



Fire, Rescue and EMS

Safety and Health Management Program



Occupational Safety and Health Division
N.C. Department of Labor
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This guide is in a series of industry guides focused on specific industries. It is intended to be consistent with all existing OSHA standards; therefore, if an area is considered by the reader to be inconsistent with a standard, then the OSHA standard should be followed.

To obtain additional copies of this guide, or if you have questions about North Carolina occupational safety and health standards or rules, please contact:

**N.C. Department of Labor
Education, Training and Technical Assistance Bureau
1101 Mail Service Center
Raleigh, NC 27699-1101**

Phone: 919-807-2875 or 1-800-625-2267

Additional sources of information are listed on the inside back cover of this guide.

The projected cost of the NCDOL OSH program for federal fiscal year 2012–2013 is \$18,073,694. Federal funding provides approximately 30.5 percent (\$5,501,500) of this total.



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Foreword

In North Carolina, the N.C. Department of Labor enforces the federal Occupational Safety and Health Act through a state plan approved by the U.S. Department of Labor. NCDOL offers many educational programs to the public and produces publications to help inform people about their rights and responsibilities regarding occupational safety and health.

When reading this guide, please remember the mission of the N.C. Department of Labor is greater than just regulatory enforcement. An equally important goal is to help citizens find ways to create safe workplaces. Everyone profits when managers and employees work together for safety. This booklet, like the other educational materials produced by the N.C. Department of Labor, can help.

Cherie Berry
Commissioner of Labor

Overview

This industry guide is designed to assist employers in the fire, rescue and EMS industry in developing a comprehensive safety and health program with best practices to be tailored to your own operation. We encourage you to customize the information in this industry guide as necessary to accomplish this goal. You may also copy any of the material in this guide to be used in your safety and health efforts.

This guide is provided as a best practice and compliance aid. It does not constitute a legal interpretation of OSHA standards, nor does it replace the need to be familiar with and follow the actual OSHA standards (including any North Carolina-specific changes.) ***Though the programs contained in this document are intended to be consistent with OSHA standards, if an area is considered by the reader to be inconsistent, the OSHA standard should be followed. Please note that this guide may not include all the programs and policies that may be required by OSHA standards or as a best practice for your specific operation or industry. It may also include more programs than are needed for your operation.***

The N.C. Department of Labor (NCDOL) Occupational Safety and Health (OSH) Division's Consultative Services Bureau can be contacted for assistance in helping you set up your individual safety and health management program and with on-site surveys. Feel free to contact them at 1-800-NC-LABOR (1-800-625-2267) or at 919-807-2899. You may also want to visit their website at <http://www.nclabor.com/osha/consult/consult.htm>

For training events, publications, PowerPoint presentations and standard interpretations, please contact the Education, Training and Technical Assistance (ETTA) Bureau at 919-807-2875 or access their website at <http://www.nclabor.com/osha/etta/etta.htm>.

Section 1

Safety and Health Program Management

*Note: The following section policy is a **best practice**. Please modify or delete content to these policies as deemed necessary.*

Management Commitment

Safety and Health Policy

We place a high value on the safety and health of our employees. We are committed to providing a safe workplace for all employees and have developed this program for injury prevention to involve management, supervisors and employees in identifying and eliminating hazards that may develop during our work process.

It is the basic safety and health policy of this department that no task is so important that an employee must violate a safety and health rule or take a risk of injury or illness to get the job done.

Employees are required to comply with all department safety and health rules and are encouraged to actively participate in identifying ways to make our department a safer place to work.

Supervisors are responsible for the safety and health of their employees and, as a part of their daily duties, must check the workplace for unsafe conditions, watch employees for unsafe actions and take prompt action to eliminate any hazards.

Management will do its part by devoting the resources necessary to form a safety and health committee composed of management and elected employees. We will develop a system for identifying and correcting hazards. We will plan for foreseeable emergencies. We will provide initial and ongoing training for employees and supervisors and we will establish a disciplinary policy to ensure that department safety and health policies are followed.

*Note: The following section policy is a **best practice**. Please modify or delete content to these policies as deemed necessary.*

Safety and Health Responsibilities

Manager Responsibilities

- Ensure that sufficient employee time, supervisor support and funds are budgeted for equipment, training and carrying out the safety and health program.
- Evaluate supervisors each year to make sure they carry out their responsibilities as described in this program.
- Ensure that incidents are fully investigated and corrective action is taken to prevent the hazardous conditions or behaviors from happening again.
- Ensure that a record of injuries and illnesses is maintained and posted as described in this program.
- Set a good example by following established safety and health rules and attending required training.
- Report unsafe practices or conditions to the supervisor of the area where the hazard was observed.

Supervisor Responsibilities

- Ensure that each employee has received initial orientation before beginning work.
- Ensure that each employee is competent or has received training on safe operation of equipment or tasks before starting work.
- Ensure that each employee receives required personal protective equipment (PPE) before starting work on a project requiring PPE.
- Perform a daily safety check of the work area. Promptly correct any hazards you find.
- Observe the employees you supervise while they are working. Promptly correct any unsafe behavior. Provide additional training and take corrective action as necessary.
- Document employee evaluations.
- Set a good example for employees by following the safety and health rules and attending required training.
- Investigate all incidents in your area and report findings to management.
- Talk to management about changes to work practices or equipment that will improve employee safety and health.

Employee Responsibilities

- Follow the safety and health rules established by the department. Report unsafe conditions or actions to your supervisor or safety and health committee representative promptly.
- Report all work-related injuries and illnesses to your supervisor promptly, regardless of how minor they may seem.
- Report all near miss incidents to your supervisor promptly.
- Always use personal protective equipment that is in good working condition when it is required.
- Do not remove or bypass any safety device or safeguard provided for your protection.
- Encourage your co-workers to use safe work practices on the job.
- Make suggestions to your supervisor, safety and health committee representative, or management about changes that will improve employee safety and health.

*Note: The following section policy is a **best practice**. Please modify or delete content to these policies as deemed necessary.*

Employee Participation

Note: While safety and health committees are not required by law (with the exception of employers covered by N.C. Gen. Stat. 95-251), the following can be used as a statement when the department has a voluntary safety and health committee and is an example of how the committee members may be selected and function within the department. Alternative methods may be used as well.

Safety and Health Committees and Meetings

Employers can form safety and health committees to help employees and management work together to identify safety and health problems, develop solutions, review incident reports, and evaluate the effectiveness of the safety and health program. The committee should be made up of management-designated representatives and employee-elected representatives from all areas within the department.

Employees from each operational unit, division or area may volunteer or be nominated from among themselves to be a representative on the committee. If there is only one volunteer or nomination, the employees may approve the person by voice vote at a short meeting called for that purpose. If there is more than one volunteer or nomination, a secret paper ballot may be used to elect the representative.

Elected representatives will serve for *(insert number of years)* year(s) before being re-elected or replaced. If there is a vacancy then an election will be held before the next scheduled meeting to fill the balance of the term. (It is recommended that members serve two years, with half of the members replaced after the first year when the initial committee is formed, so that there are carry-over members on the committee at all times).

In addition to the employee-elected representatives, management should designate no more than three representatives but a minimum of one who will serve until replaced by management. Management representation should not outnumber employee representation. If the department employs a medical professional on staff, it is recommended that this individual serve on the safety and health committee as well but at least an individual who manages the workers' compensation, injury and illness, and first aid logs, such as the department safety and health manager.

A chairperson should be selected by a majority vote by the committee members each year. If there is a vacancy, the same method should be used to select a replacement.

The duties of safety and health committee members include:

- Conducting a monthly self-inspection of the area they represent.
- Communicating with the employees they represent on safety and health issues.
- Encouraging safe work practices among co-workers.
- Reviewing the injury, illness and first aid logs for trends and conducting a separate investigation of any incident (if determined appropriate).
- Providing any recommendations to management for consideration.

The safety and health committee should meet at least *(insert frequency)*. Each area committee member should bring information from the monthly inspections of their areas and any concerns from the employees in the area they represent. Using this information, the committee can help identify safety and health problems, develop solutions, review incident reports, provide training, and evaluate the effectiveness of the safety and health program.

A committee member will be designated to keep minutes. A copy of the minutes will be posted in a place where all affected employees have access to them. The department should archive meeting minutes for a specified period of time such as one year for follow-up/review purposes. (The department may choose to post minutes on employee bulletin boards, on an intranet, etc. Additionally, the department may choose to archive such records electronically.)

General Employee Safety Meetings

All employees are required to attend a monthly safety and health meeting. This meeting will help identify safety and health problems, develop solutions, provide training, and evaluate the effectiveness of the safety and health program.

An employee will be designated each month to keep the minutes. A copy of the minutes will be posted in a place where all affected employees have access to them. The department should archive meeting minutes for a specified period of time such as one year for follow-up/review purposes. *(The department may choose to post minutes on employee bulletin boards, on an intranet, etc. Additionally, the department may choose to archive such records electronically).*

*Note: The following section policy contains workers' compensation procedures, and OSHA recordkeeping requirements. It also contains **best practices** that can be modified or deleted to the policy as deemed appropriate. Refer to the NCIC website <http://www.ic.nc.gov/> for information on workers' compensation.*

Recordkeeping and Reporting

(Ref. 29 CFR 1904, 29 CFR 1910.1020)

Injuries and Illnesses Reporting

Employees are required to report any injury or work-related illness to their immediate supervisor regardless of how serious. Minor injuries such as cuts and scrapes will be entered on the first aid log. The employee will use an "Employee's Incident Report" form (or Workers' Compensation Form 18) to report more serious/compensable injuries.

The supervisor will:

- Investigate all injuries and illnesses in their work area, including serious first-aid cases and near miss incidents. Complete an "Incident Investigation Report" form and "Supervisor's Incident Investigation" form immediately following the incident.
- Provide all *incident investigation report* forms to the safety and health manager/department medical professional or HR/personnel office within three days of the incident.

The safety and health manager/department medical professional/HR or personnel manager will:

- Determine from the Employee's Incident Report form, Incident Investigation Report form and any claim form associated with the incident whether it must be recorded on the OSHA 300 Injury and Illness Log and Summary according to the instructions for that form. (The N.C. Industrial Commission Form 19 may be used in lieu of OSHA Form 301.)
- Enter any recordable incident within seven calendar days after becoming aware of the injury/illness/fatality.
- If the injury is not recorded on the OSHA log, add it to the first aid log, which is used to record non-OSHA recordable injuries and near misses.
- The employer may need to fill out and file a Workers' Compensation Form 19, "Employer's Report of Employee's Injury," with the Industrial Commission within five days of learning of an injury or allegation. If a Form 19 is filed with the Industrial Commission, the employer must provide a copy of the Form 19 to the employee, together with a blank Form 18, "Notice of Accident to Employer and Claim of Employee," for use by the employee. (<http://www.ic.nc.gov/>)

A signed copy of the OSHA log summary (OSHA Form 300A) for the previous year must be posted on the safety bulletin board from Feb. 1 through April 30. The log must be kept on file for at least five years. Any employee can view an OSHA log upon request at any time during the year.

