is safe to move the worker to a safer location, and for responders to begin cardiopulmonary resuscitation.

Tornado Watches & Warnings

When a tornado watch is issued:

1. Alert supervisors of potential incoming weather.
2. Lower crane booms and aerial equipment. Leave tower cranes to weathervane.
3. Secure loose material, including trash receptacles and portable toilets.
4. Take down temporary fencing or structures, if possible.
5. Monitor weather services for additional information.
    - Examples of weather monitoring apps found on the Apple App Store or Google Play Store:
        - Weather – The Weather Channel
        - Weather Underground: Local Map
        - AccuWeather: Weather Alerts
    - National Weather Service (NWS) – **No official NWS app.**
6. Prepare to take shelter.

When a tornado warning is issued:

1. Activate alert system (air horn, siren, etc).
2. Seek shelter in a steel frame or reinforced concrete building.
    - Go to the basement, or interior hallway on the lowest level. Closets or bathrooms in the center of the building offer the greatest protection.
    - Always stay away from the windows, exterior walls, and exterior doors.
    - Avoid auditoriums, gymnasiums, and large lecture-type rooms.
3. Prepare a roster and conduct a head count as people arrive in the shelter.
4. Do not use matches, candles, or lighters while in the tornado shelter.

5. If you are in a vehicle, do not try to outrun a tornado. Leave your vehicle immediately. If you cannot find shelter in a building, lie flat in a ditch, culvert, or the lowest area. Cover the back of your head with your hands.

After the tornado passes:

1. Check for injuries and provide medical attention to the level at which you are trained, if needed.
2. Continue to monitor current weather conditions and storm updates.
   - Wait at least two minutes past the tornado warning expiration time to see if another warning is issued before leaving the shelter.
3. When leaving the shelter, watch for downed power lines, broken gas lines, broken glass, etc.
   - Do not touch downed power lines or objects in contact with downed power lines.

Earthquakes

1. Stay calm. Don't panic. Stay where you are. If outside, stay outside. If inside, stay inside. Most injuries occur as people are entering or leaving buildings.
2. If an earthquake strikes while you are indoors:
   - Take cover under a desk, table, bench, or against an inside wall or in an interior doorway. Stay away from windows and exterior doors.
3. If you are in a high-rise building:
   - Use the stairway rather than the elevator; there may be a power failure, and you could become stuck in the elevator. Don't be surprised if fire alarms or sprinklers are activated. If you must leave the building, choose your exit carefully.
4. If you are in a moving vehicle:
   - Stop as quickly as safety permits but remain in your vehicle. Your vehicle may shake, and you are better off remaining in your vehicle until the shaking stops. Avoid stopping near or under buildings, overpasses and utility wires.
5. If you are outside:
   - Move away from buildings and utility wires. Remain in an open area until the shaking stops.
6. After an earthquake, check for injuries. Do not attempt to move a seriously injured person unless they are in immediate danger of further injury. Call 911 for assistance.
7. Don't re-enter buildings until emergency response personnel advise it is safe.
8. Be prepared for aftershocks (additional shaking)

Bomb Threat

In the event of a bomb threat or an explosive incident:

1. Engage caller in conversation.
2. Be calm and, if possible, take notes of the conversation.
3. Try to determine:
   - The exact location of the bomb.
   - The source of the threat.
   - Time of the explosion.
   - Background noises on the phone.

- Qualities of the caller's voice
- Sex and approximate age

4. If possible, have someone listen in on the call.
5. Check CALLER ID or, if supported by your network, dial *69 to determine where the call originated.
6. Call the Police by dialing 911.
7. Notify Site Management

Major Storm Preparedness

General

1. Ensure that the project office is outfitted with an emergency kit of the appropriate size for the number of employees on site.
2. Ensure a list of emergency telephone numbers and email addresses for employees and authorities is available.
3. Ensure designated shelters are well-stocked with necessary supplies.
4. Identify and avoid long-term material storage in areas prone to flooding.
5. Ensure that snow removal equipment, fuel supplies, de-watering pumps, portable heaters, and generators are prepared.
6. Ensure a spill kit is available to contain and control water in the event of a ruptured pipe, fixture, or other water intrusion event.
    a. Recommended contents include:
        i. Absorbent pads and socks
        ii. Safety goggles and gloves
        iii. Plastic bags
        iv. Container with a minimum volume of 10 gallons
7. Ensure panels, valves, and switches for terminating hazardous energy are identified on site maps.
8. Be alert to job conditions that require advanced attention or special material to reduce emergency preparation time.
9. Ensure that critical project documents are regularly backed up or otherwise protected from damage.

Winter Storm

1. Monitor weather forecasts and notify workers when the conditions for severe winter weather are present.
    a. Winter Weather Advisory: Issued for accumulations of snow, freezing rain, freezing drizzle, and sleet which will cause significant inconveniences and, if caution is not exercised, could lead to life-threatening situations.
    b. Winter Storm Watch: Alerts the public to the possibility of a blizzard, heavy snow, heavy freezing rain, or heavy sleet. Winter Storm Watches are usually issued 12 to 48 hours before the beginning of a Winter Storm.
    c. Winter Storm Warning: Issued when hazardous winter weather in the form of heavy snow, heavy freezing rain, or heavy sleet is imminent or occurring. Winter Storm Warnings are usually issued 12 to 24 hours before the event is expected to begin.
2. Move material and equipment susceptible to freezing indoors, if possible.

3. Flag or otherwise identify items that could be concealed by snowfall, including excavations, fire hydrants, material, and control valves.
4. Verify appropriate clearances are being maintained between portable heating devices and any combustible material.
5. Verify appropriate ventilation is available where portable heating devices are in use.
6. Verify fire extinguishers of at least 20-ABC are available near portable heating devices.
7. Monitor workers for signs of frostbite and hypothermia.
8. If necessary, direct workers to designated shelters until it is safe to return to work, or to leave the jobsite.

Tropical Storm/Hurricane

1. Monitor weather forecasts and notify workers when the conditions for severe weather, including heavy winds, lightning, rain, and potential flooding are present.
2. When lightning is within 10 miles of the jobsite:
    a. Activate the alarm and stop all outdoor work.
    b. Direct workers to designated shelters until it is safe to return to work.
3. When high winds are forecast:
    a. Secure loose material, including trash receptacles and portable toilets.
    b. Lower crane booms and aerial equipment. Leave tower cranes to weathervane.
    c. If needed, direct workers to designated shelters until it is safe to return to work.
4. When heavy rain with flood potential is forecast:
    a. Secure loose material and verify storm water pollution prevention systems are in place.
    b. Direct workers to designated shelters until it is safe to return to work, or until evacuation orders are issued, or the need to move to higher ground arises.
    c. Do not walk or drive through flood waters.
        i. Six inches of moving water can knock someone down. One foot of moving water can sweep a vehicle away.

Hurricane Preparedness Plan: 72-Hour Checklist	Complete	Initials
Confirm that all emergency contact information is current (i.e.) phone numbers, email addresses, etc.		
Verify that all erosion and sediment control devices are in place and meet adequate standards.		
Verify that all storage and office trailers are correctly tied down.		
Confirm all pumps and generators are in working order.		
Prioritize work-plan to minimize any open excavations, loose formwork.		
Schedule trash dumpsters to be emptied		
Ensure that the jobsite weather radio or other communication device, such as a smart phone is working and has back up batteries.		
Ensure there is sufficient supply of banding, clips, duct tape, tarps and sandbags as well as the manpower to accomplish preparations.		
Ensure that there is sufficient room to lay crane booms down.		

Hurricane Preparedness Plan: 48-Hour Checklist	Complete	Initials
Review 72-hour Checklist and ensure it has been completed.		
Notify owners of unsecured trailers and storage containers to anchor them or remove them from the site.		
Review all scaffolding. Remove, stack and band planks, secure scaffolding or take it down.		
Verify that all equipment is fueled, and all storage cans topped off and secure to prevent contamination of soil or wetlands.		
Begin banding loose materials.		
Review site drainage patterns and relocate materials stored in sheet lowlands.		
Ensure all hazardous materials cannot contaminate water (hurricanes can produce 20 – 30 inches of rain). Store materials high and dry.		
Remove screening on fences, signs, etc.		

Hurricane Preparedness Plan: 24-Hour Checklist	Complete	Initials
Review 48-hour checklist and ensure it has been completed.		
Project Manager shall send a draft letter directly to Upper Management for approval that notifies the subcontractors that the company is taking all necessary precautions to protect the project and per the contracts the company is notifying the subcontractors.		
Document the status of the project with pictures and store them in a dry secure place.		
Ensure all computer files are backed up and store in a dry, secure place.		
Secure all windows with plywood or tape and move all items vulnerable to water damage away from windows.		
Lower crane booms.		
Remove or anchor all trailers and storage containers that are not secured.		
Remove all non-essential barricades. Sandbag or tie-down essential barricades.		
All incomplete piping is to be capped to prevent sand infiltration.		
Tie down all materials and place a weight of some sort (rebar, block, etc.) on items that can be physically moved.		
Secure netting or covers on all trash containers that are not empty.		
Review stored materials for the potential of windblown rain damage.		
Confirm the inventory of all equipment in the office and in the field.		
Take pictures of site conditions for insurance purposes.		

Hurricane Preparedness Plan: 12-Hour Checklist	Complete	Initials
Review 24-hour checklist and ensure it has been completed.		
Turn off water, power, gas, etc. at source.		
Evacuate site.		
Take pictures of any changes to the construction site conditions for insurance purposes.		

Hazard Analysis

PURPOSE

- To provide guidelines for identifying, assessing and controlling workplace hazards
- To ensure the potential hazards of new processes and materials are identified before they are introduced into the workplace
- To identify the jobs/tasks which require risk assessment

HAZARD AND RISK IDENTIFICATION

The hazard identification process should be used for routine and non-routine activities as well as new processes, changes in operation, products or services as applicable. These assessments must include the evaluation of hazards from unrelated activities/trades within the same general work area.

The supervisor shall conduct a baseline worksite hazard assessment which is a formal process in place to identify the various tasks that are to be performed and the identified potential hazards.

Inputs into the baseline hazard identification include, but are not limited to:

- Scope of work
- Legal and other requirements
- Previous incidents and non-conformances
- Sources of energy, contaminants and other environmental conditions that can cause injury
- Walk through of work environment

Hazards identifications (as examples) are to include:

- Working Alone
- Thermal Exposure
- Isolation of Energy
- Hearing Protection
- Musculoskeletal Disorders
- Bloodborne Pathogens
- Confined Spaces
- Driving
- General Safety Precautions
- Any other site-specific work scope

All identified hazards are then assessed for risk and risk controls are assigned within the worksite hazard assessment for that specific hazard. Employees must be actively involved in the hazard identification process. Identified hazards must be reviewed with all affected employees.

RISK ASSESSMENT

Hazards are classified and ranked according to risk. Risk may be determined by analyzing the probability of the hazard causing harm, the frequency the hazard is encountered, and the potential consequences of impact with the hazard.

RISK CONTROLS

Controls are implemented to reduce the risk of harm. The hierarchy of controls should be used to mitigate hazards. When a hazard is identified first attempt to eliminate the hazard. If elimination is not practicable, use engineering controls. If engineering controls are not practicable, implement administrative controls. If the hazard cannot be adequately controlled using engineering and/or administrative controls, employees must use Personal Protective Equipment. A combination of engineering controls, administrative controls and Personal Protective Equipment is usually best.

Hazards will be assessed and corrected in a timely manner.

GENERAL CHEMICAL SAFETY

Assume all chemicals are hazardous. The number of hazardous chemicals and the number of reactions between them is so large that prior knowledge of all potential hazards cannot be assumed. Use chemicals in as small quantities as possible to minimize exposure and reduce possible harmful effects. Any employees who are required to use or handle hazardous chemicals will be trained in how to use those specific chemicals safely.

The following general safety rules shall be observed when working with chemicals:

- Read and understand the Safety Data Sheets.
- Keep the work area clean and orderly.
- Use the necessary safety equipment.
- Carefully label every container with the identity of its contents and appropriate hazard warnings.
- Store incompatible chemicals in separate areas.
- Substitute less toxic materials whenever possible.
- Limit the volume of volatile or flammable material to the minimum needed for short operation periods.
- Provide means of containing the material if equipment or containers should break or spill their contents.

Task Evaluation

Each task that requires the use of chemicals should be evaluated to determine the potential hazards associated with the work. This hazard evaluation must include the chemical or combination of chemicals that will be used in work, as well as other materials that will be used near the work. If a malfunction during the operation has the potential to cause serious injury or property damage, a Safe Operational Procedure (SOP) should be prepared and followed. Operations must be planned to minimize the generation of hazardous wastes.

Chemical Storage

The separation of chemicals (solids or liquids) during storage is necessary to reduce the possibility of unwanted chemical reactions caused by accidental mixing. Explosives should be stored separately outdoors. Use either distance or barriers (e.g., trays) to isolate chemicals into the following groups:

- Flammable Liquids: store in approved flammable storage lockers.
- Acids: treat as flammable liquids
- Bases: do not store bases with acids or any other material
- Other liquids: ensure other liquids are not incompatible with any other chemical in the same storage location.
- Lips, strips, or bars are to be installed across the width of storage shelves to restrain the chemicals in case of an earthquake.
- Chemicals will not be stored in the same refrigerator used for food storage. A label on the door must appropriately identify refrigerators used for storing chemicals.

Container Labels

All containers of chemicals must be properly labeled. This includes every type of container from a 5000-gallon storage tank to a spray bottle of degreaser. The following requirements apply:

- All containers will have the appropriate label, tag, or marking prominently displayed that indicates the identity, safety, and health hazards.
- Portable containers, which contain a small amount of chemicals, need not be labeled if they are used immediately that shift but must be under the strict control of the employee using the product.
- All warning labels, tags, etc., must be maintained in a legible condition and not be defaced. The facility's weekly supervisor inspections will check for compliance with this rule.
- Incoming chemicals are to be checked for proper labeling.

OSHA has updated the requirements for the labeling of hazardous chemicals under its Hazard Communication Standard (HCS). As of June 1, 2015, all labels will be required to have pictograms, a signal word, hazard, and precautionary statements, the product identifier, and supplier identification. A sample revised HCS label, identifying the required label elements, is shown below:

SAMPLE LABEL

PRODUCT IDENTIFIER

CODE _____
Product Name _____

SUPPLIER IDENTIFICATION

Company Name_____
Street Address _____
City _____ State _____
Postal Code _____ Country _____
Emergency Phone Number _____

PRECAUTIONARY STATEMENTS

Keep container tightly closed. Store in cool, well ventilated place that is locked.
Keep away from heat/sparks/open flame. No smoking.
Only use non-sparking tools.
Use explosion-proof electrical equipment.
Take precautionary measure against static discharge.
Ground and bond container and receiving equipment.
Do not breathe vapors.
Wear Protective gloves.
Do not eat, drink or smoke when using this product.
Wash hands thoroughly after handling.
Dispose of in accordance with local, regional, national, international regulations as specified.

In Case of Fire: use dry chemical (BC) or Carbon dioxide (CO_2) fire extinguisher to extinguish.

First Aid
If exposed call Poison Center.
If on skin (on hair): Take off immediately any contaminated clothing. Rinse skin with water.

HAZARD PICTOGRAMS

SIGNAL WORD
Danger

HAZARD STATEMENT

Highly flammable liquid and vapor.
May cause liver and kidney damage.

SUPPLEMENTAL INFORMATION

Directions for use
_____
_____
_____
Fill weight: _____ Lot Number _____
Gross weight: _____ Fill Date: _____
Expiration Date: _____

Hazard Communication Standard Pictogram

As of June 1, 2015, the Hazard Communication Standard (HCS) will require pictograms on labels to alert users of the chemical hazards to which they may be exposed. Each pictogram consists of a symbol on a white background framed within a red border and represents a distinct hazard(s). The chemical hazard classification determines the pictogram on the label. Pictograms and hazards are found below:

HCS Pictograms and Hazards

Health Hazard  ▪ Carcinogen ▪ Mutagenicity ▪ Reproductive Toxicity ▪ Respiratory Sensitizer ▪ Target Organ Toxicity ▪ Aspiration Toxicity	**Flame**  ▪ Flammables ▪ Pyrophorics ▪ Self-Heating ▪ Emits Flammable Gas ▪ Self-Reactives ▪ Organic Peroxides	**Exclamation Mark**  ▪ Irritant (skin and eye) ▪ Skin Sensitizer ▪ Acute Toxicity ▪ Narcotic Effects ▪ Respiratory Tract Irritant ▪ Hazardous to Ozone Layer (Non-Mandatory)
Gas Cylinder  ▪ Gases Under Pressure	**Corrosion**  ▪ Skin Corrosion/Burns ▪ Eye Damage ▪ Corrosive to Metals	**Exploding Bomb**  ▪ Explosives ▪ Self-Reactives ▪ Organic Peroxides
Flame Over Circle  ▪ Oxidizers	**Environment** (Non-Mandatory)  ▪ Aquatic Toxicity	**Skull and Crossbones**  ▪ Acute Toxicity (fatal or toxic)

Emergencies and Spills

In case of an emergency, implement the proper Emergency Action Plan.

- Evacuate people from the area.
- Isolate the area.
- If the material is flammable, turn off ignition and heat sources.
- Only personnel specifically trained in emergency response are permitted to participate in chemical emergency procedures beyond those required to evacuate the area.
- Call for Emergency Response Team assistance if required.

Housekeeping

- Maintain the smallest possible inventory of chemicals to meet immediate needs.
- Periodically review the stock of chemicals on hand.
- Ensure that storage areas, or equipment containing large quantities of chemicals, are secure from accidental spills.
- Rinse emptied bottles that contain acids or inflammable solvents before disposal.
- Recycle unused laboratory chemicals wherever possible.
- DO NOT Place hazardous chemicals in salvage or garbage receptacles.
- DO NOT Pour chemicals onto the ground.
- DO NOT Dispose of chemicals through the storm drain system.
- DO NOT Dispose of highly toxic, malodorous chemicals down sinks or sewer drains.

Contractors

All outside contractors working inside company facilities are required to follow the requirements of this program. The company will provide Contractors information concerning:

- Location of SDS
- Precautions to be taken to protect contractor employees
- Potential exposure to hazardous substances
- Chemicals used in or stored in areas where they will be working
- Location and availability of Safety Data Sheets
- Recommended Personal Protective Equipment
- Labeling system for chemicals

Definitions

- Chemical: any element, chemical compound, or mixture of elements and/or compounds.
- Combustible liquid: means any liquid having a flashpoint at or above 100 deg. F (37.8 deg. C), but below 200 deg. F (93.3 deg. C), except any mixture having components with flashpoints of 200 deg. F (93.3 deg. C), or higher, the total volume of which make up 99 percent or more of the total volume of the mixture.
- Compressed gas: any compound that exhibits:
  - I. A gas or mixture of gases having, in a container, an absolute pressure exceeding 40 psi at 70 deg. F.
  - II. A gas or mixture of gases having, in a container, an absolute pressure exceeding 104 psi at 130 deg. F. regardless of the pressure at 70 deg. F.
  - III. A liquid having a vapor pressure exceeding 40 psi at 100 deg. F.
- Container: any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank, or the like that contains a hazardous chemical. For purposes of this section, pipes or piping systems, and engines, fuel tanks, or other operating systems in a vehicle, are not considered to be containers.
- Employee: a worker who may be exposed to hazardous chemicals under normal operating conditions or in foreseeable emergencies. Workers such as office workers or bank tellers who encounter hazardous chemicals only in non-routine, isolated instances are not covered.

- Employer: a person engaged in a business where chemicals are either used, distributed, or are produced for use or distribution, including a contractor or subcontractor.
- Explosive: a chemical that causes a sudden, almost instantaneous release of pressure, gas, and heat when subjected to sudden shock, pressure, or high temperature.
- Exposure or exposed: an employee that is subjected in the course of employment to a chemical that is a physical or health hazard and includes potential (e.g., accidental or possible) exposure. Subjected in terms of health hazards includes any route of entry (e.g., inhalation, ingestion, skin contact, or absorption.)
- Flammable: a chemical that falls into one of the following categories:
  I. "Aerosol, flammable" means an aerosol that yields a flame projection exceeding 18 inches at full valve opening, or a flashback (a flame extending back to the valve) at any degree of valve opening.
  II. "Gas, flammable" means: (A) A gas that, at ambient temperatures and pressure, forms a flammable mixture with air at a concentration of thirteen (13) percent by volume or less; or (B) A gas that, at ambient temperatures and pressure, forms a range of flammable mixtures with air wider than twelve (12) percent by volume, regardless of the lower limit.
  III. "Liquid, flammable" means any liquid having a flashpoint below 100 deg. F., except any mixture having components with flashpoints of 100 deg. F. or higher, the total of which add up to 99 percent or more of the total volume of the mixture.
  IV. "Solid, flammable" means a solid, other than a blasting agent or explosive as defined in 1910.109(a), that is liable to cause a fire through friction, absorption of moisture, spontaneous chemical change, or retained heat from manufacturing or processing, or which can be ignited readily and when ignited burns so vigorously and persistently as to create a serious hazard. A chemical shall be considered to be a flammable solid if it ignites and burns with a self-sustained flame at a rate greater than one-tenth of an inch per second along its major axis.
- Flashpoint: the minimum temperature at which a liquid gives off a vapor in sufficient concentration to ignite.
- Hazardous chemical: any chemical, which is a physical or health hazard.
- Hazard warning: any words, pictures, symbols, or combination appearing on a label or other appropriate form of warning which convey the specific physical and health hazard(s), including target organ effects, of the chemical(s) in the container(s). (See the definitions for "physical hazard" and "health hazard" to determine the hazards which must be covered.)
- Health hazard: a chemical for which there is evidence that acute or chronic health effects may occur in exposed employees. The term "health hazard" includes chemicals which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hepatotoxins, nephrotoxins, neurotoxins, agents which act on the hematopoietic system, and agents which damage the lungs, skin, eyes, or mucous membranes.
- Identity: any chemical or common name, which is indicated on the safety data sheet (SDS) for the chemical. The identity used shall permit cross-references to be made among the required list of hazardous chemicals, the label, and the SDS.

- Immediate use: the hazardous chemical will be under the control of and used only by the person who transfers it from a labeled container and only within the work shift in which it is transferred.
- Label: any written, printed, or graphic material displayed on or affixed to containers of hazardous chemicals.
- Safety data sheet (SDS): written or printed material concerning a hazardous chemical, which is prepared following OSHA Standard 1910.1200 requirements.
- Mixture: any combination of two or more chemicals if the combination is not, in whole or in part, the result of a chemical reaction.
- Oxidizer: means a chemical other than a blasting agent or explosive as defined in 1910.109(a), that initiates or promotes combustion in other materials, thereby causing fire either of itself or through the release of oxygen or other gases.
- Physical hazard: a chemical that is a combustible liquid, a compressed gas, explosive, flammable, an organic peroxide, an oxidizer, pyrophoric, unstable (reactive) or water-reactive.
- Pyrophoric: a chemical that will ignite spontaneously in air at a temperature of 130 deg. F. or below.
- Specific chemical identity: the chemical name, Chemical Abstracts Service (CAS) Registry Number, or any other information that reveals the precise chemical designation of the substance.
- Unstable (reactive): a chemical which in the pure state, or as produced or transported, will vigorously polymerize, decompose, condense, or will become self-reactive under conditions of shocks, pressure or temperature.
- Use: to package, handle, react, emit, extract, generate as a byproduct, or transfer.
- Water-reactive: a chemical that reacts with water to release a gas that is either flammable or presents a health hazard.
- Work area: a room or defined space in a workplace where hazardous chemicals are produced or used, and where employees are present.
- Workplace: an establishment, job site, or project, at one geographical location containing one or more work areas.

SAFETY DATA SHEET (SDS) INFORMATION

The Hazard Communication Standard (HCS) (29 CFR 1910.1200(g)), revised in 2012, requires that the chemical manufacturer, distributor, or importer provide Safety Data Sheets (SDSs) (formerly MSDSs or Material Safety Data Sheets) for each hazardous chemical to downstream users to communicate information on these hazards. The information contained in the SDS is largely the same as the MSDS, except now the SDSs are required to be presented in a consistent, user-friendly, 16-section format. This brief provides guidance to help workers who handle hazardous chemicals to become familiar with the format and understand the contents of the SDSs.

The SDS includes information such as the properties of each chemical; the physical, health, and environmental health hazards; protective measures; and safety precautions for handling, storing and transporting the chemical. The information contained in the SDS must be in English (although it may be in other languages as well).

In addition, OSHA requires that SDS preparers provide specific minimum information as detailed in Appendix D of 29 CFR 1910.1200. The SDS preparers may also include additional information in various section(s).

Sections 1 through 8 contain general information about the chemical, identification, hazards, composition, safe handling practices, and emergency control measures (e.g., firefighting). This information should be helpful to those who need to get the information quickly. Sections 9 through 11 and 16 contain other technical and scientific information, such as physical and chemical properties, stability and reactivity information, toxicological information, exposure control information, and other information including the date of preparation or last revision. The SDS must also state that no applicable information was found when the preparer does not find relevant information for any required element.

The SDS must also contain Sections 12 through 15, to be consistent with the UN Globally Harmonized System of Classification and Labeling of Chemicals (GHS), but OSHA will not enforce the content of these sections because they concern matters handled by other agencies.

A description of all 16 sections of the SDS, along with their contents, is presented below:

Section 1: Identification

This section identifies the chemical on the SDS as well as the recommended uses. It also provides the essential contact information for the supplier. The required information consists of:

- Product identifier used on the label and any other common names or synonyms by which the substance is known.
- Name, address, phone number of the manufacturer, importer, or other responsible parties, and emergency phone number.
- Recommended use of the chemical (e.g., a brief description of what it does, such as flame retardant) and any restrictions on use (including recommendations given by the supplier).

Section 2: Hazard(s) Identification

This section identifies the hazards of the chemical presented on the SDS and the appropriate warning information associated with those hazards. The required information consists of:

- The hazard classification of the chemical (e.g., flammable liquid, category1)
- Signal word
- Hazard statement(s)
- Pictograms (pictograms or hazard symbols may be presented as graphical reproductions of the symbols in black and white or be a description of the name of the symbol (e.g., skull and crossbones, flame)
- Precautionary statement(s)
- Description of any hazards not otherwise classified.
- For a mixture that contains an ingredient(s) with unknown toxicity, a statement describing how much (percentage) of the mixture consists of ingredient(s) with unknown acute toxicity. Please note that this is a total percentage of the mixture and not tied to the individual ingredient(s).

Section 3: Composition/Information on Ingredients

This section identifies the ingredient(s) contained in the product indicated on the SDS, including impurities and stabilizing additives. This section includes information on substances, mixtures, and all chemicals where a trade secret is claimed. The required information consists of:

- Substances
  - Chemical name
  - Common name and synonyms
  - Chemical Abstracts Service (CAS) number and other unique identifiers
  - Impurities and stabilizing additives, which are themselves classified and which contribute to the classification of the chemical.
- Mixtures
  - Same information required for substances
  - The chemical name and concentration (i.e., exact percentage) of all ingredients which are classified as health hazards and are:
    - Present above their cut-off/concentration limits
    - Present a health risk below the cut-off/concentration limits.
  - The concentration (exact percentages) of each ingredient must be specified except concentration ranges may be used in the following situations:
    - A trade secret claim is made
    - There is a batch-to-batch variation
    - The SDS is used for a group of substantially similar mixtures
- Chemicals where a trade secret is claimed
  - A statement that the specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret is required.

Section 4: First-Aid Measures

This section describes the initial care that should be given by untrained responders to an individual who has been exposed to the chemical. The required information consists of:

- Necessary first-aid instructions by relevant routes of exposure (inhalation, skin and eye contact, and ingestion).
- Description of the most important symptoms or effects, and any symptoms that are acute or delayed.
- Recommendations for immediate medical care and special treatment needed, when necessary.

Section 5: Fire-Fighting Measures

This section provides recommendations for fighting a fire caused by the chemical. The required information consists of:

- Recommendations for suitable extinguishing equipment and information about extinguishing equipment that is not appropriate for a particular situation.
- Advice on specific hazards that develop from the chemical during the fire, such as any hazardous combustion products created when the chemical burns.
- Recommendations on special protective equipment or precautions for firefighters.

Section 6: Accidental Release Measures

This section provides recommendations on the appropriate response to spills, leaks, or releases, including containment and cleanup practices, to prevent or minimize exposure to people, properties, or the environment. It may also include recommendations distinguishing between responses for large and small spills where the spill volume has a significant impact on the hazard. The required information may consist of recommendations for:

- Use of personal precautions (such as removal of ignition sources or providing sufficient ventilation) and protective equipment to prevent the contamination of skin, eyes, and clothing.
- Emergency procedures, including instructions for evacuations, consulting experts when needed, and appropriate protective clothing.
- Methods and materials used for containment (e.g., covering the drains and capping procedures).
- Cleanup procedures (e.g., appropriate techniques for neutralization, decontamination, cleaning or vacuuming; adsorbent materials; and/or equipment required for containment/clean up)

Section 7: Handling and Storage

This section provides guidance on the safe handling practices and conditions for safe storage of chemicals. The required information consists of:

- Precautions for safe handling, including recommendations for handling incompatible chemicals, minimizing the release of the chemical into the environment and providing advice on general hygiene practices (e.g., eating, drinking, and smoking in work areas is prohibited).
- Recommendations on the conditions for safe storage, including any incompatibilities. Provide advice on specific storage requirements (e.g., ventilation requirements)

Section 8: Exposure Controls/Personal Protection

This section indicates the exposure limits, engineering controls, and personal protective measures that can be used to minimize worker exposure. The required information consists of:

- OSHA Permissible Exposure Limits (PELs), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs), and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the safety data sheet, where available.
- Appropriate engineering controls (e.g., use local exhaust ventilation, or use only in an enclosed system).
- Recommendations for personal protective measures to prevent illness or injury from exposure to chemicals, such as personal protective equipment (PPE) (e.g., appropriate types of eye, face, skin, or respiratory protection needed based on hazards and potential exposure).
- Any special requirements for PPE, protective clothing or respirators (e.g., type of glove material, such as PVC or nitrile rubber gloves; and breakthrough time of the glove material).