Employee Access to Medical and Exposure Records

Whenever an employee or designated representative requests access to a record, we must ensure that access is provided in a reasonable time, place, and manner. If we cannot reasonably provide access to the record within 15 working days, we will apprise the employee or designated representative requesting the record of the reason for the delay and the earliest date when the record can be made available.

The medical record for each employee will be preserved and maintained for at least the duration of employment plus 30 years.

First aid records (not including medical histories) of one-time treatment and subsequent observation of minor scratches, cuts, burns, splinters, and the like that do not involve medical treatment, loss of consciousness, restriction of work or motion, or transfer to another job, if made on-site by a nonphysician and if maintained separately from the employer's medical program and its records and the medical records of employees who have worked for less than one year for the employer need not be retained beyond the term of employment if they are provided to the employee upon the termination of employment.

Exposure Records

Background data to environmental (workplace) monitoring or measuring, such as laboratory reports and work-sheets, need only be retained for one year so long as the sampling results, the collection methodology (sampling plan), a description of the analytical and mathematical methods used, and a summary of other background data relevant to interpretation of the results obtained are retained for at least 30 years.

Safety data sheets and records concerning the identity of a substance or agent need not be retained for any specified period as long as some record of the identity (chemical name if known) of the substance or agent, where it was used, and when it was used is retained for at least 30 years.

Biological monitoring results designated as exposure records by specific occupational safety and health standards must be preserved and maintained as required by the specific standard.

Analyses using exposure or medical records must be preserved and maintained for at least 30 years.

Training Records

Some standards require training records to be maintained for three years and some do not require training records. Records of employees who have worked for less than one year need not be retained after employment, but we are required to provide these records to the employee upon termination of employment. Our policy is to maintain training records for *(insert time frame)*.

*Note: The following section policy is a **best practice**. Please modify or delete content to these policies as deemed necessary.*

Accident/Incident Investigation Policy

Accident/Incident Investigation Procedures

If an employee dies while working or within 30 days of the initial accident/incident causing an injury or illness, or when three or more employees are admitted to the hospital as a result of a work-related accident/incident, the department must contact the N.C. Department of Labor's OSH Division within eight hours of becoming aware of the accident/incident. The toll-free notification number is 1-800-NC-LABOR (1-800-625-2267).

Whenever there is an incident that results in death or serious injuries or illnesses, a preliminary investigation will be conducted by an accident investigation team made up of the immediate supervisor of the injured person(s), a person designated by management, an employee representative of the safety and health committee, and any others whose expertise would help in the investigation.

The accident investigation team will take written statements from witnesses and photograph the incident scene and equipment involved. The team will also document, as soon as possible after the incident, the condition of equipment and any anything else in the work area that may be relevant. The team will complete a written incident investigation report. The report will include a sequence of events leading up to the incident, conclusions about the incident and any recommendations to prevent a similar incident in the future. This report will be given to *(insert appropriate name/job title)* for corrective action. The report will be reviewed by the safety and health committee at its next regularly scheduled meeting.

When a supervisor becomes aware of an employee injury where the injury was not serious enough to warrant a team investigation as described above, the supervisor will write an incident investigation report to accompany the employee's report and forward them to *(insert appropriate name/job title)*.

In addition, whenever there is an incident that did not result in an injury to an employee *(a near miss)*, the supervisor will investigate the incident. The incident investigation report form will be filled out to investigate the near miss and to establish any corrective action as applicable. The form will be clearly marked to indicate that it was a near miss and that no actual injury occurred. The report will be forwarded to *(insert appropriate name/job title)* to record on the incident log and for further action.

Employee's Incident Report Form

Instructions: Employees will use this form to report *all* work-related injuries, illnesses or “near miss” events (which could have caused an injury or illness)—*no matter how minor*. This helps to identify and correct hazards before they cause serious injuries. This form will be completed by employees as soon as possible and given to a supervisor for further action. (NCIC Form 18 may be used in place of this one.)

I am reporting a work related: <input type="checkbox"/> Injury <input type="checkbox"/> Illness <input type="checkbox"/> Near miss	
Name:	
Job Title:	
Supervisor:	
Have you told your supervisor about this injury/near miss? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Date of injury/illness/near miss:	Time of injury/illness/near miss:
Names of witnesses (if any):	
Where exactly did it happen?	
What were you doing at the time?	
Describe step by step what led up to the injury/illness/near miss (continue on the back if necessary):	
What could have been done to prevent this injury/illness/near miss?	
What parts of your body were injured? If a near miss, how could you have been hurt?	
Did you see a doctor about this injury/illness? <input type="checkbox"/> Yes <input type="checkbox"/> No	
If yes, whom did you see?	Doctor's phone number:
Date:	Time:
Has this part of your body been injured before? <input type="checkbox"/> Yes <input type="checkbox"/> No	
If yes, when?	Supervisor:
Employee's signature:	Date:

Supervisor's Incident Investigation Form

Name of Injured Person _____
Date of Birth _____ Telephone Number _____
Address _____
City _____ State _____ Zip _____
 Male Female

What part of the body was injured? Describe in detail.

What was the nature of the injury? Describe in detail.

Describe fully how the accident happened. What was employee doing prior to the event? What equipment and tools were being used?

Names of all witnesses:

Date of Event _____ Time of Event _____ a.m. p.m.

Exact location of event:

What caused the event?

Were safety regulations in place and used? If not, what was wrong?

Employee went to doctor/hospital? Doctor's Name:

Hospital's Name:

Recommended preventive action to take in the future to prevent reoccurrence:

Supervisor's Signature

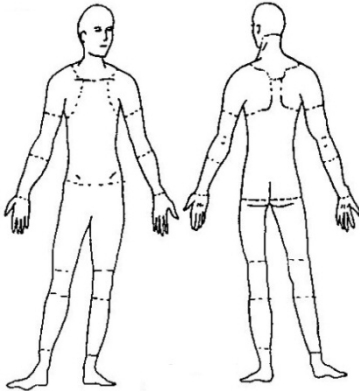
Date

Incident Investigation Report

Instructions: Complete this form as soon as possible after any incident that an employee reports or which results in serious injury or illness and to investigate a minor injury or near miss that could have resulted in a serious injury or illness.

This is a report of : <input type="checkbox"/> Death <input type="checkbox"/> Lost Time <input type="checkbox"/> Dr. Visit Only <input type="checkbox"/> First Aid Only <input type="checkbox"/> Near Miss	
Date of incident:	This report is made by: <input type="checkbox"/> Employee <input type="checkbox"/> Supervisor <input type="checkbox"/> Team <input type="checkbox"/> Other _____

Step 1: Injured employee (complete this part for each injured employee)

Name:	Sex: <input type="checkbox"/> Male <input type="checkbox"/> Female	Age:	
Department:	Job title at time of incident:		
Part of body affected: (shade all that apply) 	Nature of injury: (most serious one): <input type="checkbox"/> Abrasion, scrapes <input type="checkbox"/> Amputation <input type="checkbox"/> Broken bone <input type="checkbox"/> Bruise <input type="checkbox"/> Burn (heat) <input type="checkbox"/> Burn (chemical) <input type="checkbox"/> Concussion (to the head) <input type="checkbox"/> Crushing Injury <input type="checkbox"/> Cut, laceration, puncture <input type="checkbox"/> Hernia <input type="checkbox"/> Illness <input type="checkbox"/> Sprain, strain <input type="checkbox"/> Damage to a body system: <input type="checkbox"/> Other _____	This employee works: <input type="checkbox"/> Regular full time <input type="checkbox"/> Regular part time <input type="checkbox"/> Seasonal <input type="checkbox"/> Temporary	
		Months with department:	
		Months doing this job:	

Step 2: Describe the incident

Exact location of the incident:	Exact time:
What part of employee's workday? <input type="checkbox"/> Entering or leaving work <input type="checkbox"/> Doing normal work activities <input type="checkbox"/> During meal period <input type="checkbox"/> During break <input type="checkbox"/> Working overtime <input type="checkbox"/> Other _____	
Names of witnesses (if any):	

Attachments	Written witness statements:	Photographs:	Maps/drawings:
What personal protective equipment was being used (if any)?			
Describe, step-by-step the events that led up to the injury. Include names of any machines, parts, objects, tools, materials and other important details. Attach separate sheets if necessary.			

Step 3: Why did the incident happen?	
Unsafe workplace conditions: (Check all that apply) <input type="checkbox"/> Inadequate guard <input type="checkbox"/> Unguarded hazard <input type="checkbox"/> Defective safety device <input type="checkbox"/> Defective tool or equipment <input type="checkbox"/> Hazardous workstation layout <input type="checkbox"/> Unsafe lighting <input type="checkbox"/> Unsafe ventilation <input type="checkbox"/> Lack of needed personal protective equipment <input type="checkbox"/> Lack of appropriate equipment/tools <input type="checkbox"/> Unsafe clothing <input type="checkbox"/> No training or insufficient training <input type="checkbox"/> Other: _____	Unsafe acts by people: (Check all that apply) <input type="checkbox"/> Operating without permission <input type="checkbox"/> Operating at unsafe speed <input type="checkbox"/> Servicing equipment that has power to it <input type="checkbox"/> Making a safety device inoperative <input type="checkbox"/> Using defective equipment <input type="checkbox"/> Using equipment in an unapproved way <input type="checkbox"/> Unsafe lifting <input type="checkbox"/> Taking an unsafe position or posture <input type="checkbox"/> Distraction, teasing, horseplay <input type="checkbox"/> Failure to wear personal protective equipment <input type="checkbox"/> Failure to use the available equipment/tools <input type="checkbox"/> Other: _____
Why did the unsafe conditions exist?	
Why did the unsafe acts occur?	
Is there a reward (such as “the job can be done more quickly” or “the product is less likely to be damaged”) that may have encouraged the unsafe conditions or acts? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe:	
Were the unsafe acts or conditions reported prior to the incident? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Have there been similar incidents or near misses prior to this one? <input type="checkbox"/> Yes <input type="checkbox"/> No	

Step 4: How can future incidents be prevented?