Section 9: Physical and Chemical Properties

This section identifies physical and chemical properties associated with the substance or mixture. The minimum required information consists of:

- Appearance (physical state, color, etc.)
- Upper/lower flammability or explosive limits
- Odor
- Vapor pressure
- Odor threshold
- Vapor density
- pH
- Relative density
- Melting point/freezing point
- Solubility(ies)
- Initial boiling point and boiling range
- Flashpoint
- Evaporation rate
- Flammability (solid, gas)
- Upper/lower flammability or explosive limits
- Vapor pressure
- Vapor density
- Relative density
- Solubility(ies)
- Partition coefficient: n-octanol/water
- Auto-ignition temperature
- Decomposition temperature
- Viscosity

The SDS may not contain every item on the above list because information may not be relevant or is not available. When this occurs, a notation to that effect must be made for that chemical property. Manufacturers may also add other relevant properties, such as the dust deflagration index (Kst) for combustible dust, used to evaluate a dust's explosive potential

Section 10: Stability and Reactivity

This section describes the reactivity hazards of the chemical and the chemical stability information. This section is broken into three parts: reactivity, chemical stability, and other. The required information consists of:

- Reactivity
  - Description of the specific test data for the chemical(s). This data can be for a class or family of the chemical if such data adequately represent the anticipated hazard of the chemical(s), where available.
- Chemical stability
  - Indication of whether the chemical is stable or unstable under normal ambient temperatures and conditions while in storage and being handled.
  - Description of any stabilizers that may be needed to maintain chemical stability.
  - Indication of any safety issues that may arise should the product change in physical appearance.
- Other
  - Indication of the possibility of hazardous reactions, including a statement whether the chemical will react or polymerize, which could release excess pressure or heat, or create other hazardous conditions. Also, a description of the conditions under which hazardous reactions may occur.
  - List of all conditions that should be avoided (e.g., static discharge, shock, vibrations, or environmental conditions that may lead to hazardous conditions).
  - List of all classes of incompatible materials (e.g., classes of chemicals or specific substances) with which the chemical could react to produce a hazardous situation.
  - List of any known or anticipated hazardous decomposition products that could be produced because of use, storage, or heating. (Hazardous combustion products should also be included in Section 5 (Fire-Fighting Measures) of the SDS.)

Section 11: Toxicological Information

This section identifies toxicological and health effects information or indicates that such data are not available. The required information consists of:

- Information on the likely routes of exposure (inhalation, ingestion, skin, and eye contact). The SDS should indicate if the information is unknown.
- Description of the delayed, immediate, or chronic effects from short- and long-term exposure.
- The numerical measures of toxicity (e.g., acute toxicity estimates such as the LD50 (median lethal dose) - the estimated amount [of a substance] expected to kill 50% of test animals in a single dose.
- Description of the symptoms. This description includes the symptoms associated with exposure to the chemical, including symptoms from the lowest to the most severe exposure.
- Indication of whether the chemical is listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or has been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest editions) or found to be a potential carcinogen by OSHA

Section 12: Ecological Information (non-mandatory)

This section provides information to evaluate the environmental impact of the chemical(s) if it were to be released to the environment. The information may include:

- Data from toxicity tests performed on aquatic and/or terrestrial organisms, where available (e.g., acute or chronic aquatic toxicity data for fish, algae, crustaceans, and other plants; toxicity data on birds, bees, plants).
- Whether there is a potential for the chemical to persist and degrade in the environment either through biodegradation or other processes, such as oxidation or hydrolysis.
- Results of tests of bioaccumulation potential, referring to the octanol-water partition coefficient (Kow) and the bioconcentration factor (BCF), where available.
- The potential for a substance to move from the soil to the groundwater (indicate results from absorption studies or leaching studies).
- Other adverse effects (e.g., environmental fate, ozone layer depletion potential, photochemical ozone creation potential, endocrine-disrupting potential, and/or global warming potential).

Section 13: Disposal Considerations (non-mandatory)

This section provides guidance on proper disposal practices, recycling or reclamation of the chemical(s) or its container, and safe handling practices. To minimize exposure, this section should also refer the reader to Section 8 (Exposure Controls/Personal Protection) of the SDS. The information may include:

- Description of appropriate disposal containers to use.
- Recommendations for appropriate disposal methods to employ.
- Description of the physical and chemical properties that may affect disposal activities.
- Language discouraging sewage disposal.
- Any special precautions for landfills or incineration activities

Section 14: Transport Information (non-mandatory)

This section provides guidance on classification information for shipping and transporting of the hazardous chemical(s) by road, air, rail, or sea. The information may include:

- UN number (i.e., four-figure identification number of the substance)
- UN proper shipping name
- Transport hazard class(es)
- Packing group number, if applicable, based on the degree of hazard
- Environmental hazards (e.g., identify if it is a marine pollutant, according to the International Maritime Dangerous Goods Code (IMDG Code)).
- Guidance on transport in bulk (according to Annex II of MARPOL 73/783 and the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (International Bulk Chemical Code (IBC Code)).
- Any special precautions which an employee should be aware of or needs to comply with in connection with transport or conveyance either within or outside their premises (indicate when information is not available).

Section 15: Regulatory Information (non-mandatory)

This section identifies the safety, health, and environmental regulations specific for the product that is not indicated anywhere else on the SDS. The information may include:

- Any national and/or regional regulatory information of the chemical or mixtures (including any OSHA, Department of Transportation, Environmental Protection Agency, or Consumer Product Safety Commission regulations)

Section 16: Other Information

- This section indicates when the SDS was prepared or when the last known revision was made. The SDS may also state where the changes have been made to the previous version. You may wish to contact the supplier for an explanation of the changes. Other useful information also may be included here.

Employer Responsibilities

Employers must ensure that the SDSs are readily accessible to employees for all hazardous chemicals in their workplace. This may be done in many ways. For example, employers may keep the SDSs in a binder or on computers as long as the employees have immediate access to the information without leaving their work area when needed, and a back-up is available for rapid access to the SDS in the case of a power outage or other emergency. Furthermore, employers may want to designate a person(s) responsible for obtaining and maintaining the SDSs. If the employer does not have an SDS, the employer or designated person(s) should contact the manufacturer to obtain one.

Employee Use of SDS

For SDS use to be effective, employees must:

- Know the location of the SDS
- Understand the major points for each chemical
- Check SDS when more information is needed, or questions arise
- Be able to locate the emergency information on the SDS quickly
- Follow the safety practices provided on the SDS

Location of SDS

The supervisor of the jobsite will conduct a Hazardous Chemical Inventory. From this inventory, a Chemical Inventory List will be created. The Chemical List and SDSs will be kept in this binder following this plan.

TRAINING

Employees will be trained in hazard communication. The training will be documented on the Employee Training Record Form found in this program. Employees will be trained in the following areas:

a. Chemical Storage
b. Container Labels
c. Emergencies and Spills
d. Housekeeping
e. Safety Data Sheets (SDS)
f. General Chemical Usage
g. Specific Chemical Hazards and Precautions

Chemical Inventory List

Chemical Name	Storage Location	Quantity

File the Safety Data Sheets for the above chemicals in the same order following this list.

Heat Illness Safety Plan

PURPOSE

The company recognizes that jobs involving operations in hot environments have the potential to induce heat stress in workers.

Company projects should use the following safety guidelines as guidance for workers in hot environments. These guidelines contain references from the OSHA Technical Manual, Cal/OSHA, EPA, National Weather Service, and guidelines put forth by ANSI, ASSP, NIOSH, and ACGIH.

The effects of heat can range from a mild annoyance, such as heat rash, to death from heat stroke. With proper replacement of fluids and adherence to proper work/rest regimens, the adverse effects of working during hot weather can be prevented. The use of a Portable Outdoor canopies can aid in providing relief from direct sunlight.

Training of employees about heat related injuries shall be conducted prior to the assignment of the worker in high heat environment. This training should occur in early spring before the heat of the summer working months occurs and periodically in the summer months. Use of Safety Tool Box talks as well as this document may be utilized for this training.

DEFINITIONS

- "Acclimatization" means temporary adaptation of the body to work in the heat that occurs gradually when a person is exposed to it. Acclimatization peaks in most people within four to fourteen days of regular work for at least two hours per day in the heat.
- "Heat Illness" means a serious medical condition resulting from the body's inability to cope with a particular heat load, and includes heat cramps, heat exhaustion, heat syncope and heat stroke.
- "Environmental risk factors for heat illness" means working conditions that create the possibility that heat illness could occur, including air temperature, relative humidity, radiant heat from the sun and other sources, conductive heat sources such as the ground, air movement, workload severity and duration, protective clothing and personal protective equipment worn by employees.
- "Personal risk factors for heat illness" means factors such as an individual's age, degree of acclimatization, health, water consumption, alcohol consumption, caffeine consumption, and use of prescription medications that affect the body's water retention or other physiological responses to heat.
- "Preventative recovery period" means a period of time to recover from the heat in order to prevent heat illness.
- "Shade" means blockage of direct sunlight. Canopies, umbrellas and other temporary structures or devices may be used to provide shade. One indicator that sun blockage is sufficient is when objects do not cast a shadow in the area of blocked sunlight. Shade is not adequate when heat in the area of shade defeats the purpose of shade, which is to allow the body to cool. For example, a car sitting in the sun does not provide acceptable shade to a person inside it, unless the car is running with air conditioning.

PROJECT REQUIREMENTS

Provision of water

Employees and contract workers shall have access to cool drinking water free of charge. Where it is not plumbed or otherwise continuously supplied, it shall be provided in sufficient quantity at the beginning of the work shift to provide one quart per employee per hour for drinking for the entire shift. Employers may begin the shift with smaller quantities of water if they have effective procedures for replenishment during the shift as needed to allow employees to drink one quart or more per hour.

Access to shade and/or air conditioning

Employees suffering from heat illness or believing a preventative recovery period is needed shall be provided access to an area with shade that is either open to the air or provided with ventilation or cooling for a period of no less than five minutes. Such access to shade shall be permitted at all times. Cooling measures other than shade (e.g., use of misting machines) may be provided in lieu of shade if practical.

PREVENTING HEAT RELATED ILLNESS

- Train employees and contract workers to recognize signs & symptoms of heat related injuries.
- Use the buddy system (never work alone in hot areas) to monitor co-worker for heat stress.
- Dress for the heat. Wear lightweight, light-colored clothing. Light colors will reflect away some of the sun's energy. It is also a good idea to wear hats or to use an umbrella.
- Drink water Encourage workers to drink adequate replacement fluids. An average person should drink 1 1/2 gallons of water per day. (1 cup every 15 minutes). Salt pills or sport drinks with added salt are unnecessary as the typical American has enough salt in their diet. Drink continuously even if you do not feel thirsty. Avoid alcohol and caffeine, which dehydrate the body.
- Supervisors should schedule tasks during cooler parts of the day, and provide for alternate tasks when possible.
- Allow time for employee acclimation to hot environments. Acclimatization peaks in most people within four to fourteen days of regular work for at least two hours per day in the heat.
- Slow down. Avoid strenuous activity. If you must do strenuous activity, do it during the coolest part of the day, which is usually in the morning between 4:00 a.m. and 7:00 a.m.
- Stay indoors when possible. Where practical, isolate, or even eliminate a source or heat and or humidity through environmental controls.
- Take regular breaks as necessary, and additional breaks for hydration.
- Encourage employees to maintain good physical fitness.

SIGNS & SYMPTOMS OF HEAT RELATED ILLNESSES

Symptoms of Heat Rash ("Prickly Heat")

- Tiny blister-like red spots on the skin; pricking sensation, this is an early signal of potential heat stress. It is commonly associated with hot, humid conditions in which skin and clothing remain damp due to unevaporated sweat. Heat rash may involve small areas of the skin or the entire torso.
- Even after the affected area of skin is healed, sweat production will not return to normal for another 4 to 6 weeks. Treatments include cleaning the affected area and applying mild lotions to it. Keeping the skin clean and dry for at least 12 hours each day will prevent severe heat rash.

Symptoms of Heat Cramps

- Painful spasms of leg, arm, or abdominal muscles heavy sweating, thirst occur during or after hard work.

Symptoms of Heat Exhaustion

- Fatigue, headache, dizziness, muscle weakness, loss of coordination, fainting, collapse
- Profuse sweating, pale, moist, cool skin; excessive thirst, dry mouth, dark yellow urine
- Fast pulse, if conscious
- Low or normal oral temperature
- May also have heat cramps, nausea, urge to defecate, rapid breathing, chills, tingling of the hands or feet
- Mood changes such as irritability or confusion, giddiness, slurred speech, irritability

Symptoms of Heat Stroke

- ***LIFE THREATENING MEDICAL EMERGENCY***
- Often occurs suddenly
- Headache, dizziness, confusion, irrational behavior, coma
- Sweating may slow down or stop
- Fast pulse, if conscious
- Rapid breathing
- Body Temp. Greater than 104 F
- May also have convulsions, nausea, incoherent speech, very aggressive behavior

WHAT TO DO FOR HEAT-RELATED ILLNESS

- Call 911 (or local emergency number) at once.
- While waiting for help to arrive
  - Move the worker to a cool, shaded area. Get inside air-conditioned building or vehicle.
  - Loosen or remove heavy clothing.
  - Wipe or spray his/her skin with cool water and fan him/her. You can use a piece of cardboard or other material as a fan.
  - Provide cool drinking water if possible

HEALTHY WORKPLACE PLAN

The company takes the health and safety of our employees very seriously. This Healthy Workplace Plan has been developed to help protect the operations and all personnel. The plan outlines the steps that the company will take to reduce the risk of airborne infectious diseases (such as seasonal influenza, H1N1, COVID-19, SARS) and transmission at the workplace. This plan provides some basics steps to follow if there is an infectious disease pandemic or endemic. Federal, state, and local requirements shall be followed in addition to these steps if those are implemented. These steps can also be followed to prevent the spread of other illnesses.

In order to control exposure and minimize the spread of an infectious disease, it is paramount that everyone plays their part. As outlined in this plan, all employees should practice good hygiene, housekeeping, social distancing, and other best practices identified below. All employees are expected to notify their supervisors if they experience symptoms of an infectious disease or become aware of others experiencing symptoms. There will not be retaliation for such reporting. If you have additional questions about this plan, please contact your supervisor.

Knowing the Symptoms

In order to identify potential spread of an infectious disease, all employees must be familiar with and watch for common symptoms which include:

- Coughing
- Fever
- Shortness of breath, difficulty breathing
- Early symptoms such as chills, body aches, sore throat, headache, diarrhea, nausea/vomiting, and runny nose.

Other symptoms may present themselves depending on the infectious disease and all employees should make themselves aware of all symptoms. Any employee exhibiting these symptoms should discuss this with their supervisor who may inform them not to report to work. Any employee who begins to experience these symptoms while at work must notify their supervisor and may need to leave the workplace.

General Requirements

- Observe posted project rules.
- Stay home if you are sick (showing signs or symptoms).
- Clean commonly touched surfaces in your work area frequently.
- Provide hand hygiene and sanitation stations to be readily available to all persons on the project.
- Wear standard required PPE, including eye protection and gloves. Use of respirators should be limited to specific activities for which they are typically needed.
- Do not share PPE.
- Cover your cough or sneeze with a tissue and throw it away immediately.
- Wash hands often with soap and water for at least 20 seconds or use an alcohol-based hand sanitizer with at least 60% alcohol.
- Do not setup/use community drinking stations. Use individual drinking bottles instead.

PURPOSE

The purpose of this resource guide is to provide company employees guidance on the OSHA Crystalline Silica standard. It is not anticipated that any employee of the company will ever be exposed to Crystalline Silica at or above the OSHA Action Level of 25 µg/m3 (micrograms of silica per cubic meter of air). Employees do however need to be aware of the hazards to keep themselves safe and assist in managing the site. This resource guide is not a complete description of all requirements. Refer to the OSHA standard for more information.

Regulatory Reference: §1926.1153 Respirable Crystalline Silica

POLICY

Company employees are not permitted to enter areas where tasks are being performed by subcontractors where there is potential exposure to crystalline silica. The typical subcontractors impacted by the OSHA regulations include but are not limited to, concrete, siding, granite countertops, floor/wall tile and masonry. Typical tasks that are impacted the OSHA regulation include masonry saws, grinders, drills, jackhammers and handheld powered chipping tools.

OSHA has stated that the construction silica standard does not apply where exposures will remain low under any foreseeable conditions; for example, when only performing tasks such as mixing mortar; pouring concrete footers, slab foundation and foundation walls; and removing concrete formwork.

Company employees are not allowed to enter an area where a dust cloud is being created by the subcontractors' work. Employees must stay out of these areas at all times.

Who Is Affected by the Construction Standard?

About two million construction workers are exposed to respirable crystalline silica in over 600,000 workplaces. OSHA estimates that more than 840,000 of these workers are exposed to silica levels that exceed the new permissible exposure limit (PEL). Exposure to respirable crystalline silica can cause silicosis, lung cancer, other respiratory diseases, and kidney disease. Exposure can occur during common construction tasks such as using masonry saws, grinders, drills, jackhammers and handheld powered chipping tools; operating vehicle-mounted drilling rigs; milling; operating crushing machines; and using heavy equipment for demolition or certain other tasks.

What is Crystalline Silica?

Crystalline silica is a basic component of soil, sand, granite, and many other minerals. Quartz is the most common form of crystalline silica. Crystalline silica may become respirable size particles when workers chip, cut, drill, or grind objects that contain crystalline silica. Exposure to respirable crystalline silica can cause silicosis, lung cancer, other respiratory diseases, and kidney disease. Keeping silica out of the air can reduce the hazard, so wet methods for cutting, drilling, etc. are preferable if feasible.

What Does the Standard Require?

The standard requires employers to limit worker exposures to respirable crystalline silica and to take other steps to protect workers. The standard provides flexible alternatives, especially useful for small

employers. Employers can either use a control method laid out in Table 1 of the construction standard, or they can measure workers' exposure to silica and independently decide which dust controls work best to limit exposures to the PEL in their workplaces. Regardless of which exposure control method is used, all construction employers covered by the standard are required to:

1. **Written Exposure Control Plan:** Establish and implement a written exposure control plan that identifies tasks that involve exposure and methods used to protect workers, including procedures to restrict access to work areas where high exposures may occur.
2. **Competent Person:** Designate a competent person to implement the written exposure control plan.
3. **Housekeeping:** Restrict housekeeping practices that expose workers to silica where feasible alternatives are available.
4. **Medical Surveillance:** Offer medical exams—including chest X-rays and lung function tests—every three years for workers who are required by the standard to wear a respirator for 30 or more days per year.
5. **Training:** Train workers on work operations that result in silica exposure and ways to limit exposure.
6. **Recordkeeping:** Keep records of workers' silica exposure and medical exams.

WRITTEN EXPOSURE CONTROL PLAN

All employers covered by the standard, including employers who fully and properly implement the specified exposure controls in Table 1, must develop and implement a written exposure control plan. Written exposure control plans describe workplace exposures and ways to reduce those exposures, such as engineering controls, work practices, housekeeping methods, and restricting access to areas where high exposures occur. The plans improve employee protections by making sure that employers identify all exposures and controls to prevent overexposures. Such plans are also useful for letting employees know what kind of protections they should expect to see on the job.

- **What is Table 1?**

  Table 1 matches common construction tasks with dust control methods, so employers know exactly what they need to do to limit worker exposures to silica. The dust control measures listed in the table include methods known to be effective, like using water to keep dust from getting into the air or using ventilation to capture dust. In some operations, respirators may also be needed. Employers who follow Table 1 correctly are not required to measure workers' exposure to silica and are not subject to the PEL. Table 1 is found at the end of this Resource Guide.

- **Alternative Exposure Control Methods**

  Employers who do not use control methods in Table 1 must:

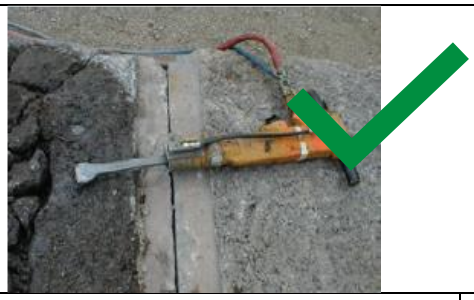
  - Measure the amount of silica that workers are exposed to if it may be at or above an action level of 25 µg/m3 (micrograms of silica per cubic meter of air), averaged over an eight-hour day.

- Protect workers from respirable crystalline silica exposures above the permissible exposure limit of 50 µg/m3, averaged over an eight-hour day.
- Use dust controls to protect workers from silica exposures above the PEL.
- Provide respirators to workers when dust controls cannot limit exposures to the PEL.

- **Dust Control Measures**

Employers will follow Table 1 or determine what dust control measures can be used to protect their employees. Here are some examples of tasks with and without dust control measures:

	
Worker using handheld masonry saw without any dust controls.	Worker using grinder on concrete without any dust controls.
	
Worker using a handheld masonry saw with water application to blade controls.	Worker using a grinder on concrete with a dust collection system.
	
Worker cutting fiber cement with a handheld saw and dust collection system.	Worker drilling into concrete with a rotary hammer equipped with shroud and dust collection system.

	
Jackhammer equipped with water spray deliver system.	A rig-mounted core drill with an integrated water delivery system.

- **Respiratory Protection**

Employers who follow Table 1 or determine through measuring the amount of silica in the air that their employees must wear respirators for protection must also have a Respiratory Protection Program that provides employees with medical evaluation, training and fit testing of the respirators.

OSHA has designated minimum Assigned Protection Factors (APF) as is listed in Table 1 for certain tasks. Here are examples of APF 10 and APF 25 respirators:

Half mask/Dust mask
APF=10
Needs to be fit tested

Half mask (Elastomeric)
APF=10
Needs to be fit tested

Full facepiece (Elastomeric)
APF=50
Needs to be fit tested

Loose-Fitting Powered Air-Purifying Respirator (PAPR)
APF= 25

Hood Powered Air-Purifying Respirator (PAPR)
APF= 25

COMPETENT PERSON

The employer must designate a competent person to frequently and regularly inspect job sites, materials, and equipment to implement the written exposure control plan. A competent person is someone who:

- Can identify existing and foreseeable respirable crystalline silica hazards;
- Is authorized to promptly eliminate or minimize silica hazards; and
- Has the knowledge and ability to implement the written exposure control plan.

HOUSEKEEPING

The respirable crystalline silica standard requires all construction employers covered by the standard, including those who fully and properly implement the control methods specified in Table 1, to avoid certain housekeeping practices. When cleaning up dust that could contribute to employee exposure to respirable crystalline silica, employers must:

- Not allow dry brushing or dry sweeping, unless methods such as wet sweeping and HEPA-filtered vacuuming are not feasible;
- Not allow cleaning of surfaces or clothing with compressed air, unless the compressed air is used together with a ventilation system that effectively captures the dust cloud or no other cleaning method is feasible.
- Cleaning methods such as dry sweeping, dry brushing, and use of compressed air can cause respirable crystalline silica dust to get into the air and be inhaled by employees. Therefore, the silica standard limits the use of these cleaning methods to prevent unnecessary exposures to employees. Employers are required to use other cleaning methods such as wet sweeping and HEPA filtered vacuums, whenever feasible, because such methods reduce employee exposures by preventing silica-containing dust from getting into the air.

Medical Surveillance

Medical surveillance is intended to:

1. Identify respirable crystalline silica-related diseases so that employees with those diseases can take actions to protect their health;
2. Determine if an employee has any condition, such as a lung disease, that might make him or her more sensitive to respirable crystalline silica exposure; and
3. Determine the employee's fitness to use respirators.

The standard specifies which employees must be offered medical surveillance, when and how often the examinations must offer, and the tests that make up medical examinations. The standard also specifies the information that the employer must give to the physician or other licensed health care professional (PLHCP) who conducts the examinations and the information that the employer must ensure that the PLHCP provides to the employee and employer.

All medical examinations and procedures required by the standard must be performed by a PLHCP. Medical surveillance must be provided at no cost to employees, and at a reasonable time and place. If

getting the medical examination requires the employee to travel away from the worksite, the employer is required to cover the cost of travel. The employer must also pay employees for time spent traveling and taking medical examinations.

TRAINING

Employers must train and inform employees covered by the silica standard about respirable crystalline silica hazards and the methods the employer uses to limit their exposures to those hazards. Employers must cover the cost of training and must pay employees for the time spent in training.

RECORDKEEPING

Records can demonstrate employer compliance with the standard and can assist in diagnosing and identifying workplace related illnesses. Therefore, employers are required to make and keep accurate records of air monitoring data and objective data used to assess employee exposures to respirable crystalline silica under the standard, as well as records of medical surveillance provided under the standard. The following types of records shall be maintained at a minimum:

- Air Monitoring Data
- Objective Data
- Employee Exposure
- Medical Surveillance
- Training

TABLE 1

The following is table 1 as found in the OSHA standard: §1926.1153 Respirable crystalline silica.

Table 1: Specified Exposure Control Methods When Working with Materials Containing Crystalline Silica

Equipment / Task	Engineering and Work Practice Control Methods	Required Respiratory Protection and Minimum Assigned Protection Factor (APF)	
		≤ 4 hours /shift	> 4 hours /shift
(i) Stationary masonry saws	Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
(ii) Handheld power saws (any blade diameter)	Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. ➔ When used outdoors. ➔ When used indoors or in an enclosed area.	None APF 10	APF 10 APF 10
(iii) Handheld power saws for cutting fiber- cement	For tasks performed outdoors only: Use saw equipped with commercially available dust collection	None	None

board (with blade diameter of 8 inches or less)	system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency.		
(iv) Walk-behind saws	Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. ➔ When used outdoors. ➔ When used indoors or in an enclosed area.	 None APF 10	 None APF 10
(v) Drivable saws	For tasks performed outdoors only: Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
(vi) Rig-mounted core saws or drills	Use tool equipped with integrated water delivery system that supplies water to cutting surface. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
(vii) Handheld and stand-mounted drills (including impact and rotary hammer drills)	Use drill equipped with commercially available shroud or cowling with dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. Use a HEPA-filtered vacuum when cleaning holes.	None	None
(viii) Dowel drilling rigs for concrete	For tasks performed outdoors only: Use shroud around drill bit with a dust collection system. Dust collector must have a filter with 99% or greater efficiency and a filter-cleaning mechanism. Use a HEPA-filtered vacuum when cleaning holes.	APF 10	APF 10
(ix) Vehicle-mounted drilling rigs for rock and concrete	Use dust collection system with close capture hood or shroud around drill bit with a low-flow water spray to wet the dust at the discharge point from the dust collector. OR Operate from within an enclosed cab and use water for dust suppression on drill bit.	None None	None None
(x) Jackhammers and handheld powered chipping tools	Use tool with water delivery system that supplies a continuous stream or spray of water at the point of impact. ➔ When used outdoors. ➔ When used indoors or in an enclosed area. OR Use tool equipped with commercially available shroud and dust collection system.	 None APF 10	 APF 10 APF 10

	Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. ➔ When used outdoors. ➔ When used indoors or in an enclosed area.	 None APF 10	 APF 10 APF 10
(xi) Handheld grinders for mortar removal (i.e., tuckpointing)	Use grinder equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism.	APF 10	APF 25
(xii) Handheld grinders for uses other than mortar removal	For tasks performed outdoors only: Use grinder equipped with integrated water delivery system that continuously feeds water to the grinding surface. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. OR Use grinder equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism. ➔ When used outdoors. ➔ When used indoors or in an enclosed area.	None None None None	None None None APF 10
(xiii) Walk-behind milling machines and floor grinders	Use machine equipped with integrated water delivery system that continuously feeds water to the cutting surface. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. OR Use machine equipped with dust collection system recommended by the manufacturer. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. When used indoors or in an enclosed area, use a HEPA-filtered vacuum to remove loose dust in between passes.	None None	None None

(xiv) Small drivable milling machines (less than half-lane)	Use a machine equipped with supplemental water sprays designed to suppress dust. Water must be combined with a surfactant. Operate and maintain machine to minimize dust emissions.	None	None
(xv) Large drivable milling machines (half-lane and larger)	For cuts of any depth on asphalt only: Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust. Operate and maintain machine to minimize dust emissions. For cuts of four inches in depth or less on any substrate: Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust. Operate and maintain machine to minimize dust emissions. OR Use a machine equipped with supplemental water spray designed to suppress dust. Water must be combined with a surfactant. Operate and maintain machine to minimize dust emissions.	None None None	None None None
(xvi) Crushing machines	Use equipment designed to deliver water spray or mist for dust suppression at crusher and other points where dust is generated (e.g., hoppers, conveyers, sieves/sizing or vibrating components, and discharge points). Operate and maintain machine in accordance with manufacturer's instructions to minimize dust emissions. Use a ventilated booth that provides fresh, climate-controlled air to the operator, or a remote-control station.	None	None
(xvii) Heavy equipment and utility vehicles used to abrade or fracture silica-containing materials (e.g., hoe-ramming, rock ripping) or used during demolition activities involving silica-containing materials	Operate equipment from within an enclosed cab. When employees outside of the cab are engaged in the task, apply water and/or dust suppressants as necessary to minimize dust emissions.	None None	None None
(xviii) Heavy equipment and utility vehicles for tasks such as grading and excavating but not including: demolishing, abrading, or fracturing silica- containing materials	Apply water and/or dust suppressants as necessary to minimize dust emissions. OR When the equipment operator is the only employee engaged in the task, operate equipment from within an enclosed cab.	None None	None None

§1926.1153 Respirable crystalline silica.