What changes do you suggest to prevent this incident/near miss from happening again?

- Stop this activity
- Guard the hazard
- Train the employee(s)
- Train the supervisor(s)
- Redesign task steps
- Redesign workstation
- Write a new policy/rule
- Enforce existing policy
- Routinely inspect for the hazard
- Personal protective equipment
- Other: _____

What should be (or has been) done to carry out the suggestion(s) checked above? Attach separate sheets if necessary.

Step 5: Who completed and reviewed this form? (Please Print)

Written by:
Department:

Title:
Date:

Names of investigation team members:

Does team agree with corrective action recommended in step 4? Yes No N/A
(Step 6 should be completed using investigation team's final recommendations)

Reviewed by:

Title:
Date:

Step 6: Corrective Action and Follow-up	
Written by: Department:	Title: Date:
List corrective action to be implemented, date completed and responsible parties.	
1. _____	
2. _____	
3. _____	

Date of follow-up:	Conducted by:

*Note: The following section policy is a **best practice**. Please modify or delete content to these policies as deemed necessary.*

Safety and Health Inspection Procedures

We are committed to aggressively identifying hazardous conditions and practices that are likely to result in injury or illness to employees. We will take prompt action to eliminate any hazards we find. In addition to reviewing injury records and investigating incidents for their causes, management and the safety committee will regularly check the workplace for hazards as described below.

- **Annual Site Survey**—Once a year, an inspection team made up of members of the safety and health committee will conduct a wall-to-wall walk-through inspection of the entire worksite. They will write down any safety hazards or potential hazards they find. The results of this inspection will be used to eliminate or control obvious hazards, target specific work areas for more intensive investigation, assist in revising the checklists used during regular monthly safety inspections, and as part of the annual review of the effectiveness of the accident prevention program.
- **Periodic Change Survey**—A supervisor or a team will be assigned to look at any changes we make to identify safety issues. Changes include new equipment, changes to production processes or changes to the building structure. The team will be made up of maintenance, production and safety committee representatives. It will examine the changed conditions and makes recommendations to eliminate or control any hazards that were or may be created as a result of the change.
- **Monthly Safety Inspection**—Each month, the safety and health committee representatives will inspect their areas for hazards using the standard safety and health inspection checklist. They will talk to co-workers about their safety and health concerns. The committee representatives will report any hazards or concerns to the safety and health committee at the next scheduled meeting for consideration. The results of the area inspection and any action taken will be posted in the affected area. Safety and health committee representatives should inspect each other's area.

*Note: The following section policy is a **best practice**. Please modify or delete content to these policies as deemed necessary.*

Hazard Prevention and Control

Eliminating Workplace Hazards

We are committed to eliminating or controlling workplace hazards that could cause injury or illness to our employees. We will meet the requirements of OSHA standards where there are specific rules about a hazard or potential hazard in our workplace. Whenever possible, we will design our facilities and equipment to eliminate employee exposure to hazards. Where these engineering controls are not possible, we will write work practices (administrative controls) that effectively prevent employee exposure to the hazard. When the above methods of control are not possible or are not fully effective, we will require employees to use personal protective equipment (PPE) such as safety glasses, hearing protection and foot protection.

Basic Safety and Health Rules

Note: The department should establish a set of basic safety and health rules; however, the department should not address requirements for specific standards in this section. They should be addressed as part of/with the specific written program requirements of the standard.

The following basic safety and health rules have been established to help make the department a safe, healthy and efficient place to work. These rules are in addition to safety and health practices that must be followed when doing particular jobs or operating certain equipment. Those rules are listed in the safety hazard work practices and health hazard work practices sections of this manual. Failure to comply with any safety or health rules may result in disciplinary action.

The following are examples of basic safety and health rules. The department should base these rules on the hazards in its work environment.

- Never do anything that is unsafe in order to get the job done. If a job is unsafe, report it to your supervisor or safety committee representative. We will find a safer way to do that job.
- Do not remove or disable any safety device! Keep guards in place at all times on operating machinery.
- Never operate a piece of equipment unless you have been trained and are authorized.
- Use your personal protective equipment whenever it is required.
- Obey all safety warning signs.
- Loose clothing, jewelry and hair longer than shoulder length will not be worn around moving machinery.
- Working under the influence of alcohol or illegal drugs and using them at work are prohibited.
- Do not bring firearms or explosives onto department property (including personal vehicles in department-owned parking lots).
- Smoking is not permitted on department grounds (including in personal vehicles in department-owned parking lots OR if smoking is permitted, it is only permitted outside the building away from any entry or ventilation intake, except that smoking is not permitted in any areas where flammable liquid are dispensed, mixed, used or stored).
- Horseplay, running and fighting are prohibited.
- Report spills immediately so that they can be cleaned up promptly by appropriately trained employees.
- Replace all tools and supplies after use.
- Do not allow materials (especially combustible materials) to accumulate where they will become a tripping or fire hazard. Keep lids on trashcans at all times.
- Do not block any fire extinguisher, fire exit or exit pathway with materials or equipment.

*Note: The following section policy is a **best practice**. Please modify or delete content to these policies as deemed necessary.*

Disciplinary Policy

The department has established a progressive disciplinary program for those acts or practices not considered immediately dangerous to life or health. Unsafe acts will not be tolerated. Each employee has an individual responsibility to work safely. We have established a progressive disciplinary program for those acts or practices not considered immediately dangerous to life or health.

(Note: The following are examples of disciplinary actions. Employers may wish to establish these policies as part of their general personnel policies and should seek legal advice prior to implementing them in the workplace.)

First Instance Warning, notation in employee file and instruction on proper actions.

Second Instance Written reprimand and instruction on proper actions.

Third Instance One- to five-day suspension, written reprimand, and instruction on proper actions.

Fourth Instance Termination of employment.

An employee may be subject to immediate termination when a safety or health violation places the employee or co-workers at risk of permanent disability or death. These include but are not limited to:

- Failure to follow fall protection requirements.
- Failure to wear required respiratory protection.
- Failure to follow the substance abuse policy.
- Failure to wear a protective vest when working on or near a city street.
- Possession of firearms, explosives or dangerous weapons.
- Violation of project security rules or procedures.
- Fighting, horseplay, practical joking or gambling.
- Entering a confined space without following procedures.
- Unsafe or reckless operation of motorized vehicles or equipment.
- Failure to follow lockout/tagout procedures.
- Failure to follow hot work permit procedures.

*Note: The following section policy is a **best practice**. It is an example of a drug testing and alcohol and drug use policy. Employers may wish to establish these policies as part of their general personnel policies and should seek legal advice prior to implementing them in the workplace.*

Alcohol and Drug Use Policy

(Ref. N.C. Gen. Stat. Chapter 90, Article 5.)

We have a vital interest in maintaining safe, healthy and efficient working conditions for our employees. Therefore, the use of substances that impair an employee's ability to perform the job safely is not allowed. The use of these substances (except legally prescribed drugs reported to the supervisor/employer) during duty hours is prohibited, and their use may result in disciplinary action. Duty hours consist of all working hours, including break periods and on-call periods, whether on or off department premises.

The consumption of alcohol or illegal drugs while performing department business or while in a department facility or vehicle is prohibited and will result in disciplinary action up to and including termination of employment. Additionally, employees must report to their supervisor the use of legally prescribed drugs (such as narcotics) that may affect their ability to perform any part of their job safely so that alternate assignments/duties may be considered when necessary. Failure to report this type of drug use may also result in disciplinary action under certain circumstances.

Drug testing will be performed after **all** accidents that occur on department time or property or in or on a department owned vehicle or other equipment. Additionally, random drug testing may be performed if employees are suspected of being under the influence of alcohol or any illegal drug and when they appear to be impaired by **any** substance, including unreported use of legally prescribed medications, while at work. Refusal to submit to a drug test after an accident/incident may result in termination of employment.

The Controlled Substance Examination Act sets procedural standards that employers must follow when conducting drug testing of applicants and employees. The act does not protect employees from adverse actions taken by employers as a result of test results. A packet containing the rules, forms and frequently asked questions may be downloaded at <http://www.nclabor.com/wh/Controlled%20Substance%20Examination%20Regulation%20Act-%20Packet%20-%202.12.2007.pdf>

Section 2

Safety and Health Programs

Note: The following pages contain example safety and health programs and policies that may be applicable to your department. It is the responsibility of the department to determine whether these programs are mandatory in your work environment based on the scope and application of the referenced standard. Every effort has been made to include the content required by the NCDOL OSH Division standards. Additionally, other good practices have been included that may or may not apply to your department. Please add or delete content to these programs as deemed necessary.

While most standards do not require a program administrator or coordinator, it is a good practice to have an employee who is knowledgeable and appropriately trained assigned to administer and review these programs on a continuing basis to ensure their effectiveness in the workplace. Individuals such as human resource professionals, risk managers, safety managers, industrial hygienists and medical professionals are the most appropriate to administer these programs. Additionally, safety and health committees and other suitably trained and experienced employees may also help administer and review these programs.

Note: Under Subpart Z, a Compliance Program is required if employees have occupational exposure to the chemicals listed in the subpart. This example program may be modified to meet the company's needs. Please reference the scope and application of the referenced OSHA standard to ensure that all requirements are being met.

Compliance Program (Regulated Chemicals)

(Ref. 29 CFR 1910 Subpart Z)

This program has been implemented to ensure employees are not overexposed to “chemical.” It will be reviewed annually and updated to reflect changes to the company’s procedures and policies.

“Chemical” can harm (describe acute and chronic effects of the chemical):

“Chemical” is used (state where this chemical is used and what it is used for):

Engineering Controls and Work Practices

The following engineering controls and work practices have been implemented:

Regulated Areas, Signs and Labels

Chemical regulated areas will generally be limited to authorized employees only and will be marked with signage. The signs will bear the following legend:

DANGER
(Name of “Chemical”)
PROTECTIVE CLOTHING IS REQUIRED IN
THIS AREA
AUTHORIZED PERSONNEL ONLY

All “chemical” containers and pipes should have labels. The safety data sheets will also be available in the work area (or other procedure).

Personal Protective Equipment

Employees will be provided with appropriate personal protective equipment (PPE), which will include:

All employees will be required to wear the appropriate PPE in the regulated area. The PPE will be cleaned and inspected daily and before each use. Any equipment found to be defective will be turned in to the supervisor for repair or disposal and new equipment will be provided. All employees will be trained on the use of PPE.

Employees required to wear respirators will undergo medical evaluation to determine if they can wear a respirator. Employees who pass will be trained and fit-tested initially and annually per the respirator program (29 CFR 1910.134). Refer to the respirator program for specific requirements.

Signs and Symptoms of Overexposure

If you exhibit any of the above signs, please let your supervisor know immediately.

First Aid and Emergency Response

Emergency Numbers

Poison Control: 1-800-222-1222
CHEMTREC: 1-800-424-9300
National Response Center: 1-800-424-8802
Company Emergency Contact:

Note: Some of the standards in Subpart Z may have additional or different emergency response requirements.

Exposure Monitoring Program

To help ensure that our employees are not overexposed to “chemical,” we will conduct _____ (i.e., initial, periodic) monitoring to determine employee exposure.

Note: Reference the applicable standard for the monitoring schedule and exposure levels to be followed.

Determination of employee exposure will be made from breathing zone air samples that are representative of the 8-hour TWA and 15-minute short-term exposures of each employee. Employees will be provided the monitoring results within 15 working days after receipt of results. If requested, employees will be allowed to observe exposure monitoring.

Medical Surveillance Program

If an employee is exposed to a chemical at or above the action level, they will be provided with medical examinations and consultations at no expense to the employee. The examinations will be provided prior to an assignment where exposure will occur and annually thereafter. If required by a physician, the examinations may occur more frequently.

We will provide the following information to the physician:

The following tests will be conducted initially and annually:

The physician will provide a written opinion containing the results of the medical examination and any recommended limitations on the employee or on the use of PPE. No specific findings or diagnoses unrelated to “chemical” exposure will be given in the written opinion. The employee will be provided with a copy of the written opinion within 15 days of its receipt.

Training Program

Employees will be trained at the time of their initial assignment and annually thereafter. Training will include:

- Operations where chemicals are present
- Signs and symptoms of overexposure
- Safe work practices
- Established or recommended exposure levels
- Exposure monitoring
- Medical surveillance
- PPE
- Physical and health hazards
- Methods and observations
- Emergency procedures
- Hazard communication

Note: that some of the standards in Subpart Z may have additional or different training requirements.

Recordkeeping

Medical and exposure records will be maintained per 29 CFR 1910.1020. Exposure records will be maintained for 30 years. Medical surveillance records will be maintained for the duration of employment plus 30 years. Employees will be provided these records upon request.

Note: Some of the standards in Subpart Z may have different durations for maintaining records.

*Note: The following example policy is based on the referenced standard. The standard does not require a written program, but as a **best practice**, it has been put into writing in this manual. Please modify or delete content to these policies as deemed necessary. The standard should be referenced to ensure that all requirements are being met.*

Compressed Gas Cylinders Policy

(Ref. 29 CFR 1910.101)

Safe Work Practices

- Cylinders should be stored in upright positions and immobilized by chains or other means to prevent them from being knocked over.
- Cylinders should be stored away from highly flammable substances such as oil, gasoline or waste.
- Cylinders should be stored away from electrical connections, gas flames or other sources of ignition, and substances such as flammable solvents and combustible waste material.
- Flammable gases should be separated from oxidizing gases in storage areas.
- Oxygen and fuel gas cylinders should be separated by a minimum of 20 feet when in storage.
- Storage rooms for cylinders should be kept dry, cool and well ventilated.
- Cylinders should be stored away from incompatibles, excessive heat, continuous dampness, salt or other corrosive chemicals, and any areas that may subject them to damage.
- Storage areas should be permanently posted with the names of the gases stored in the cylinders.
- All compressed gas cylinders should have their contents and precautionary labeling clearly marked on their exteriors.
- Compressed gas cylinder valve covers should be in place when cylinders are not in use.
- All compressed gas cylinders should be stored so they do not interfere with exit paths.
- All compressed gas cylinders should be subjected to periodic hydrostatic testing and interior inspection.
- All compressed gas cylinders should have a safety pressure relief valve.
- Cylinders should always be maintained at temperatures below 125°F.
- The safety relief devices in the valve or on the cylinder should be kept free from any indication of tampering.
- Repair or alteration to the cylinder, valve or safety relief devices is prohibited. All alterations and repairs to the cylinder and valve must be made by the compressed gas vendor. Modification of safety relief devices beyond the tank or regulator should only be made by a competent person appointed by management.
- Painting cylinders without authorization is prohibited.
- Charged and full cylinders should be labeled and stored away from empty cylinders.
- The bottom of the cylinder should be protected from the ground to prevent rusting.
- All compressed gas cylinders should be regularly inspected for corrosion, pitting, cuts, gouges, digs, bulges, neck defects and general distortion.
- Cylinder valves should be kept closed at all times, except when the valve is in use.
- Compressed gas cylinders should be moved, even short distances, by a suitable hand truck.
- Using wrenches or other tools for opening and closing valves is prohibited.
- Suitable pressure-regulating devices should be kept in use whenever the gas is emitted to systems with pressure-rated limitations lower than the cylinder pressure.
- All compressed gas cylinder connections such as pressure regulators, manifolds, hoses, gauges, and relief valves should be checked for integrity and tightness.
- An approved leak-detection liquid should be used to detect flammable gas leaks.

- Procedures should be established for when a compressed gas cylinder leak cannot be remedied by simply tightening the valve. The procedures should include the following:
 - Attach tag to the cylinder stating it is unserviceable.
 - Remove cylinder to a well ventilated out-of-doors location.
 - If the gas is flammable or toxic, place an appropriate sign at the cylinder warning of these hazards.
 - Notify the gas supplier and follow its instructions as to the return of the cylinder.
- Employees should be prohibited from using compressed gases (air) to clean clothing or work surfaces.
- Compressed gases should only be handled by experienced and properly trained persons.

Note: Under this standard, a Permit Space Program is required if employees will enter confined spaces that have hazards such as engulfment, hazardous atmosphere, entrapment, or other serious safety or health hazard. This example program may be mandatory for the department and may be modified to meet the department's needs. Please reference the scope and application of the referenced OSHA standard.

Confined Space Entry Program (Permit Required) **(Ref. 29 CFR 1910.146)**

Purpose

To protect employees from the hazards associated with entry into permit required confined spaces and to develop procedures by which employees will enter such spaces.

Policy

Most confined space entry for the department will be for emergency response and rescue at worksites within our jurisdiction.

All spaces owned or operated by the department that meet the definition of permit required confined spaces (PRCS) will be identified and appropriately marked. The department must control access to these spaces.

Employees are prohibited from entering any space meeting the definition of a PRCS unless the following conditions are met:

- The department determines that employees must enter permit required confined spaces to perform assigned duties. The employees are trained to safely perform these duties in a PRCS.

The confined space is rendered safe for entry:

- By issuance and compliance with the conditions of a permit.
- When the space is reclassified as a non-permit space without making entry into the space. (This does not apply to a PRCS with an actual or potential hazardous atmosphere.)
- Alternate entry procedures are performed.

Permits issued under the procedures in this policy will be limited to the duration of the job but no longer than one work shift. A new permit is required if work continues on a second shift or another day.

Definitions

Confined Space—a space that meets *all three* of the following conditions:

- Is large enough and so configured that an employee can bodily enter and perform assigned work.
- Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults and pits are spaces that have limited means of entry).
- Is not designed for continuous human occupancy.

Permit Required Confined Space (Permit Space)—a confined space that has *one or more* of the following characteristics:

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

Duties and Responsibilities

For spaces onsite, we will assign specific roles and responsibilities for entry.

Authorized Attendant—The trained individual stationed outside the permit space to monitor the authorized entrants and to perform all attendant duties. The attendant will:

- Remain outside the permit space during entry operations unless relieved by another authorized attendant.
- Perform non-entry rescues when specified by the department's rescue procedure.
- Know existing and potential hazards, including information on the mode of exposure, signs or symptoms, consequences, and physiological effects.
- Maintain communication with, and keep an accurate account of, those workers entering the permit space.
- Order evacuation of the permit space when a prohibited condition exists; when a worker shows signs of physiological effects of hazard exposure; when an emergency outside the confined space exists; or when the attendant cannot effectively and safely perform required duties.
- Summon rescue and other services during an emergency.
- Ensure that unauthorized people stay away from permit spaces or exit immediately if they have entered the permit space.
- Inform authorized entrants and the entry supervisor if any unauthorized person enters the permit space.
- Perform no other duties that interfere with the attendant's primary duties.

Authorized Entrant—The trained individual who enters the permit space. The entrant is required to:

- Know space hazards, including information on the means of exposure such as inhalation or dermal absorption, signs and symptoms, and consequences of the exposure.
- Use appropriate personal protective equipment properly.
- Maintain communication with attendants as necessary to enable them to monitor the entrant's status and alert the entrant to evacuate when necessary.
- Exit from the permit space as soon as possible when ordered by the attendant; when he or she recognizes the warning signs or symptoms of exposure; when a prohibited condition exists; or when an automatic alarm is activated.
- Alert the attendant when a prohibited condition exists or when warning signs or symptoms of exposure exist.

Entry Supervisor—The trained individual with the responsibility to ensure that acceptable entry conditions are present within a permit space under his or her jurisdiction; issuing a permit authorizing entry; overseeing entry operations; and terminating the entry and permit.

For each entry into a PRCS, the designated entry supervisor will:

- Perform the pre-entry duties of the entry supervisor on the permit space to be entered.
- Prepare an entry permit, reclassify the space as a non-permit space, or authorize alternate entry procedures, in compliance with the relevant procedures of this section.
- Perform the post-entry duties of the entry supervisor.
- Collect the permit from the attendant at the end of entry or prepare the documentation for reclassification or alternate entry.

For the duration of each entry into a permit space, the entrants and attendants will perform the duties outlined in these procedures, and will return the permit or documentation to (insert job title of responsible person) upon termination of entry.

Most of our exposure to confined spaces will be in the role as rescue services.

Rescue Service

Rescue service means the personnel designated to rescue employees from permit spaces. They must have appropriate rescue equipment, including respirators, and be trained how to use all equipment.

Rescue service personnel must receive the authorized entrants training and be trained to perform assigned rescue duties.

The standard also requires that all rescuers be trained in first aid and CPR. At a minimum, one rescue team member must be currently certified in first aid and CPR. Employers must ensure that practice rescue exercises are performed yearly and that rescue services are provided access to permit spaces so they can practice rescue operations. Rescuers also must be informed of the hazards of the permit space.

If a company is relying on the department for off-site rescue services, the company must notify the department and involve them in site access.