(c) Specified exposure control methods.

1. For each employee engaged in a task identified on Table 1, the employer shall fully and properly implement the engineering controls, work practices, and respiratory protection specified for the

task on Table 1, unless the employer assesses and limits the exposure of the employee to respirable crystalline silica in accordance with paragraph (d) of this section.

2. When implementing the control measures specified in Table 1, each employer shall:
    i. For tasks performed indoors or in enclosed areas, provide a means of exhaust as needed to minimize the accumulation of visible airborne dust;
    ii. For tasks performed using wet methods, apply water at flow rates sufficient to minimize release of visible dust;
    iii. For measures implemented that include an enclosed cab or booth, ensure that the enclosed cab or booth:
        a. Is maintained as free as practicable from settled dust;
        b. Has door seals and closing mechanisms that work properly;
        c. Has gaskets and seals that are in good condition and working properly;
        d. Is under positive pressure maintained through continuous delivery of fresh air;
        e. Has intake air that is filtered through a filter that is 95% efficient in the 0.3-10.0 µm range (e.g., MERV-16 or better); and
        f. Has heating and cooling capabilities.
3. Where an employee performs more than one task on Table 1 during the course of a shift, and the total duration of all tasks combined is more than four hours, the required respiratory protection for each task is the respiratory protection specified for more than four hours per shift. If the total duration of all tasks on Table 1 combined is less than four hours, the required respiratory protection for each task is the respiratory protection specified for less than four hours per shift.

Employee Safety Violation Reprimand Policy

All workers are expected to comply with safety rules and regulations related to their work and work areas. Violations of these rules will not be tolerated. Workers shall follow these steps to remain safe and avoid this policy:

- Workers shall not undertake a job until they have received appropriate instructions and are satisfied that they can do the job properly and safely. A worker should speak up if they are not ready.
- No worker shall undertake a job that appears to be unsafe.
- No worker shall undertake any job or use any machinery while under the influence of illegal and/or legal drugs, alcohol or a prescription or over the counter drug that impairs the worker's ability to work safely.
- No worker shall perform any work without using the required personal protective equipment.
- All workers must report every accident, including injuries, property damages, and near misses to their supervisor.

Speak up if you feel something is unsafe. Discuss with your immediate supervisor or their supervisor if you don't get an appropriate response. Workers who raise safety concerns will not be subject to retaliation.

The company wants its employees and subcontractors to work in a positive, productive atmosphere. However, employees and/or subcontractors who violate safety rules must be disciplined to protect their own safety and the safety of their coworkers. Supervisors should follow the following procedures:

EMPLOYEES

Employees of the company may be reprimanded in the following manner:

	Minor Violation →	Major Violation
1st Violation	Verbal Warning	Suspension for 1 day
2nd Violation	Written Warning	Suspension for 1 week
3rd Violation		Termination

Violations will reset to zero after 12 months without additional violations.

MINOR VIOLATIONS

This list of minor violations is provided as examples and is not a complete list of what could be considered a minor violation. A minor violation is one that would not result in a serious injury.

- Violation of personal protective equipment policy that does not result in injury to oneself or others
- Poor housekeeping
- Failure to participate in safety meetings
- Failure to properly and immediately report any accident or injury
- Failure to perform inspections of tools or machinery
- Failure to report machine or tool deficiencies
- Failure to learn company safety rules and regulations
- Failure to report conditions that one believes to be unsafe
- Smoking or eating in an unauthorized area

MAJOR VIOLATIONS

This list of major violations is provided as examples and is not a complete list of what could be considered a major violation. A major violation is one that would typically result in a serious injury.

- Violation that results in damages property
- Violation that endangers the safety of others
- Speeding or unsafe operation of a forklift or any other company vehicle
- Driving a forklift or any other machinery without the required approval
- Refusal to obey a supervisor's safety instructions
- Refusal to abate a safety violation

Employee Disciplinary Action Form

Employee Name		Date of Violation	
Supervisor		Jobsite	
Description of Violation			
Method and Date of Abatement			
Previous Offenses of Same or Similar	☐ 1st Offense ☐ 2nd Offense ☐ 3rd Offense	Previous Offense Date: Previous Offense Date:	
Reprimand for This Violation			
Employee Comments			

Signature of Supervisor: _____ Date:_____

Signature of Employee: _____ Date:_____

Re-Training for Violation	Supervisor should describe and date the training that took place to prevent re-occurrence of this violation.

OSHA Inspection Procedures

ARRIVAL OF THE COMPLIANCE OFFICER

- Verify the Compliance Officer's credentials—look at ID and business card.
- Determine why the Compliance Officer wants to inspect the project, i.e. complaint, accident, programmed, imminent danger, follow-up.
    - If a complaint inspection, ask to have a copy of the complaint.
    - If a programmed inspection, ask for a focused inspection.
- Tell OSHA that your company policy is to contact your Management prior to starting the inspection. Have OSHA wait in the construction office while you are making phone calls.

Upper management is ultimately responsible for giving permission for OSHA to inspect. It is not advisable to tell OSHA they cannot inspect your site. OSHA should wait a reasonable amount of time onsite prior to starting the inspection to allow your upper management or their representatives to arrive onsite.

Brief your SFI Safety Consultant on the situation, and then ask OSHA if they will speak to your SFI Safety Consultant.

The following is to be done when the OSHA inspector conducts the inspection.

- Request an opening conference if the Compliance Officer does not call for one.
- Have the project superintendent and/or the project manager present.
- Take detailed notes of everything discussed.
- Keep all publications and documents given to you by the Compliance Officer and note who gave it to you and the date of its receipt.
- If more than one Compliance Officer is involved, find out if they plan to make the inspection in one group or split into two or more groups to make the inspection. If they want to divide into two or more groups, tell the Compliance Officer you will have an employer representative with each group.
- Be cooperative with the Compliance Officer. At all times prior to, during and after the inspection, act in a professional businesslike manner. Never enter personal arguments with the Compliance Officer.
- Tell the Compliance Officer that you expect him/her to advise the company of all suspected violations, and the standard involved. Tell the Compliance Officer that you will be taking notes of all the suspected violations he/she informs you of so that there will be no dispute as to whether the company was informed.

RECORDS REVIEW

- Allow the Compliance Officer to look only at your Site-Specific Safety Program.
- Do not volunteer to give or let the Compliance Officer look at any safety inspection reports other than those reports required by OSHA (such as scaffolding inspection forms). This includes not giving or letting the Compliance Officer look at any such reports that have been made on subcontractor's activities.

WALK AROUND INSPECTION

General

- Have the company representative accompany the Compliance Officer at all times. Never leave the Compliance Officer to have free and unlimited access to your work without the company representative.
- Control the inspection. Treat the Compliance Officer as you would a guest in your house; they are there with permission and will be expected to follow all instructions given to them and will be required to conduct the inspection in such a manner that it does not disrupt the scheduled work. Remember, it is the company's construction project, not OSHA's. The Compliance Officer is to be treated as any other visitor—under your control while on our project. Tell them that you need to take your own notes, pictures, and gather information at the same time.
- Refer all questions the Compliance Officer asks to the Subcontractors Representative when possible.
- Take detailed notes of everything seen, discussed, and done by the Compliance Officer.
- Take photographs of everything the Compliance Officer photographs. If the equipment, work area, etc., can be photographed from a more favorable position (different angle, greater distance, etc.) photograph it from the different position.
- Do not allow any employee to perform demonstrations for the Compliance Officer. Example—if a truck is idle and the Compliance Officer asks you or an employee to operate it, so he can see if the horn or backup alarm is working, refuse to do it. Allow the Compliance Officer to see the work as it is normally being done only.
- Do not volunteer any information. Refer all questions the Compliance Officer asks to the Subcontractors Representative when possible. The Compliance Officer is trained to obtain admissions from companies. Be careful answering questions. When in doubt, ask them to restate the question. Do not admit to a violation. State the facts only, not your opinion. Do not lie to the Compliance Officer at any time.
- Do not issue orders, such as "clean up the trash", during the inspection to have conditions corrected that have not been noticed by the Compliance Officer. The immediate abatement of an alleged violation will not preclude being cited by the Compliance Officer and may alert them to the condition.
- Make sure you fully understand everything the Compliance Officer does or comments on. If you do not understand everything they say and do, ask questions. Insist on having time to record all facts, even if the inspection is slowed down.

OSHA INTERVIEWS

OSHA may want to interview multiple individuals during the inspection. The following rules should be followed when being interviewed by OSHA.

Rules for Being Interviewed

1. Tell the Truth
2. Make sure you understand the question.
3. Just answer the question, nothing else

4. Answer based on your knowledge only …don't guess or speculate.

Employee Interviews

- The Compliance Officer may interview any employee privately.
- For interviews held with employees in our presence, record the names and companies of all employees interviewed. Record the content of the conversations with the employees.
- We have the right to be in attendance with management personnel.

CLOSING CONFERENCE

- Have the designated company representative present for the closing conference.
- Take notes of everything discussed and record what documents were distributed by the Compliance Officer.
- Make sure that no questions you have concerning the inspection go unanswered. If the Compliance Officer feels that violations exist on the project, find out exactly why they feel that way. Tell them that you are noting every potential violation that they advise may exist so there will be no dispute at a later conference or hearing. Hand the list back and ask if that is everything, ask what other items may exist. If they are unsure or do not list any others, tell them that you are noting that no additional items were included in response to your questions.
- Don't give any estimates of abatement time needed to correct any alleged violations.

AFTER THE CLOSING CONFERENCE

- Prepare a detailed report of your inspect notes. Include photos and any other relevant information. Send report to your management.
- Keep all notes and pictures taken on file.

OSHA Inspection Report

Date(s) of Inspection: _____

Time Arrived Onsite: _____

For specific procedures for an OSHA inspection, please refer to the previous section of this program.

Pre-Inspection

1. Who did the OSHA Compliance Officer first contact at the jobsite?

   Name: _____ Title: _____

2. Location where first contact was made _____

3. Did the Compliance Officer show his or her credentials? Yes_____ No _____

4. Compliance Officer Name: _____

   Area Office: _____

5. Did the Compliance Office state why he/she was onsite? Yes_____ No _____

   Reason:

6. Was off-site video or pictures taken? Yes_____ No _____

   What did the Compliance Officer see while off-site?

Opening Conference

1. Was an opening conference held? Yes_____ No _____ Who attended?

Name	Company

2. What was the purpose of the inspection as explained by the Compliance Officer?

3. Did the Compliance Officer review any on-site paper work? Yes_____ No _____

   What was reviewed?

4. Were any copies taken? Yes_____ No _____

5. Other comments:

Walk Around Inspection

1. List people present during the walk around inspection:

2. Comments by compliance officer during inspection:

3. Was video or pictures taken during the inspection? Yes_____ No _____
   (Attach photo log with description)

4. Was any portion of the jobsite shut down? Yes_____ No _____
   Describe shut down including employees and subcontractors involved:

5. Were employees interviewed? Yes_____ No _____
   Who was interviewed? Were they recorded?

6. Were subcontractors interviewed? Yes_____ No _____
   Who was interviewed? Were they recorded?

Closing Conference

Date: _____ Time: _____

1. Was a closing conference held? Yes_____ No _____ Who attended?

Name	Company

2. Were any alleged violations discussed? Yes_____ No _____

   Describe alleged violations:

3. Other Comments:

Incident Investigation Procedures

PURPOSE

This incident investigation procedure provides an approach to determine initiating events, contributing events, root cause, and contributing causes. The investigation must identify appropriate recommendations that address the problems and identify root causes. These may include, but are not limited to, engineering controls, personal protective equipment, and/or training for affected employees. The intent of this procedure is to help prevent and/or mitigate similar incidents and accidents in the future.

POLICY

All safety incidents, including work-related injuries, accidents, regulatory violations, and near misses, will be investigated to determine the root causes. Recommendations will be developed and implemented to prevent recurrence of the accident/incident. (A near miss is a condition or an incident where injury or property damage could have occurred.)

ROLES AND RESPONSIBILITIES

Management

1. Review all OSHA recordable injuries, vehicular accidents, accidents involving property damage, and near miss events to assess cause and prevention.
2. Monitor corrective actions as appropriate.
3. Ensure correct documentation and report results of the incident investigation, including findings and recommendations to upper management.
4. Notify field and office personnel of the event.

Site Supervisors

1. Immediately report accidents and near miss incidents to the management
2. Perform an initial investigation, and timely submit Accident/Injury Reports and Near Miss Incident reports to the management within 24 hours.
3. Review all accident/injuries and assess corrective action(s) and the need for safety modification and/or employee training.

Employees

1. Immediately inform site supervisors of accidents, near miss incidents, unsafe conditions and unsafe practices.
2. Do not disturb area, but control area to allow for investigation.
3. Participate in the incident investigation.

INVESTIGATION PROCEDURES

All incidents are to be investigated in a timely manner to determine the root cause(s) and contributing factors involved. The extent of the investigation will be dependent upon the severity or potential severity of the incidents.

Site supervisors are responsible for performing an initial investigation immediately upon finding out about the incident to determine the root cause(s) of the incident. Management will be contacted as needed to assist in the completion of the investigation. The purpose of the investigation is not to fix or find blame, but to identify the root cause and determine preventative measures that can help to prevent future accidents/incidents.

Investigation Guidelines

Injury Accident	Non-Injury Near Miss	Property Damage Incident
Provide for immediate medical attention		
Secure area to preserve accident scene	Secure area to preserve incident scene	Secure area to preserve incident scene
Report the incident to management	Report the incident to management.	Report the incident to management.
Assemble and complete necessary reporting and investigation forms	Assemble and complete necessary reporting and investigation forms	Assemble and complete necessary reporting and investigation forms
Interview injured personnel and witnesses	Interview witnesses	Interview witnesses
Examine the accident work area for causative factors and take pictures	Examine incident area for causative factors and take pictures	Examine incident area for causative factors and take pictures
Review established procedures to ensure they are adequate and were followed	Review established procedures to ensure they are adequate and were followed	Review established procedures to ensure they are adequate and were followed
Review training records of affected individuals	Review training records of affected individuals	Review training records of affected individuals
Determine all contributing causes to the accident	Determine all contributing causes to the near miss	Determine all contributing causes to the property damage incident
Take corrective actions, in consultation with management	Take corrective actions, in consultation with management.	Take corrective actions, in consultation with management.
Record all findings and actions taken or to be taken	Record all findings and actions taken or to be taken	Record all findings and actions taken or to be taken
Communicate “lessons learned” in safety training/meetings	Communicate “lessons learned” in safety training/meetings	Communicate “lessons learned” in safety training/meetings

Note: The guidelines listed provide a checklist for the initial investigation. Additional or modified steps should be used as appropriate to the situation.

The site supervisor's initial findings and any immediate corrective actions must be documented on the appropriate forms and sent to management within 24 hours of notification of the incident.