Harnesses and Retrieval Lines

Authorized entrants who enter a permit space must wear a chest or full body harness with a retrieval line attached to the center of their backs near shoulder level or above their heads. Wristlets may be used if the department can demonstrate that the use of a chest or full body harness is not feasible or creates a greater hazard.

The other end of the retrieval line must be attached to a mechanical device or a fixed point outside the permit space. A mechanical device must be available to retrieve someone from vertical type permit spaces more than 5 feet (1.52 m) deep.

Safety Data Sheet

If an injured entrant is exposed to a substance for which a safety data sheet (SDS) or other similar written information is required to be kept at the worksite, that SDS or other written information must be made available to the medical facility personnel treating the exposed entrant.

Rescue Procedures

The following procedures have been developed for summoning rescue and emergency services:

The following procedures have been developed for rescuing entrants from permit spaces:

The following procedures have been developed for providing necessary emergency services to rescued employees:

The following procedures have been developed for preventing unauthorized personnel from attempting a rescue:

Permits

The following system will be used for the preparation, issuance, use, and cancellation of entry permits as required by this section:

The following system will be used for concluding the entry (such as closing off a permit space and canceling the permit) after entry operations have been completed:

Entry Operations

The following procedures have been developed to coordinate entry operations when employees of more than one employer are working simultaneously as authorized entrants in a permit space, so that employees of one employer do not endanger the employees of any other employer:

Entry operations will be reviewed when the department has reason to believe that the measures taken under the permit space program may not protect employees and revise the program to correct deficiencies found to exist before subsequent entries are authorized.

Training

Each employee receives awareness training on:

- The characteristics of a confined space.
- The characteristics of a permit required confined space.
- Whether they are allowed to enter permit required confined spaces.
- Required actions when working around or near a permit space entry.
- The authority of authorized attendants and entry supervisors.

Training will be required:

- During orientation.
- Prior to entry into a permit required confined space.
- Whenever the supervisor becomes aware that the employee has failed to follow the instructions provided in the training.

The supervisor will provide verification of training to: *(insert job title of responsible person)*.

Entry Supervisors, Attendants and Entrants

The supervisor will ensure that employees designated as entry supervisors, attendants and entrants receive training in:

- The requirements of this policy and any procedures.
- The duties, authority and responsibilities of entry supervisors, attendants, lead entrants and entrants.
- The types of hazards expected to be encountered in permit spaces.

- The calibration, use, care and cleaning of equipment expected to be used during entry operations
- The performance of pre-entry actions expected to be required in permit spaces.

Training will be provided:

- Prior to assignment or authorization of duties within permit spaces.
- Within one month of revisions to this policy or procedures. Assignment or authorization for permit space entry will be suspended until training is completed.
- Whenever the supervisor becomes aware that an employee is deviating from the procedures of this policy. Assignment or authorization for permit space entry will be suspended until training is completed.
- Annually.

Rescue Services

All affected employees will be trained to perform assigned rescue duties. The department must ensure that employees successfully complete the training required to establish proficiency as an authorized entrant.

Employees will also be trained on:

- Basic first-aid and cardiopulmonary resuscitation (CPR).
- At least one member of the rescue team or service must hold a current certification in first aid and CPR.
- A simulated rescue operation in which they remove dummies, manikins, or actual persons from the actual permit spaces or from representative permit spaces. Representative permit spaces shall, with respect to opening size, configuration, and accessibility, simulate the types of permit spaces from which rescue is to be performed.

Certification

The department will certify that each affected employee has successfully completed training.

The certification must include at least the following:

- Employee name
- Name, signature or initials of the trainer
- Dates of training

Additionally, the certification may include a synopsis of the topics covered, copies of materials used during training such as handouts and presentations, and copies of tests (if used) to determine trainee understanding and proficiency, and other documentation deemed appropriate by the department. The certification must be maintained by the department and a copy may be provided to the employee.

Program Review

The department will review the effectiveness of the program annually, using the canceled permits and other documentation from the preceding 12 months, entry supervisor comments, and other available information. If no entries were made during the preceding 12 months, no annual review is required.

The entry supervisor, authorized attendant or entrant may make recommendations to management at any time to make changes in procedures to address and correct weaknesses in the procedures.

The entry supervisor or unit manager may notify the department at any time of potential weaknesses in policy or procedures. The department will view and initiate whatever changes necessary to address confirmed weaknesses.

Retention of Records

Canceled permits and other documentation will be retained by the department not less than one year following the date of entry. Permits will then be retained as an employee exposure record if applicable.

Confined Space Entry Permit Example #1

Date and time issued: _____ Date and time expires: _____
 Jobsite/space I.D.: _____ Job supervisor: _____
 Equipment to be worked on: _____ Work to be performed: _____
 Entrants name(s): _____
 Stand-by personnel: _____

1. Atmospheric checks:

Time _____
 Oxygen _____ %
 Explosive _____ % L.F.L.
 Toxic _____ PPM

2. Tester's signature: _____

3. Source isolation (no entry):

	Yes	No	N/A
Pumps or lines blinded	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Disconnected or blocked	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. Ventilation modification:

	Yes	No	N/A
Mechanical	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Natural ventilation only	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. Atmospheric check after isolation and ventilation:

Oxygen	_____	%	>	19.5	<	23.5%
Explosive	_____	% L.F.L.	<	10	%	
Toxic	_____	PPM	<	10	H ₂ S PPM	
Time	_____					

Tester's signature: _____

6. Communication procedures: _____

7. Rescue procedures: _____

8. Entry, standby and backup persons: _____

	Yes	No	N/A
Successfully completed required training?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is it current?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. Equipment

	Yes	No	N/A
Direct reading gas monitor-tested	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Safety harnesses and lifelines for entry and standby persons	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hoisting equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Powered communications	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SAR or SCBA for entry and standby persons	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Protective clothing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
All electric equipment listed Class I, Division I, Group D and nonsparking tools	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10. Periodic atmospheric tests:

Oxygen	_____	% Time	_____	Oxygen	_____	% Time	_____
Oxygen	_____	% Time	_____	Oxygen	_____	% Time	_____
Explosive	_____	% Time	_____	Explosive	_____	% Time	_____
Explosive	_____	% Time	_____	Explosive	_____	% Time	_____
Toxic	_____	% Time	_____	Toxic	_____	% Time	_____
Toxic	_____	% Time	_____	Toxic	_____	% Time	_____

We have reviewed the work authorized by this permit and the information contained herein. Written instructions and safety procedures have been received and are understood. Entry cannot be approved if any squares are marked in the "No" column. This permit is not valid unless all appropriate items are completed.

Permit prepared by: (supervisor)	_____	_____
Approved by: (unit supervisor)	_____	_____
Reviewed by: (operations personnel)	_____	_____
	(Printed name)	(Signature)

Confined Space Entry Permit Example #2

Date: _____
 Site location and description: _____
 Purpose of entry: _____
 Supervisor(s) in charge of crews: _____
 Crew Phone # _____
 Communication procedures: _____
 Rescue procedures (phone numbers at bottom): _____

Requirements Completed	Date	Time
Lockout/de-energize/verify	_____	_____
Line(s) broken-capped-blanked	_____	_____
Purge (flush and vent)	_____	_____
Ventilation	_____	_____
Secure area (post and flag)	_____	_____
Breathing apparatus	_____	_____
Resuscitator—inhalator	_____	_____
Standby safety personnel	_____	_____
Full body harness with "D" ring	_____	_____
Emergency escape retrieval equipment	_____	_____
Lifelines	_____	_____
Fire extinguishers	_____	_____
Lighting (explosive proof)	_____	_____
Protective clothing	_____	_____
Respirator(s) (air-purifying)	_____	_____
Burning and welding permit	_____	_____

Note: Items that do not apply enter N/A in the blank.

**Record continuous monitoring results every two hours

Continuous monitoring** Test(s) to be taken	Permissible entry level	Results	Results	Results	Results	Results
Percent of oxygen	19.5% to 23.5%	_____	_____	_____	_____	_____
Lower flammable limit	Under 10%	_____	_____	_____	_____	_____
		_____	_____	_____	_____	_____
		_____	_____	_____	_____	_____

See Appendix D-2 in 1910.146 for prior table layout.

*Short-term exposure limit: Employee can work in the area up to 15 minutes.
 +8-hour time-weighted average: Employee can work in area 8 hours (longer with appropriate respiratory protection).
 Remarks: _____

Gas tester name and check #	Instrument(s) used	Model and/or type	Serial and/or unit #
_____	_____	_____	_____

Standby person(s)	Check #	Instrument(s)	Check #	Confined space entrant(s)	Check #
_____	_____	_____	_____	_____	_____

Supervisor authorizing—all conditions satisfied
 Department/phone: _____
 Phone # for ambulance: _____
 Phone # for fire department: _____
 Phone # for rescue: _____
 Phone # for gas company: _____

*Note: A Diving Safe Practices Manual is required if employees are engaged commercial diving operations. It is not applicable to diving performed solely for search, rescue, or related public safety purposes by or under the control of a governmental agency but as a **best practice**, consider implementing a program. This example program may be modified to meet the department's needs. Please reference the scope and application of the referenced OSHA standard to ensure that all requirements are being met.*

Diving Safe Practices Manual

(29 CFR 1910.410–420)

The manual will be available at the dive location to each dive team member.

Safety Procedures

The following safety procedures will be followed for our diving operations:

Assignments and Responsibilities

Each dive team member will be assigned tasks in accordance with the employee's experience or training. Limited additional tasks may be assigned to an employee undergoing training provided that these tasks are performed under the direct supervision of an experienced dive team member.

Primary Diver—A qualified diver performing initial underwater activities relating to the dive request.

Dive Team Leader—An appropriately qualified diver will be designated by the dive team as the dive team leader for each dive or series of dives. The dive team leader should be responsible for the diving operation. Level of experience and training in dealing with the task at hand will supersede rank/classification in selecting a dive team leader. The dive team leader should be at the dive location during the diving operation.

Standby Diver—An appropriately qualified diver, who is part of the dive team, should have the level of experience and training in dealing with the task at hand. The standby diver should be fully dressed and ready to assist the primary diver.

Tender—A surface support person responsible for handling a single diver's umbilical and for maintaining voice and/or standard line signal communications will be part of the dive team.