The site supervisors should work with management to establish action deadlines. Corrective actions must be completed according to the plan.

Forms used for investigations are found following these procedures:

- Injury Accident Investigation Report
- Non-Injury Near Miss Investigation Report
- Property Damage Incident Investigation Report
- Incident Witness Statement Form

Injury Accident Investigation Report

Date of Accident		Time of Accident					
Company Name		Location					
Site Supervisor		Phone #					
Injured Person's Employer		Employer's Address					
Supervisor Name		Phone #					
Name of Injured Person				Sex		Age	
Contact Info for Injured Person		Injured Person's Occupation					
Employment Category	□ Regular, full-time □ Regular, part-time □ Temporary □ Seasonal	Length of Employment	□ Less than 6 months □ 6 months to 1 year □ 1 year to 5 years □ Greater than 5 years	Time in Occupation	□ Less than 6 months □ 6 months to 1 year □ 1 year to 5 years □ Greater than 5 years		
Names of others Injured in same Accident		Names of Witness' to this Accident					
Nature of Injury and Body Part(s) Injured		Severity of Injury	□ Fatality □ Inpatient Hospitalization □ Medical Treatment □ First Aid Treatment □ Other				
Task and Activity at time of the Accident	General Task			Supervision at time of Accident	□ Directly Supervised □ Indirectly Supervised □ Not Supervised □ Supervision not feasible		
	Specific Activity						
	Employee working	□ Alone □ With fellow co-worker(s)					
Specific location of Accident		Weather conditions at time of the Accident					

Injury Accident Investigation Report

Describe how the Accident occurred		
Accident Sequence (Describe in reverse order of occurrence events preceding the injury and accident. Starting with the injury and moving backward in time, reconstruct the sequence of events that led to the injury.)	Injury Event	
	Accident Event	
	Preceding Event #1	
	Preceding Event #2	
Causal Factors (Events and conditions that contributed to the accident. Be sure and describe in detail if the proper safety equipment was being used and if it was used correctly.)		
Corrective Actions (Those that have been, or will be, taken to prevent recurrence.)		

Pictures of Accident		

Name of Investigator		Company Name	
Signature		Date	

Property Damage Incident Investigation Report

Date of Incident		Time of Incident	
Company Name		Location	
Site Supervisor		Phone #	

Names and contact information for individuals involved in Incident		Names and contract information for Witness' to this Incident	
Individuals taken for Drug/Alcohol Testing		Company names of individuals taken for Drug/ Alcohol Testing	
Specific location of Incident		Weather conditions at time of the Incident	
Describe how the Incident occurred			

Draw a picture that shows how the property damage incident occurred.	
Describe the property damage that occurred.	
Describe who owns the property that was damaged.	

Pictures of Incident		

Name of Investigator		Company Name	
Signature		Date	

Non-Injury Near Miss Investigation Report

Date of Incident		Time of Incident	
Company Name		Location	
Site Supervisor		Phone #	

Names and contact information for individuals involved in Incident			Names and contract information for Witness' to this Incident	
Individuals taken for Drug/Alcohol Testing			Company names of individuals taken for Drug/ Alcohol Testing	
Task and Activity at time of the Incident	General Task		Supervision at time of Incident	□ Directly Supervised □ Indirectly Supervised □ Not Supervised □ Supervision not feasible
	Specific Activity			
	Employee working	□ Alone □ With fellow co-worker(s)		
Specific location of Incident			Weather conditions at time of the Incident	

Describe how the Incident occurred		
Incident Sequence (Describe in reverse order of occurrence events preceding the incident. Starting with the injury and moving backward in time, reconstruct the sequence of events that led to the incident.)	Incident Event	
	Preceding Event #1	
	Preceding Event #2	
	Preceding Event #3	
Causal Factors (Events and conditions that contributed to the incident. Be sure and describe in detail if the proper safety equipment was being used and if it was used correctly.)		
Corrective Actions (Those that have been, or will be, taken to prevent recurrence.)		

Pictures of Incident		

Name of Investigator		Company Name	
Signature		Date	

Incident Witness Statement Form

Date of Incident		Time of Incident	
Company Name		Location	
Site Supervisor		Phone #	

Witness Name and Contact Information		Employer's Name and Address	
Supervisor Name		Phone #	
Describe the Incident.			
Immediately before the incident, what did you see? Did you notice anyone doing anything wrong? Did you warn them? Where were you at? How far away? What did you see?			

During the incident, what did you see?	
Immediately after the incident, what did you see?	
Have you spoken with anyone else concerning this incident?	
Additional Comments	

Witness Signature		Date	
Name of Investigator		Company Name	
Signature		Date	

OSHA Records and Reporting

OSHA RECORDKEEPING

OSHA requires companies to keep logs of certain injuries and incidents.

Many employers with more than 10 employees are required to keep a record of serious work-related injuries and illnesses. Minor injuries requiring first aid only do not need to be recorded.

What Records are Kept?

- OSHA 301: OSHA requires employers to record the injury or illness using an OSHA 301 form or equivalent.
- OSHA 300 Log: this is an annual log of recordable injuries and incidents. The information from the OSHA 301 must be recorded on this log within 7 days.
- OSHA 300a Summary: this summary form will be completed each year. Facilities must post this form in a prominent location from February 1st to April 30th each year.

All of these forms, referred to as OSHA Recordkeeping Logs from OSHA are provided after this page.

Maintaining and Posting Records

The records must be maintained at the worksite for at least five years. Each February through April, employers must post a summary of the injuries and illnesses recorded the previous year. Also, if requested, copies of the records must be provided to current and former employees, or their representatives. In addition, if these records are requested during an OSHA inspection, they must be provided within 4 hours.

Electronic Reporting

OSHA also requires certain employers to electronically report some of these records to OSHA. These reports need to be made by the deadlines OSHA has issued.

OSHA REPORTING

Severe injuries must be reported to OSHA. Here are the requirements:

- Fatalities: reported within 8 hours
- Hospitalizations, amputations and/or loss of eye: reported within 24 hours

OSHA
Forms for Recording
Work-Related Injuries and Illnesses

U.S. Department of Labor
Occupational Safety and Health Administration

Dear Employer:

This booklet includes the forms needed for maintaining occupational injury and illness records for 2004. These new forms have changed in several important ways from the 2003 recordkeeping forms.

In the December 17, 2002 Federal Register (67 FR 77165-77170), OSHA announced its decision to add an occupational hearing loss column to OSHA's Form 300, Log of Work-Related Injuries and Illnesses. This forms package contains modified Forms 300 and 300A which incorporate the additional column M(5) Hearing Loss. Employers required to complete the injury and illness forms must begin to use these forms on January 1, 2004.

In response to public suggestions, OSHA also has made several changes to the forms package to make the recordkeeping materials clearer and easier to use:

- On Form 300, we've switched the positions of the day count columns. The days "away from work" column now comes before the days "on job transfer or restriction."
- We've clarified the formulas for calculating incidence rates.
- We've added new recording criteria for occupational hearing loss to the "Overview" section.
- On Form 300, we've made the column heading "Classify the Case" more prominent to make it clear that employers should mark only one selection among the four columns offered.

The Occupational Safety and Health Administration shares with you the goal of preventing injuries and illnesses in our nation's workplaces. Accurate injury and illness records will help us achieve that goal.

Occupational Safety and Health Administration
U.S. Department of Labor

What's Inside...

In this package, you'll find everything you need to complete OSHA's *Log* and the *Summary of Work-Related Injuries and Illnesses* for the next several years. On the following pages, you'll find:

- ***An Overview: Recording Work-Related Injuries and Illnesses —*** General instructions for filling out the forms in this package and definitions of terms you should use when you classify your cases as injuries or illnesses.

- ***How to Fill Out the Log —*** An example to guide you in filling out the *Log* properly.

- ***Log of Work-Related Injuries and Illnesses —*** Several pages of the *Log* (but you may make as many copies of the *Log* as you need.) Notice that the *Log* is separate from the *Summary*.

- ***Summary of Work-Related Injuries and Illnesses —*** Removable *Summary* pages for easy posting at the end of the year. Note that you post the *Summary* only, not the *Log*.

- ***Worksheet to Help You Fill Out the Summary —*** A worksheet for figuring the average number of employees who worked for your establishment and the total number of hours worked.

- ***OSHA's 301: Injury and Illness Incident Report —*** A copy of the OSHA 301 to provide details about the incident. You may make as many copies as you need or use an equivalent form.

Take a few minutes to review this package. If you have any questions, ***visit us online at www.osha. gov*** **or** ***call your local OSHA office.*** We'll be happy to help you.

An Overview: Recording Work-Related Injuries and Illnesses

The Occupational Safety and Health (OSH) Act of 1970 requires certain employers to prepare and maintain records of work-related injuries and illnesses. Use these definitions when you classify cases on the Log. OSHA's recordkeeping regulation (see 29 CFR Part 1904) provides more information about the definitions below.

The *Log of Work-Related Injuries and Illnesses* (Form 300) is used to classify work-related injuries and illnesses and to note the extent and severity of each case. When an incident occurs, use the *Log* to record specific details about what happened and how it happened. The *Summary* — a separate form (Form 300A) — shows the totals for the year in each category. At the end of the year, post the *Summary* in a visible location so that your employees are aware of the injuries and illnesses occurring in their workplace.

Employers must keep a *Log* for each establishment or site. If you have more than one establishment, you must keep a separate *Log* and *Summary* for each physical location that is expected to be in operation for one year or longer.

Note that your employees have the right to review your injury and illness records. For more information, see 29 Code of Federal Regulations Part 1904.35, *Employee Involvement*.

Cases listed on the *Log of Work-Related Injuries and Illnesses* are not necessarily eligible for workers' compensation or other insurance benefits. Listing a case on the *Log* does not mean that the employer or worker was at fault or that an OSHA standard was violated.

When is an injury or illness considered work-related?

An injury or illness is considered work-related if an event or exposure in the work environment caused or contributed to the condition or significantly aggravated a preexisting condition. Work-relatedness is presumed for injuries and illnesses resulting from events or exposures occurring in the workplace, unless an exception specifically applies. See 29 CFR Part 1904.5(b)(2) for the exceptions. The work environment includes the establishment and other locations where one or more employees are working or are present as a condition of their employment. See 29 CFR Part 1904.5(b)(1).

Which work-related injuries and illnesses should you record?

Record those work-related injuries and illnesses that result in:

- death,
- loss of consciousness,
- days away from work,
- restricted work activity or job transfer, or
- medical treatment beyond first aid.

You must also record work-related injuries and illnesses that are significant (as defined below) or meet any of the additional criteria listed below.

You must record any significant work-related injury or illness that is diagnosed by a physician or other licensed health care professional. You must record any work-related case involving cancer, chronic irreversible disease, a fractured or cracked bone, or a punctured eardrum. See 29 CFR 1904.7.

What are the additional criteria?

You must record the following conditions when they are work-related:

- any needlestick injury or cut from a sharp object that is contaminated with another person's blood or other potentially infectious material;
- any case requiring an employee to be medically removed under the requirements of an OSHA health standard;
- tuberculosis infection as evidenced by a positive skin test or diagnosis by a physician or other licensed health care professional after exposure to a known case of active tuberculosis.
- an employee's hearing test (audiogram) reveals 1) that the employee has experienced a Standard Threshold Shift (STS) in hearing in one or both ears (averaged at 2000, 3000, and 4000 Hz) and 2) the employee's total hearing level is 25 decibels (dB) or more above audiometric zero (also averaged at 2000, 3000, and 4000 Hz) in the same ear(s) as the STS.

What is medical treatment?

Medical treatment includes managing and caring for a patient for the purpose of combating disease or disorder. The following are not considered medical treatments and are NOT recordable:

- visits to a doctor or health care professional solely for observation or counseling;

What do you need to do?

1. Within 7 calendar days after you receive information about a case, decide if the case is recordable under the OSHA recordkeeping requirements.
2. Determine whether the incident is a new case or a recurrence of an existing one.
3. Establish whether the case was work-related.
4. If the case is recordable, decide which form you will fill out as the injury and illness incident report.

   You may use *OSHA's 301: Injury and Illness Incident Report* or an equivalent form. Some state workers compensation, insurance, or other reports may be acceptable substitutes, as long as they provide the same information as the OSHA 301.

How to work with the Log

1. Identify the employee involved unless it is a privacy concern case as described below.
2. Identify when and where the case occurred.
3. Describe the case, as specifically as you can.
4. Classify the seriousness of the case by recording the **most serious outcome** associated with the case, with column G (Death) being the most serious and column J (Other recordable cases) being the least serious.
5. Identify whether the case is an injury or illness. If the case is an injury, check the injury category. If the case is an illness, check the appropriate illness category.

U.S. Department of Labor
Occupational Safety and Health Administration

- diagnostic procedures, including administering prescription medications that are used solely for diagnostic purposes; and
- any procedure that can be labeled first aid. (*See below for more information about first aid.*)

What is first aid?

If the incident required only the following types of treatment, consider it first aid. Do NOT record the case if it involves only:

- using non-prescription medications at non-prescription strength;
- administering tetanus immunizations;
- cleaning, flushing, or soaking wounds on the skin surface;
- using wound coverings, such as bandages, BandAids™, gauze pads, etc., or using SteriStrips™ or butterfly bandages.
- using hot or cold therapy;
- using any totally non-rigid means of support, such as elastic bandages, wraps, non-rigid back belts, etc.;
- using temporary immobilization devices while transporting an accident victim (splints, slings, neck collars, or back boards).
- drilling a fingernail or toenail to relieve pressure, or draining fluids from blisters;
- using eye patches;
- using simple irrigation or a cotton swab to remove foreign bodies not embedded in or adhered to the eye;
- using irrigation, tweezers, cotton swab or other simple means to remove splinters or foreign material from areas other than the eye;
- using finger guards;
- using massages;
- drinking fluids to relieve heat stress

How do you decide if the case involved restricted work?

Restricted work activity occurs when, as the result of a work-related injury or illness, an employer or health care professional keeps, or recommends keeping, an employee from doing the routine functions of his or her job or from working the full workday that the employee would have been scheduled to work before the injury or illness occurred.

How do you count the number of days of restricted work activity or the number of days away from work?

Count the number of calendar days the employee was on restricted work activity or was away from work as a result of the recordable injury or illness. Do not count the day on which the injury or illness occurred in this number. Begin counting days from the day after the incident occurs. If a single injury or illness involved both days away from work and days of restricted work activity, enter the total number of days for each. You may stop counting days of restricted work activity or days away from work once the total of either or the combination of both reaches 180 days.

Under what circumstances should you NOT enter the employee's name on the OSHA Form 300?

You must consider the following types of injuries or illnesses to be privacy concern cases:

- an injury or illness to an intimate body part or to the reproductive system,
- an injury or illness resulting from a sexual assault,
- a mental illness,
- a case of HIV infection, hepatitis, or tuberculosis,
- a needlestick injury or cut from a sharp object that is contaminated with blood or other potentially infectious material (see 29 CFR Part 1904.8 for definition), and
- other illnesses, if the employee independently and voluntarily requests that his or her name not be entered on the log.