Emergency Procedures

The following emergency and first aid equipment will be provided, maintained and readily available at the physical dive area:

- A first aid kit appropriate for the diving operation;
 - An emergency oxygen cylinder; and
 - A stokes litter or backboard, with attached flotation device.
-
-

The following are emergency procedures for fire:

The following are emergency procedures for equipment failure:

The following are emergency procedures for adverse environmental conditions:

The following are emergency procedures for medical illness and injury:

Equipment Procedures and Checklists

The following equipment procedures and checklists will be followed:

Diving Operations Plan

Diver's Name	Diver's Agency	Certification Level	Diver's Duties	Equipment to Be Used

Note: Under this standard, an Electrical Safety Program is required if employees work on or near exposed energized parts. This example program may be mandatory for the department and may be modified to meet the department's needs. Please reference the scope and application of the referenced OSHA standard to ensure that all requirements are being met. The standard requires the department to maintain a written copy of the procedures outlined in paragraph (b)(2) of the standard. The written procedures may be in the form of a copy of paragraph (b) of 1910.333).

Electrical Safety-Related Work Practices Program

(Ref. 29 CFR 1910.331–335)

Scope

Safety-related work practices will be in use by our employees to prevent electric shock or other injuries resulting from either direct or indirect electrical contact, when work is performed near or on equipment or circuits that are or may be energized. The specific safety-related work practices will be consistent with the nature and extent of the associated electrical hazards. The content of this electrical safe work practice is as required in OSHA Subpart S (Electrical), 29 CFR 1910.331–335.

This program covers the servicing and maintenance of machines and equipment that have not been placed in an electrically safe working condition and the installation/removal of main disconnect switches on bus ducts. Conductors and parts of electric equipment that have been de-energized but have not been locked out or tagged will be treated as energized parts. Any machine or equipment that has not been shut down per our lockout/tagout procedures will not be considered to be electrically safe.

Covered Employees

The provisions of these procedures cover electrical safety-related work practices for both qualified persons (those who have training in avoiding the electrical hazards of working on or near exposed-energized parts) and unqualified persons (those with little or no such training) working on, near or with the following installations:

- Premises Wiring—Installations of electric conductors and equipment within or on buildings or other structures, and on other premises such as yards, parking and other lots, and industrial substations.
- Wiring for Connections to Supply—Installations of conductors that connect to the supply of electricity.
- Other Wiring—Installations of other outside conductors on the premises.
- Optical Fiber Cable—Installations of optical fiber cable where such installations are made along with electric conductors.
- Bus Duct Switches—Installation and removal of bus duct switches on energized busses.

Qualified persons (i.e., those permitted to work on or near exposed energized parts) will, at a minimum, be trained in and familiar with the following:

- The skills and techniques necessary to distinguish exposed live parts from other parts of electric equipment.
- The skills and techniques necessary to determine the nominal voltage of exposed live parts.

Training

The training requirements contained in this document apply to employees who face a risk of shock that is not reduced to a safe level by the installation as required by the National Electrical Code and 29 CFR 1910 Subpart S, Electrical.

Other employees who also may reasonably be expected to face comparable risk of injury due to electric shock or other electrical hazards must also be trained.

Employees who are covered by the scope of this policy, but who are not qualified persons will also be trained in and familiar with any electrical safety-related practices not specifically addressed but which are necessary for their safety.

The training required will be of the classroom or on-the-job type (preferably both). The degree of training provided will be determined by the risk to the employee.

Selection and Use of Work Practices

Safety-related work practices will be used to prevent electric shock or other injuries resulting from either direct or indirect electrical contacts, when work is performed near or on equipment or circuits that are or may be energized. The specific safety-related work practices will be consistent with the nature and extent of the associated electrical hazards:

- De-energized parts—Live parts to which an employee may be exposed will be de-energized before the employee works on or near them, unless the employer can demonstrate that de-energizing introduces additional or increased hazards or is infeasible due to equipment design or operational limitations. Live parts that operate at less than 50 volts to ground need not be de-energized if there will not be increased exposure to electrical burns or to explosion due to electric arcs.
- Energized parts—If the exposed live parts are not de-energized (i.e., for reasons of increased or additional hazards or infeasibility), other safety-related work practices will be used to protect employees who may be exposed to the electrical hazards involved. Such work practices will protect employees against contact with energized circuit parts directly with any part of their body or indirectly through some other conductive object. When working on energized parts, the appropriate PPE will be used.

Note: Examples of work that may be performed on or near energized circuit parts because of infeasibility due to equipment design or operational limitations include testing of electric circuits that can only be performed with the circuit energized (troubleshooting) and work on circuits that form an integral part of a continuous industrial process that would otherwise need to be shut down completely to permit work on one circuit or piece of equipment.

Lockout/Tagout

While any employee is exposed to contact with parts of fixed electric equipment or circuits that have been de-energized, the circuits energizing the parts will be locked out or tagged (or both) in accordance with the requirements of this paragraph in the following order:

- Procedures will be in place before equipment may be de-energized.
- Circuits and equipment to be worked on will be disconnected from all electrical energy sources.
- Stored electrical energy that poses a hazard to workers will be released.
- Stored nonelectrical energy in devices that could re-energize electric circuit parts will be blocked or relieved to the extent that the circuit parts could not be accidentally energized by the device.
- A lock and a tag will be placed on each disconnecting means used to de-energize circuits and equipment on which work is to be performed, except as provided below.
- Each tag will contain a statement prohibiting unauthorized operation of the disconnecting means and removal of the tag.
- If a lock cannot be applied, or if the employer can demonstrate that tagging procedures will provide a level of safety equivalent to that obtained by the use of a lock, a tag may be used without a lock.
- A tag used without a lock as permitted above, will be supplemented by at least one additional safety measure that provides a level of safety equivalent to that obtained by the use of a lock. Examples include the removal of an isolating circuit element, blocking of a controlling switch or opening of an extra disconnecting device.
- A lock may be placed without a tag only under the following conditions:
 - Only one circuit or piece of equipment is de-energized.
 - The lockout period does not extend beyond the work shift.
 - Employees exposed to the hazards associated with re-energizing the circuit or equipment are familiar with this procedure.
- Before any circuits or equipment can be considered and worked as de-energized:
 - A qualified person will operate the equipment operating controls or otherwise verify that the equipment cannot be restarted.
 - A qualified person will use test equipment to test the circuit elements and electrical parts of equipment to which employees will be exposed and will verify that the circuit elements and equipment parts are de-energized.

- Before circuits and equipment are re-energized, even temporarily, the following requirements will be met, in the order given:
 - A qualified person will conduct tests and visual inspections, as necessary, to verify that all tools, electrical jumpers, shorts, grounds and other such devices have been removed so that the circuits and equipment can be safely energized.
 - Employees exposed to the hazards associated with re-energizing the circuit or equipment will be warned to stay clear of circuits and equipment.
 - Each lock and tag will be removed by the employee who applied it or under his or her direct supervision. However, if the employee is absent from the workplace, then the lock or tag may be removed by a qualified person designated to perform this task provided that the employer ensures that the employee who applied the lock or tag is not available at the workplace and is aware that the lock or tag has been removed before he or she resumes work at that workplace.
 - There will be a visual determination that all employees are clear of the circuits and equipment.

Working on or Near Energized Equipment

This section applies to work performed on exposed live parts (involving either direct contact or contact by means of tools or materials) or near enough to them for employees to be exposed to any hazard they present.

Only qualified persons may work on electric circuit parts or equipment that has not been de-energized under the procedures of these standards. Such individuals will be capable of working safely on energized circuits and will be familiar with the proper use of special precautionary techniques, personal protective equipment, insulating and shielding materials, and insulated tools.

Illumination—Employees may not enter spaces containing exposed energized parts unless illumination is provided that enables the employees to perform the work safely. Where lack of illumination or an obstruction precludes observation of the work to be performed, employees may not perform tasks near exposed energized parts. Employees may not reach blindly into areas that may contain energized parts.

Conductive Materials and Equipment—Conductive materials and equipment that are in contact with any part of an employee's body will be handled in a manner that will prevent them from contacting exposed energized conductors or circuit parts. If an employee must handle long dimensional conductive objects (such as ducts or pipes) in areas with live parts, the hazard must be minimized by the use of insulation, guarding or material handling techniques.

Note: *Nonconductive fish tapes must be used when pulling wire through conduit that contains energized conductors or when entering an enclosure with exposed live parts.*

- **Portable ladders**—Portable ladders must be of the nonconductive type (wood or fiberglass) if they are used where the employee or the ladder could contact exposed energized parts.
- **Conductive apparel**—Conductive articles of jewelry and clothing (such as bands, bracelets, rings, key chains, necklaces, metalized aprons, cloth with conductive thread or metal headgear) may not be worn if they might contact exposed energized parts unless they are rendered nonconductive by covering, wrapping or other insulating means.
- **Housekeeping duties**—Where live parts present an electrical contact hazard, employees may not perform housekeeping duties in such close proximity to the parts that there is a possibility of contact unless adequate safeguards (such as insulating equipment or barriers) are provided. Electrically conductive cleaning materials may not be used in proximity to energized parts unless procedures are followed which will prevent electrical contact.
- **Interlocks**—Only a qualified person following the requirements of this section may defeat an electrical safety interlock, and then only temporarily while he or she is working on the equipment. The interlock system will be returned to its operable condition when this work is completed.
- **Confined or enclosed work spaces**—When an employee works in a confined or enclosed space (such as a manhole or vault) that contains exposed energized parts, the employer will provide, and the employee will use, protective shields, protective barriers or insulating materials as necessary to avoid inadvertent contact with these parts. Doors, hinged panels and the like will be secured to prevent their swinging into an employee and causing the employee to contact exposed energized parts.

- Overhead lines—Employees will not work on or near (within 12 feet) overhead lines. This 12-foot barrier includes any conductive object in that space. OSHA provides specific instructions regarding work on overhead lines. Refer to Subpart S—Electrical, 1910.333(c)(3) for more detail.

Use of Equipment

Portable Electric Equipment—This section applies to the use of cord-and-plug connected equipment, including flexible cord sets (extension cords).

Extension Cord Use

- Employees using extension cords (drop cords) to power tools and/or equipment for the performance of construction, maintenance, repair or demolition will use GFCI protection. This pertains to any part of the department, both inside and outside.
- All extension cords must be grounding type, made with UL listed parts, and be in good physical condition.
- Extension cords may not be lengthened or repaired with tape.
- Power outlet strips are for equipment needing surge protection (e.g., computers).
- Extension cords will not be run through holes in walls, ceilings or floors.
- Extension cords may not be plugged into power strips. Power strips may not be connected to each other (i.e., “piggy-backed”).
- An extension cord should not be run across high traffic areas or used in applications where potential damage to the cord might occur:
 - The use of an extension cord must not create a trip hazard.
 - Extension cords will not be attached to building surfaces or used in lieu of fixed wiring of a structure.
 - Extension cords will not be run through doorways or windows or concealed behind walls, ceilings or floors.