You must not enter the employee's name on the OSHA 300 *Log* for these cases. Instead, enter "privacy case" in the space normally used for the employee's name. You must keep a separate, confidential list of the case numbers and employee names for the establishment's privacy concern cases so that you can update the cases and provide information to the government if asked to do so.

If you have a reasonable basis to believe that information describing the privacy concern case may be personally identifiable even though the employee's name has been omitted, you may use discretion in describing the injury or illness on both the OSHA 300 and 301 forms. You must enter enough information to identify the cause of the incident and the general severity of the injury or illness, but you do not need to include details of an intimate or private nature.

What if the outcome changes after you record the case?

If the outcome or extent of an injury or illness changes after you have recorded the case, simply draw a line through the original entry or, if you wish, delete or white-out the original entry. Then write the new entry where it belongs. Remember, you need to record the most serious outcome for each case.

Classifying injuries

An injury is any wound or damage to the body resulting from an event in the work environment.

Examples: Cut, puncture, laceration, abrasion, fracture, bruise, contusion, chipped tooth, amputation, insect bite, electrocution, or a thermal, chemical, electrical, or radiation burn. Sprain and strain injuries to muscles, joints, and connective tissues are classified as injuries when they result from a slip, trip, fall or other similar accidents.

U.S. Department of Labor
Occupational Safety and Health Administration

Classifying illnesses

Skin diseases or disorders

Skin diseases or disorders are illnesses involving the worker's skin that are caused by work exposure to chemicals, plants, or other substances.

Examples: Contact dermatitis, eczema, or rash caused by primary irritants and sensitizers or poisonous plants; oil acne; friction blisters, chrome ulcers; inflammation of the skin.

Respiratory conditions

Respiratory conditions are illnesses associated with breathing hazardous biological agents, chemicals, dust, gases, vapors, or fumes at work.

Examples: Silicosis, asbestosis, pneumonitis, pharyngitis, rhinitis or acute congestion; farmer's lung, beryllium disease, tuberculosis, occupational asthma, reactive airways dysfunction syndrome (RADS), chronic obstructive pulmonary disease (COPD), hypersensitivity pneumonitis, toxic inhalation injury, such as metal fume fever, chronic obstructive bronchitis, and other pneumoconioses.

Poisoning

Poisoning includes disorders evidenced by abnormal concentrations of toxic substances in blood, other tissues, other bodily fluids, or the breath that are caused by the ingestion or absorption of toxic substances into the body.

Examples: Poisoning by lead, mercury, cadmium, arsenic, or other metals; poisoning by carbon monoxide, hydrogen sulfide, or other gases; poisoning by benzene, benzol, carbon tetrachloride, or other organic solvents; poisoning by insecticide sprays, such as parathion or lead arsenate; poisoning by other chemicals, such as formaldehyde.

Hearing Loss

Noise-induced hearing loss is defined for recordkeeping purposes as a change in hearing threshold relative to the baseline audiogram of an average of 10 dB or more in either ear at 2000, 3000 and 4000 hertz, and the employee's total hearing level is 25 decibels (dB) or more above audiometric zero (also averaged at 2000, 3000, and 4000 hertz) in the same ear(s).

All other illnesses

All other occupational illnesses.

Examples: Heatstroke, sunstroke, heat exhaustion, heat stress and other effects of environmental heat; freezing, frostbite, and other effects of exposure to low temperatures; decompression sickness; effects of ionizing radiation (isotopes, x-rays, radium); effects of nonionizing radiation (welding flash, ultra-violet rays, lasers); anthrax; bloodborne pathogenic diseases, such as AIDS, HIV, hepatitis B or hepatitis C; brucellosis; malignant or benign tumors; histoplasmosis; coccidioidomycosis.

When must you post the Summary?

You must post the *Summary* only — not the *Log* — by February 1 of the year following the year covered by the form and keep it posted until April 30 of that year.

How long must you keep the Log and Summary on file?

You must keep the *Log* and *Summary* for 5 years following the year to which they pertain.

Do you have to send these forms to OSHA at the end of the year?

No. You do not have to send the completed forms to OSHA unless specifically asked to do so.

How can we help you?

If you have a question about how to fill out the *Log*,

- ❑ ***visit us online at www.osha.gov*** or
- ❑ ***call your local OSHA office.***

Optional

Calculating Injury and Illness Incidence Rates

What is an incidence rate?

An incidence rate is the number of recordable injuries and illnesses occurring among a given number of full-time workers (usually 100 full-time workers) over a given period of time (usually one year). To evaluate your firm's injury and illness experience over time or to compare your firm's experience with that of your industry as a whole, you need to compute your incidence rate. Because a specific number of workers and a specific period of time are involved, these rates can help you identify problems in your workplace and/or progress you may have made in preventing work-related injuries and illnesses.

How do you calculate an incidence rate?

You can compute an occupational injury and illness incidence rate for all recordable cases or for cases that involved days away from work for your firm quickly and easily. The formula requires that you follow instructions in paragraph (a) below for the total recordable cases or those in paragraph (b) for cases that involved days away from work, *and* for both rates the instructions in paragraph (c).

(a) *To find out the total number of recordable injuries and illnesses that occurred during the year,* count the number of line entries on your OSHA Form 300, or refer to the OSHA Form 300A and sum the entries for columns (G), (H), (I), and (J).

(b) *To find out the number of injuries and illnesses that involved days away from work,* count the number of line entries on your OSHA Form 300 that received a check mark in column (H), or refer to the entry for column (H) on the OSHA Form 300A.

(c) *The number of hours all employees actually worked during the year*. Refer to OSHA Form 300A and optional worksheet to calculate this number.

You can compute the incidence rate for all recordable cases of injuries and illnesses using the following formula:

Total number of injuries and illnesses x *200,000* ÷ *Number of hours worked by all employees* = *Total recordable case rate*

(The 200,000 figure in the formula represents the number of hours 100 employees working 40 hours per week, 50 weeks per year would work, and provides the standard base for calculating incidence rates.)

You can compute the incidence rate for recordable cases involving days away from work, days of restricted work activity or job transfer (DART) using the following formula:

(Number of entries in column H + Number of entries in column I) x *200,000* ÷ *Number of hours worked by all employees* = *DART incidence rate*

You can use the same formula to calculate incidence rates for other variables such as cases involving restricted work activity (column (I) on Form 300A), cases involving skin disorders (column (M-2) on Form 300A), etc. Just substitute the appropriate total for these cases, from Form 300A, into the formula in place of the total number of injuries and illnesses.

What can I compare my incidence rate to?

The Bureau of Labor Statistics (BLS) conducts a survey of occupational injuries and illnesses each year and publishes incidence rate data by various classifications (e.g., by industry, by employer size, etc.). You can obtain these published data at www.bls.gov/iif or by calling a BLS Regional Office.

Worksheet

Total number of injuries and illnesses		200,000	÷	Number of hours worked by all employees	=	Total recordable case rate
	x					

Number of entries in Column H + Column I		200,000	÷	Number of hours worked by all employees	=	DART incidence rate
	x					

U.S. Department of Labor
Occupational Safety and Health Administration

How to Fill Out the Log

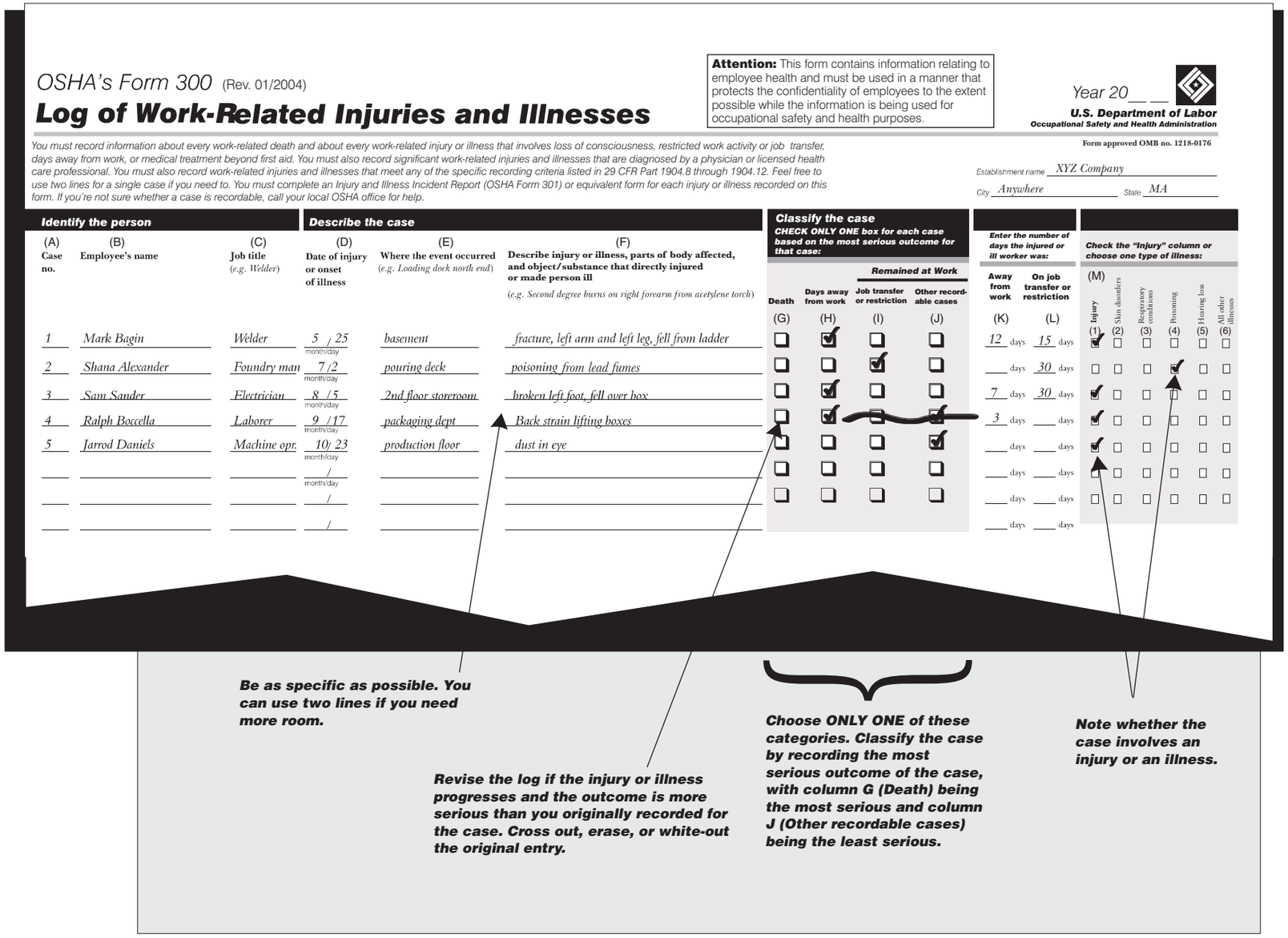
The *Log of Work-Related Injuries and Illnesses* is used to classify work-related injuries and illnesses and to note the extent and severity of each case. When an incident occurs, use the *Log* to record specific details about what happened and how it happened.

If your company has more than one establishment or site, you must keep separate records for each physical location that is expected to remain in operation for one year or longer.

We have given you several copies of the *Log* in this package. If you need more than we provided, you may photocopy and use as many as you need.

The *Summary* — a separate form — shows the work-related injury and illness totals for the year in each category. At the end of the year, count the number of incidents in each category and transfer the totals from the *Log* to the *Summary*. Then post the *Summary* in a visible location so that your employees are aware of injuries and illnesses occurring in their workplace.

You don't post the Log. You post only the Summary at the end of the year.



OSHA's Form 300 (Rev. 01/2004)

Log of Work-Related Injuries and Illnesses

Attention: This form contains information relating to employee health and must be used in a manner that protects the confidentiality of employees to the extent possible while the information is being used for occupational safety and health purposes.

Year 20__ __

U.S. Department of Labor
Occupational Safety and Health Administration

Form approved OMB no. 1218-0176

You must record information about every work-related death and about every work-related injury or illness that involves loss of consciousness, restricted work activity or job transfer, days away from work, or medical treatment beyond first aid. You must also record significant work-related injuries and illnesses that are diagnosed by a physician or licensed health care professional. You must also record work-related injuries and illnesses that meet any of the specific recording criteria listed in 29 CFR Part 1904.8 through 1904.12. Feel free to use two lines for a single case if you need to. You must complete an Injury and Illness Incident Report (OSHA Form 301) or equivalent form for each injury or illness recorded on this form. If you're not sure whether a case is recordable, call your local OSHA office for help.

Establishment name: XYZ Company
City: Anywhere State: MA

Identify the person			Describe the case			Classify the case (CHECK ONLY ONE box for each case based on the most serious outcome for that case:)				Enter the number of days the injured or ill worker was:		Check the "Injury" column or choose one type of illness:					
							Remained at Work										
(A) Case no.	(B) Employee's name	(C) Job title (e.g. Welder)	(D) Date of injury or onset of illness	(E) Where the event occurred (e.g. Loading dock north end)	(F) Describe injury or illness, parts of body affected, and object/substance that directly injured or made person ill (e.g. Second degree burns on right forearm from acetylene torch)	Death (G)	Days away from work (H)	Job transfer or restriction (I)	Other recordable cases (J)	Away from work (K)	On job transfer or restriction (L)	(M) Injury (1)	Skin disorders (2)	Respiratory conditions (3)	Poisoning (4)	Hearing loss (5)	All other illnesses (6)
1	Mark Bagin	Welder	5/25	basement	fracture, left arm and left leg, fell from ladder	☐	☑	☐	☐	12 days	15 days	☑	☐	☐	☐	☐	☐
2	Shana Alexander	Foundry man	7/2	pouring deck	poisoning from lead fumes	☐	☐	☑	☐	___ days	30 days	☐	☐	☐	☑	☐	☐
3	Sam Sander	Electrician	8/5	2nd floor storeroom	broken left foot, fell over box	☐	☑	☐	☐	7 days	30 days	☑	☐	☐	☐	☐	☐
4	Ralph Boccella	Laborer	9/17	packaging dept	Back strain lifting boxes	☐	☑	☐	☐	3 days	___ days	☑	☐	☐	☐	☐	☐
5	Jarrod Daniels	Machine opr.	10/23	production floor	dust in eye	☐	☐	☐	☑	___ days	___ days	☑	☐	☐	☐	☐	☐
			/			☐	☐	☐	☐	___ days	___ days	☐	☐	☐	☐	☐	☐
			/			☐	☐	☐	☐	___ days	___ days	☐	☐	☐	☐	☐	☐
			/			☐	☐	☐	☐	___ days	___ days						

Be as specific as possible. You can use two lines if you need more room.

Revise the log if the injury or illness progresses and the outcome is more serious than you originally recorded for the case. Cross out, erase, or white-out the original entry.