Handling—Portable equipment will be handled in a manner that will not cause damage. Flexible electric cords connected to equipment may not be used for raising or lowering the equipment. Flexible cords may not be fastened with staples or otherwise hung in such a fashion as could damage the outer jacket or insulation.

Visual Inspection—Portable cord-and-plug connected equipment and flexible cord sets (extension cords) will be visually inspected before use on any shift for external defects and evidence of possible internal damage:

- Cord-and-plug connected equipment and extension cords that remain connected once they are put in place and are not exposed to damage need not be visually inspected until they are relocated.
- Defective or damaged items will be removed from service until repaired.

Grounding Type Equipment—A flexible cord used with grounding type equipment will contain an equipment grounding conductor:

- Attachment plugs and receptacles may not be connected or altered in a manner that would prevent proper continuity of the equipment grounding conductor at the point where plugs are attached to receptacles. Additionally, these devices may not be altered to allow the grounding pole of a plug to be inserted into slots intended for connection to the current carrying conductors.
- Adapters (i.e., “cheaters”) that interrupt the continuity of the equipment grounding connection may not be used.

Conductive Work Locations—Portable electric equipment and flexible cords used in highly conductive work locations (such as those inundated with water or other conductive liquids) or in job locations where employees are likely to contact water or conductive liquids will be approved for those locations.

Connecting Attachment Plugs—Employees’ hands may not be wet when plugging and unplugging flexible cords and cord and plug-connected equipment, if energized equipment is involved.

- Energized plug and receptacle connections may be handled only with insulating protective equipment if the condition of the connection could provide a conducting path to the employee’s hand.
- Locking type connectors will be properly secured after connection.

Electric Power and Lighting Circuits

Routine Opening and Closing of Circuits—Load-rated switches, circuit breakers or other devices specifically designed as disconnecting means will be used for the opening, reversing or closing of circuits under load conditions. Cable connectors not of the load break type, fuses, terminal lugs and cable splice connections will not be used for such purposes, except in an emergency.

Reclosing Circuits After Protective Device Operation—After a circuit is de-energized by a circuit protective device, the circuit may not be manually re-energized until it has been determined that the equipment and circuit can be safely energized. The repetitive manual reclosing of circuit breakers or re-energizing circuits through replaced fuses is prohibited.

Note: Circuit breakers or fuses can only be energized after an overload condition has been determined. If a fault condition exists, the circuit must be tested and determined safe before the circuit can be energized. Circuit breakers can be reset; however, repetitive reclosing is prohibited. The problem should be traced to the root cause if a circuit breaker trips twice in succession.

Overcurrent Protection Modification

Overcurrent protection of circuits and conductors may not be modified, even on a temporary basis, beyond that allowed in the installation safety requirements for overcurrent protection.

Test Instruments and Equipment

- Use—Only qualified persons may perform testing work on electric circuits or equipment.
- Visual inspection—Test instruments and equipment and all associated test leads, cables, power cords, probes and connectors will be visually inspected for external defects and damage before the equipment is used. If there is a defect or evidence of damage that might expose an employee to injury, the defective or damaged item will be removed from service, and no employee may use it until necessary repairs and tests to render the equipment safe have been made.
- Rating of equipment—Test instruments and equipment and their accessories will be rated for the circuits and equipment to which they will be connected and will be designed for the environment in which they will be used.

Occasional Use of Flammable or Ignitable Materials

Where flammable materials are present only occasionally, electric equipment capable of igniting them will not be used unless measures are taken to prevent hazardous conditions from developing.

Safeguard for Personnel Protection

Personal Protective Equipment—Employees working in areas where there are potential electrical hazards will be provided with and will use electrical protective equipment that is appropriate for the specific parts of the body to be protected and for the work to be performed:

- Protective equipment will be maintained in a safe, reliable condition and will be periodically inspected or tested, as required by 29 CFR 1910.137.
- If the insulating capability of protective equipment may be subject to damage during use, the insulating material will be protected. (For example, an outer covering of leather is sometimes used for the protection of rubber insulating material.)
- Employees will wear nonconductive head protection wherever there is a danger of head injury from electric shock or bumps due to contact with exposed energized parts.
- Employees will wear protective equipment for the eyes or face wherever there is danger of injury to the eyes or face from electric arcs or flashes or from flying objects resulting from electrical explosion.

When working near exposed energized conductors or circuit parts, each employee will use insulated tools or handling equipment if the tools or handling equipment might make contact with such conductors or parts. If the insulating capability of insulated tools or handling equipment is subject to damage, the insulating material will be protected:

- Fuse handling equipment, insulated for the circuit voltage, will be used to remove or install fuses when the fuse terminals are energized.
- Ropes and handlines used near exposed energized parts will be nonconductive.
- Protective shields, protective barriers or insulating materials will be used to protect each employee from shock, burns or other electrically related injuries while that employee is working near exposed energized parts that might be accidentally contacted or where dangerous electric heating or arcing might occur. When normally enclosed live parts are exposed for maintenance or repair, they will be guarded to protect unqualified persons from contact with live parts.

Note: Cabinet doors and electrical enclosures should be kept closed. If, however, this is not possible due to the conditions that follow, additional precautions must be taken to minimize the extent of the hazard.

This section covers situations where:

- Energized equipment is exposed and must be left unattended.
- The scope of the energized equipment is so large that the person working cannot monitor it.
- The equipment cannot otherwise be guarded against accidental intrusion by a passerby.

Alerting Techniques—The following alerting techniques will be used to warn and protect employees from hazards that could cause injury due to electric shock, burns or failure of electric equipment parts:

- Safety signs, safety symbols or accident prevention tags will be used where necessary to warn employees about electrical hazards that may endanger them, as required.
- Barricades will be used in conjunction with safety signs where it is necessary to prevent or limit employee access to work areas exposing employees to uninsulated energized conductors or circuit parts. Conductive barricades may not be used where they might cause an electrical contact hazard.
- Attendant—If signs and barricades do not provide sufficient warning and protection from electrical hazards, an attendant will be stationed to warn and protect employees.

Safe Work Practices

- Know the equipment and potential hazards—Define the scope of work.
- Submit the scope of work to your safety coordinator for approval.
- Analyze the hazards use engineered methods to mitigate hazards.
- Establish procedures as necessary.
- Use barricades or other means to prevent unqualified persons from crossing approach boundaries.
- Employees will employ insulating barriers to prevent themselves and others from leaning into or falling into live parts and to prevent live parts that might become loose from contacting other employees.
- Employees will wear safety glasses.
- Employees will not wear metallic personal items (e.g., jewelry, glasses, watches) while working on or near live parts.
- Employees will use nonconducting ladders when needed.
- Always assume a conductor is energized until proven otherwise.
- Employees will wear voltage rated gloves when using tools on or near live parts.
- Employees will use only PPE that is designed (approved or certified) for the hazard.

- Employees will use only insulated tools when working on or near live parts.
- Employees will use only tools and instruments that are designed for the system voltage.
- Employees will not bypass interlocks or safety devices that protect people against electrical shock except when absolutely necessary and then only with written approval from their supervisor.
- Whenever possible, do not work alone.
- Safety watch is required when deemed so by your supervisor. This person will be CPR trained and be familiar with removing all sources of power to the device being worked upon and have ready access to a phone in order to call 911 in case of emergency.
- When operating circuit breakers or fused switches. ALWAYS stand to the side NEVER directly in front of the device being operated.
- Employees should inspect electrical equipment for defective parts, faulty insulation, improper grounding, loose connections, ground faults and unguarded live parts and should take appropriate remedial action before working on or near live parts.
- Employees should work only where there is adequate clearance.
- Employees should not work on or near live parts that are in a hazardous location (e.g., in wet or damp areas or where there are corrosive or flammable atmospheres).
- Restrict unnecessary people from being in the work area.

Electrical Safety-Related Work Practices Self-Audit Checklist

Area: _____ Room: _____ Date: _____ Audit Performed by: _____

	Yes	No	N/A	Comments
Model written program available.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Training complete and documented.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Lockout/tagout program includes electrical safety-related work practices.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Selection and Use of Work Practices

	Yes	No	N/A	Comments
Minimum safe work distances established when work involves energized parts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Illumination provided in all spaces containing exposed electrical conductors.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Measures taken to avoid inadvertent contact with energized parts in enclosed or confined spaces.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Measures taken to avoid inadvertent contact of conductive materials or equipment with energized parts during handling.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Portable ladders have nonconductive side rails.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Conductive apparel not worn unless rendered nonconductive.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Measures taken to avoid inadvertent contact with energized parts during housekeeping duties.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Electrical safety interlocks defeated only by a qualified person following specific procedures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Use of Equipment

	Yes	No	N/A	Comments
Procedures for handling portable equipment implemented.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Procedures for working with extension cords implemented.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Only qualified persons allowed to perform test work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Measures taken to prevent hazards from the occasional use of flammable materials near electrical equipment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Safeguards for Personnel Protection

	Yes	No	N/A	Comments
Personal protective equipment appropriate for the electrical hazard provided and used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Insulated tools and handling equipment used for work performed near exposed energized circuits.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Protective shields, barriers or insulating materials used near exposed electrical circuits or where dangerous electric heating or arcing may occur.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Appropriate alerting techniques used to warn and protect workers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Note: Under this standard, an Emergency Action Plan is required whenever an OSH standard requires one or if fire extinguishers are provided but are not intended for employee use. This plan may be mandatory for the department and may be modified to meet the department's needs. This plan does not have to be in writing for employers with 10 or fewer employees. Please reference the scope and application of the referenced OSHA standard to ensure that all requirements are being met.

Emergency Action Plan (Ref. 29 CFR 1910.38)

The intent of this plan is to ensure all employees a safe and healthful workplace. Those employees assigned specific duties under this plan will be provided the necessary training and equipment to ensure their safety. This plan applies to emergencies that could be reasonably expected in our workplace such as fire/smoke, tornadoes, bomb threats or chemical releases.

Emergency Plan Coordinators

Building/Department	Name/Title	Phone #

Coordinators are responsible for the proper inventory and maintenance of equipment. They may be contacted by employees for further information on this plan.

Plan Outline/Description

All fires and emergencies will be reported by one or more of the following means:

- Verbally to the coordinator during normal working hours.
- By telephone if after hours/weekends.
- By the building alarm system.