Choose ONLY ONE of these categories. Classify the case by recording the most serious outcome of the case, with column G (Death) being the most serious and column J (Other recordable cases) being the least serious.

Note whether the case involves an injury or an illness.

OSHA's Form 300 (Rev. 01/2004)

Log of Work-Related Injuries and Illnesses

Attention: This form contains information relating to employee health and must be used in a manner that protects the confidentiality of employees to the extent possible while the information is being used for occupational safety and health purposes.

Year 20__ __

U.S. Department of Labor
Occupational Safety and Health Administration

Form approved OMB no. 1218-0176

You must record information about every work-related death and about every work-related injury or illness that involves loss of consciousness, restricted work activity or job transfer, days away from work, or medical treatment beyond first aid. You must also record significant work-related injuries and illnesses that are diagnosed by a physician or licensed health care professional. You must also record work-related injuries and illnesses that meet any of the specific recording criteria listed in 29 CFR Part 1904.8 through 1904.12. Feel free to use two lines for a single case if you need to. You must complete an Injury and Illness Incident Report (OSHA Form 301) or equivalent form for each injury or illness recorded on this form. If you're not sure whether a case is recordable, call your local OSHA office for help.

Establishment name ______________________

City ______________________ State ______________

Identify the person			Describe the case			Classify the case: CHECK ONLY ONE box for each case based on the most serious outcome for that case:				Enter the number of days the injured or ill worker was:		Check the "Injury" column or choose one type of illness: (M)					
(A) Case no.	(B) Employee's name	(C) Job title (*e.g., Welder*)	(D) Date of injury or onset of illness	(E) Where the event occurred (*e.g., Loading dock north end*)	(F) Describe injury or illness, parts of body affected, and object/substance that directly injured or made person ill (*e.g., Second degree burns on right forearm from acetylene torch*)	Death (G)	Days away from work (H)	Remained at Work: Job transfer or restriction (I)	Remained at Work: Other record-able cases (J)	Away from work (K)	On job transfer or restriction (L)	Injury (1)	Skin disorder (2)	Respiratory condition (3)	Poisoning (4)	Hearing loss (5)	All other illnesses (6)
			/ month/day			☐	☐	☐	☐	___ days	___ days	☐	☐	☐	☐	☐	☐
			/ month/day			☐	☐	☐	☐	___ days	___ days	☐	☐	☐	☐	☐	☐
			/ month/day			☐	☐	☐	☐	___ days	___ days	☐	☐	☐	☐	☐	☐
			/ month/day			☐	☐	☐	☐	___ days	___ days	☐	☐	☐	☐	☐	☐
			/ month/day			☐	☐	☐	☐	___ days	___ days	☐	☐	☐	☐	☐	☐
			/ month/day			☐	☐	☐	☐	___ days	___ days	☐	☐	☐	☐	☐	☐
			/ month/day			☐	☐	☐	☐	___ days	___ days	☐	☐	☐	☐	☐	☐
			/ month/day			☐	☐	☐	☐	___ days	___ days	☐	☐	☐	☐	☐	☐
			/ month/day			☐	☐	☐	☐	___ days	___ days	☐	☐	☐	☐	☐	☐
			/ month/day			☐	☐	☐	☐	___ days	___ days	☐	☐	☐	☐	☐	☐
			/ month/day			☐	☐	☐	☐	___ days	___ days	☐	☐	☐	☐	☐	☐
			/ month/day			☐	☐	☐	☐	___ days	___ days	☐	☐	☐	☐	☐	☐
			/ month/day			☐	☐	☐	☐	___ days	___ days	☐	☐	☐	☐	☐	☐
					Page totals ➤	___	___	___	___	___	___	___	___	___	___	___	___
												Injury (1)	Skin disorder (2)	Respiratory condition (3)	Poisoning (4)	Hearing loss (5)	All other illnesses (6)

Be sure to transfer these totals to the Summary page (Form 300A) before you post it.

Public reporting burden for this collection of information is estimated to average 14 minutes per response, including time to review the instructions, search and gather the data needed, and complete and review the collection of information. Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number. If you have any comments about these estimates or any other aspects of this data collection, contact: US Department of Labor, OSHA Office of Statistical Analysis, Room N-3644, 200 Constitution Avenue, NW, Washington, DC 20210. Do not send the completed forms to this office.

OSHA's Form 300A (Rev. 01/2004)

Summary of Work-Related Injuries and Illnesses

Year 20__ __

U.S. Department of Labor
Occupational Safety and Health Administration

Form approved OMB no. 1218-0176

All establishments covered by Part 1904 must complete this Summary page, even if no work-related injuries or illnesses occurred during the year. Remember to review the Log to verify that the entries are complete and accurate before completing this summary.

Using the Log, count the individual entries you made for each category. Then write the totals below, making sure you've added the entries from every page of the Log. If you had no cases, write "0."

Employees, former employees, and their representatives have the right to review the OSHA Form 300 in its entirety. They also have limited access to the OSHA Form 301 or its equivalent. See 29 CFR Part 1904.35, in OSHA's recordkeeping rule, for further details on the access provisions for these forms.

Number of Cases

Total number of deaths	Total number of cases with days away from work	Total number of cases with job transfer or restriction	Total number of other recordable cases
_____	_____	_____	_____
(G)	(H)	(I)	(J)

Number of Days

Total number of days away from work	Total number of days of job transfer or restriction
_____	_____
(K)	(L)

Injury and Illness Types

Total number of . . .

(M)

(1) Injuries _____

(2) Skin disorders _____

(3) Respiratory conditions _____

(4) Poisonings _____

(5) Hearing loss _____

(6) All other illnesses _____

Post this Summary page from February 1 to April 30 of the year following the year covered by the form.

Establishment information

Your establishment name _____

Street _____

City _____ State _____ ZIP _____

Industry description (*e.g., Manufacture of motor truck trailers*)

_____

Standard Industrial Classification (SIC), if known (*e.g., 3715*)

____ ____ ____ ____

OR

North American Industrial Classification (NAICS), if known (e.g., 336212)

____ ____ ____ ____ ____ ____

Employment information *(If you don't have these figures, see the Worksheet on the back of this page to estimate.)*

Annual average number of employees _____

Total hours worked by all employees last year _____

Sign here

Knowingly falsifying this document may result in a fine.

I certify that I have examined this document and that to the best of my knowledge the entries are true, accurate, and complete.

_____ _____
Company executive Title

( ) - / /
Phone Date

Optional

Worksheet to Help You Fill Out the Summary

At the end of the year, OSHA requires you to enter the average number of employees and the total hours worked by your employees on the summary. If you don't have these figures, you can use the information on this page to estimate the numbers you will need to enter on the Summary page at the end of the year.

How to figure the average number of employees who worked for your establishment during the year:

❶ ***Add*** the total number of employees your establishment paid in all pay periods during the year. Include all employees: full-time, part-time, temporary, seasonal, salaried, and hourly.

The number of employees paid in all pay periods = ❶ _____

❷ ***Count*** the number of pay periods your establishment had during the year. Be sure to include any pay periods when you had no employees.

The number of pay periods during the year = ❷ _____

❸ ***Divide*** the number of employees by the number of pay periods.

❶ _____ / ❷ _____ = ❸ _____

❹ ***Round the answer*** to the next highest whole number. Write the rounded number in the blank marked *Annual average number of employees*.

The number rounded = ❹ _____

For example, Acme Construction figured its average employment this way:

For pay period...	Acme paid this number of employees...
1	10
2	0
3	15
4	30
5	40
▼	▼
24	20
25	15
26	+10
	830

Number of employees paid = 830 ❶

Number of pay periods = 26 ❷

830 / 26 = 31.92 ❸

31.92 rounds to 32 ❹

32 is the annual average number of employees

How to figure the total hours worked by all employees:

Include hours worked by salaried, hourly, part-time and seasonal workers, as well as hours worked by other workers subject to day to day supervision by your establishment (e.g., temporary help services workers).

Do not include vacation, sick leave, holidays, or any other non-work time, even if employees were paid for it. If your establishment keeps records of only the hours paid or if you have employees who are not paid by the hour, please estimate the hours that the employees actually worked.

If this number isn't available, you can use this optional worksheet to estimate it.

Optional Worksheet

_____ ***Find*** the number of full-time employees in your establishment for the year.

X _____ ***Multiply*** by the number of work hours for a full-time employee in a year.

_____ This is the number of full-time hours worked.

\+ _____ ***Add*** the number of any overtime hours as well as the hours worked by other employees (part-time, temporary, seasonal)

_____ ***Round*** the answer to the next highest whole number. Write the rounded number in the blank marked *Total hours worked by all employees last year.*

U.S. Department of Labor
Occupational Safety and Health Administration

OSHA's Form 301
Injury and Illness Incident Report

Attention: This form contains information relating to employee health and must be used in a manner that protects the confidentiality of employees to the extent possible while the information is being used for occupational safety and health purposes.

U.S. Department of Labor
Occupational Safety and Health Administration

Form approved OMB no. 1218-0176

This *Injury and Illness Incident Report* is one of the first forms you must fill out when a recordable work-related injury or illness has occurred. Together with the *Log of Work-Related Injuries and Illnesses* and the accompanying *Summary,* these forms help the employer and OSHA develop a picture of the extent and severity of work-related incidents.

Within 7 calendar days after you receive information that a recordable work-related injury or illness has occurred, you must fill out this form or an equivalent. Some state workers' compensation, insurance, or other reports may be acceptable substitutes. To be considered an equivalent form, any substitute must contain all the information asked for on this form.

According to Public Law 91-596 and 29 CFR 1904, OSHA's recordkeeping rule, you must keep this form on file for 5 years following the year to which it pertains.

If you need additional copies of this form, you may photocopy and use as many as you need.

Completed by _____

Title _____

Phone (_____)_____--_____ **Date** ____/ ____/ ____

Information about the employee

1) **Full name** _____

2) **Street** _____

City _____ **State** _____ **ZIP** _____

3) **Date of birth** _____ / _____ / _____

4) **Date hired** _____ / _____ / _____

5) ❒ **Male**
❒ **Female**

Information about the physician or other health care professional

6) **Name of physician or other health care professional** _____

_____

7) **If treatment was given away from the worksite, where was it given?**

Facility _____

Street _____

City _____ **State** _____ **ZIP** _____

8) **Was employee treated in an emergency room?**
❒ **Yes**
❒ **No**

9) **Was employee hospitalized overnight as an in-patient?**
❒ **Yes**
❒ **No**

Information about the case

10) **Case number from the *Log*** _____ *(Transfer the case number from the Log after you record the case.)*

11) **Date of injury or illness** _____ / _____ / _____

12) **Time employee began work** _____ **AM / PM**

13) **Time of event** _____ **AM / PM** ☐ **Check if time cannot be determined**

14) ***What was the employee doing just before the incident occurred?*** **Describe the activity, as well as the tools, equipment, or material the employee was using. Be specific.** ***Examples:*** **"climbing a ladder while carrying roofing materials"; "spraying chlorine from hand sprayer"; "daily computer key-entry."**

15) ***What happened?*** **Tell us how the injury occurred.** ***Examples:*** **"When ladder slipped on wet floor, worker fell 20 feet"; "Worker was sprayed with chlorine when gasket broke during replacement"; "Worker developed soreness in wrist over time."**

16) ***What was the injury or illness?*** **Tell us the part of the body that was affected and how it was affected; be more specific than "hurt," "pain," or sore."** ***Examples:*** **"strained back"; "chemical burn, hand"; "carpal tunnel syndrome."**

17) ***What object or substance directly harmed the employee?*** ***Examples:*** **"concrete floor"; "chlorine"; "radial arm saw."** ***If this question does not apply to the incident, leave it blank.***

18) ***If the employee died, when did death occur?*** **Date of death** _____ / _____ / _____

If You Need Help...

If you need help deciding whether a case is recordable, or if you have questions about the information in this package, feel free to contact us. We'll gladly answer any questions you have.

- **Visit us online at www.osha.gov**
- **Call your OSHA Regional office and ask for the recordkeeping coordinator**

  or

- **Call your State Plan office**

Federal Jurisdiction

Region 1 - 617 / 565-9860
Connecticut; Massachusetts; Maine; New Hampshire; Rhode Island

Region 2 - 212 / 337-2378
New York; New Jersey

Region 3 - 215 / 861-4900
DC; Delaware; Pennsylvania; West Virginia

Region 4 - 404 / 562-2300
Alabama; Florida; Georgia; Mississippi

Region 5 - 312 / 353-2220
Illinois; Ohio; Wisconsin

Region 6 - 214 / 767-4731
Arkansas; Louisiana; Oklahoma; Texas

Region 7 - 816 / 426-5861
Kansas; Missouri; Nebraska

Region 8 - 303 / 844-1600
Colorado; Montana; North Dakota; South Dakota

Region 9 - 415 / 975-4310

Region 10 - 206 / 553-5930
Idaho

State Plan States

Alaska - 907 / 269-4957

Arizona - 602 / 542-5795

California - 415 / 703-5100

*Connecticut - 860 / 566-4380

Hawaii - 808 / 586-9100

Indiana - 317 / 232-2688

Iowa - 515 / 281-3661

Kentucky - 502 / 564-3070

Maryland - 410 / 527-4465

Michigan - 517 / 322-1848

Minnesota - 651 / 284-5050

Nevada - 702 / 486-9020

*New Jersey - 609 / 984-1389

New Mexico - 505 / 827-4230

*New York - 518 / 457-2574

North Carolina - 919 / 807-2875

Oregon - 503 / 378-3272

Puerto Rico - 787 / 754-2172

South Carolina - 803 / 734-9669

Tennessee - 615 / 741-2793

Utah - 801 / 530-6901

Vermont - 802 / 828-2765

Virginia - 804 / 786-6613

Virgin Islands - 340 / 772-1315

Washington - 360 / 902-5554

Wyoming - 307 / 777-7786

*Public Sector only

U.S. Department of Labor
Occupational Safety and Health Administration

U.S. Department of Labor
Occupational Safety and Health Administration

Have questions?

If you need help in filling out the *Log* or *Summary,* or if you have questions about whether a case is recordable, contact us. We'll be happy to help you. You can:

- Visit us online at: **www.osha.gov**
- Call your regional or state plan office. You'll find the phone number listed inside this cover.

SAFETY INSPECTION CHECKLIST

Date/Time: _____ Inspector Name: _____

Describe activity taking place at time of inspection (includes trades on site): _____

_____

_____

CATEGORY	MEETS REQUIREMENTS			HAZARD DESCRIPTION	HOW ABATED?	DATE ABATED
	YES	NO	N/A			
PPE						
Fall Protection						
Guardrails / Handrails						
Scaffolding						
Stairways						
Ladders						
Electrical						
Excavation/Trenching						
Heat Illness Prevention						
Crane/Rigging/Signaling						
Equipment						
Tools						
Confined Space						
Access / Egress						
Housekeeping						
Impalement Protection						
Fire Protection						
Traffic						
Haz Com						
Lock Out / Tag Out						
Other:						

Additional Comments/Recommendations: _____

_____

_____

Inspector Signature: _____