Note: The following numbers will be posted throughout the facility:

- Fire
- Police
- Ambulance
- Hazmat
- Poison Control

Alarm system requirements for notifying employees during an emergency must include the following:

- Provides warning for safe escape.
- Can be perceived by all employees.
- Alarm is distinctive and recognizable.
- Employees have been trained on the alarm system.
- Emergency phone numbers are posted.
- Emergency alarms have priority over all other communications.
- Alarm system is properly maintained.

Sounding the Alarm

The alarm signals for this facility are below:

- For fire: *(Insert signal)*
- For chemical release: *(Insert signal)*
- For hazardous weather: *(Insert signal)*
- Other: *(Insert signal)*

Emergency Plan

Emergency evacuation escape route plans are posted in key areas of the facility. All employees will be trained on primary and secondary evacuation routes for each type of emergency, as well as storm/tornado shelter locations, and whether employees should exit the facilities or shelter-in-place or in some other internal area of the worksite.

Building Evacuation

In the event of a fire/explosion evacuation, all occupants will promptly exit the building via the nearest exit. Go to your designated assembly point and report to your supervisor. Each supervisor (or designee) will account for each assigned employee via a head count. All supervisors will report their head count to *(insert job title of responsible person)* who will be located at *(insert evacuation location)* or accessible via cell phone or radio *(insert phone number or radio channel)*.

In the event of a chemical release, all affected employees will be given evacuation instruction by those in authority (supervisor, other) via: *(Insert alert)*. Each supervisor (or designee) will account for each assigned employee via head count. All supervisors will report their head count to *(insert job title of responsible person)*. Under no circumstances will employees leave the worksite unless instructed to so by management or other authority.

Building Re-Entry

Once evacuated, no one will re-enter the building. Once the fire department or other responsible agency has notified *(insert job title of responsible person)* that the building is safe to re-enter, personnel will return to their work areas. If building re-entry is not permissible, employees will be given further instruction as applicable by those in authority (supervisor, fire department).

Hazardous Weather

A hazardous weather alert consists of *(insert alert)*. When a hazardous weather alert is made, all employees will immediately report to the closest refuge area. Stay in this area until notified by *(insert job title of responsible person)*.

Training

The personnel listed below have been trained to assist in the safe and orderly emergency evacuation of employees:

Task	Building/Department	Name/Title/Phone #
Fire Extinguisher/Hoses		
Evacuation Assistant		
Emergency Shutdown		

Employee training is provided when this plan is initiated, when employees' responsibilities change, when the plan changes, initially for new hires and annually for all employees. Subjects to be covered include:

- Emergency escape procedures/routes
- Fire extinguisher locations and proper use (when the use is required by the department)
- Procedures for accounting for employees and visitors
- Major facility fire hazards
- Fire prevention practices
- Means of reporting fires/emergencies (use and types of alarm systems)
- Names/titles of emergency coordinators
- Availability of the plan to employees
- Hazardous weather procedures
- Special duties as assigned to coordinators and those listed above.

Written records will be maintained for all training and provided to *(insert job title of responsible person)*.

Note: Under this standard, an Emergency Response Plan is required if employees are involved in clean up operations involving hazardous substances; operations at a treatment, storage and disposal facility, or have employees involved in emergency response. This is an example program and may be modified to meet the company's needs. Please reference the scope and application of the referenced OSHA standard to ensure that all requirements are being met.

Emergency Response Plan

(Ref. 29 CFR 1910.120)

This emergency response plan will be used for emergency situations involving our employees. It will cover emergencies such as fires, medical emergencies, accidents, catastrophes, toxic releases and other emergency situations. This plan does not apply to small leaks and mishaps that can be successfully covered under the written hazard communication program or other applicable program.

Please note: The key points of a hazard communication response are that partial or total facility evacuation is not necessary and employees in the immediate work area of the spill or mishap can safely handle the situation. The written hazard communication program and employee training must be very clear to allow all employees to recognize when a spill or mishap requires emergency response versus local response under the hazard communication program.

This plan will be reviewed annually and updated as necessary. Emergency response organizations may use the local emergency response plan or the state emergency response plan or both, as part of their emergency response plan to avoid duplication. Those items of the emergency response plan that are being properly addressed by the SARA Title III plans may be substituted into their emergency plan or otherwise kept together for the employer and employee's use.

Pre-Emergency Planning and Coordination With Outside Parties

The following pre-emergency planning and coordination procedures will be followed:

Personnel Roles, Lines of Authority, Training and Communication

Personnel Roles

Lines of Authority

Training

Training will be based on the duties and function to be performed by each responder of an emergency response organization.

First responder awareness level. First responders at the awareness level are individuals who are likely to witness or discover a hazardous substance release and who have been trained to initiate an emergency response sequence by notifying the proper authorities of the release. First responders at the awareness level will have sufficient training or have had sufficient experience to objectively demonstrate competency in the following areas:

- An understanding of what hazardous substances are, and the risks associated with them in an incident.
- An understanding of the potential outcomes associated with an emergency created when hazardous substances are present.
- The ability to recognize the presence of hazardous substances in an emergency.
- The ability to identify the hazardous substances, if possible.
- An understanding of the role of the first responder awareness individual in the employer's emergency response plan including site security and control and the U.S. Department of Transportation's Emergency Response Guidebook.
- The ability to realize the need for additional resources, and to make appropriate notifications to the communication center.

First responder operations level. First responders at the operations level are individuals who respond to releases or potential releases of hazardous substances as part of the initial response to the site for the purpose of protecting nearby persons, property, or the environment from the effects of the release. They are trained to respond in a defensive fashion without actually trying to stop the release. Their function is to contain the release from a safe distance, keep it from spreading, and prevent exposures. First responders at the operational level will have received at least eight hours of training or have had sufficient experience to objectively demonstrate competency in the following areas in addition to those listed for the awareness level and the employer shall so certify:

- Knowledge of the basic hazard and risk assessment techniques.
- Know how to select and use proper personal protective equipment provided to the first responder operational level.
- An understanding of basic hazardous materials terms.
- Know how to perform basic control, containment and/or confinement operations within the capabilities of the resources and personal protective equipment available with their unit.
- Know how to implement basic decontamination procedures.
- An understanding of the relevant standard operating procedures and termination procedures.

Hazardous materials technician. Hazardous materials technicians are individuals who respond to releases or potential releases for the purpose of stopping the release. They assume a more aggressive role than a first responder at the operations level in that they will approach the point of release in order to plug, patch or otherwise stop the release of a hazardous substance. Hazardous materials technicians will have received at least 24 hours of training equal to the first responder operations level and in addition have competency in the following areas and the employer shall so certify:

- Know how to implement the employer's emergency response plan.
- Know the classification, identification and verification of known and unknown materials by using field survey instruments and equipment.
- Be able to function within an assigned role in the Incident Command System.
- Know how to select and use proper specialized chemical personal protective equipment provided to the hazardous materials technician.
- Understand hazard and risk assessment techniques.
- Be able to perform advance control, containment, and/or confinement operations within the capabilities of the resources and personal protective equipment available with the unit.
- Understand and implement decontamination procedures.
- Understand termination procedures.
- Understand basic chemical and toxicological terminology and behavior.

Hazardous materials specialist. Hazardous materials specialists are individuals who respond with and provide support to hazardous materials technicians. Their duties parallel those of the hazardous materials technician, however, those duties require a more directed or specific knowledge of the various substances they may be called upon to contain. The hazardous materials specialist would also act as the site liaison with Federal, state, local and other government authorities in regards to site activities. Hazardous materials specialists shall have received at least 24 hours of training equal to the technician level and in addition have competency in the following areas and the employer shall so certify:

- Know how to implement the local emergency response plan.
- Understand classification, identification and verification of known and unknown materials by using advanced survey instruments and equipment.
- Know the state emergency response plan.
- Be able to select and use proper specialized chemical personal protective equipment provided to the hazardous materials specialist.
- Understand in-depth hazard and risk techniques.
- Be able to perform specialized control, containment, and/or confinement operations within the capabilities of the resources and personal protective equipment available.
- Be able to determine and implement decontamination procedures.
- Have the ability to develop a site safety and control plan.
- Understand chemical, radiological and toxicological terminology and behavior.

On scene incident commander. Incident commanders, who will assume control of the incident scene beyond the first responder awareness level, will receive at least 24 hours of training equal to the first responder operations level and in addition have competency in the following areas and the employer shall so certify:

- Know and be able to implement the employer's incident command system.
- Know how to implement the employer's emergency response plan.
- Know and understand the hazards and risks associated with employees working in chemical protective clothing.
- Know how to implement the local emergency response plan.
- Know of the state emergency response plan and of the Federal Regional Response Team.
- Know and understand the importance of decontamination procedures.

Specialist employees. Employees who, in the course of their regular job duties, work with and are trained in the hazards of specific hazardous substances, and who will be called upon to provide technical advice or assistance at a hazardous substance release incident to the individual in charge, will receive training or demonstrate competency in the area of their specialization annually.

Skilled support personnel. Personnel, not necessarily the department's employees, who are skilled in the operation of certain equipment, such as mechanized earth moving or digging equipment or crane and hoisting equipment, and who are needed temporarily to perform immediate emergency support work that cannot reasonably be performed in a timely fashion by the department's employees, and who will be or may be exposed to the hazards at an emergency response scene, will be given an initial briefing at the site prior to their participation in any emergency response. The initial briefing will include instruction in the wearing of appropriate personal protective equipment, what chemical hazards are involved, and what duties are to be performed. All other appropriate safety and health precautions provided to the employer's own employees will be used to assure the safety and health of these personnel.

Trainers. Trainers who teach any of the above training subjects shall have satisfactorily completed a training course for teaching the subjects they are expected to teach, such as the courses offered by the U.S. National Fire Academy, or they shall have the training and/or academic credentials and instructional experience necessary to demonstrate competent instructional skills and a good command of the subject matter of the courses they are to teach.

Refresher training. Employees will receive annual refresher training of sufficient content and duration to maintain their competencies, or will demonstrate competency in those areas at least yearly.

A statement will be made of the training or competency, and a record of the methodology used to demonstrate competency will be maintained.

Communication

Radio: Channel ___ has been designated as the radio frequency for personnel on the HAZMAT team. All other on-site communication will use channels _____. The HAZMAT team must remain in constant radio or voice communication and within sight of their buddy or team leader. Any failure of radio or voice communication requires an evaluation of whether personnel should leave the hazardous area (Exclusion Zone).

Telephone: Telephone communication will be established as soon as possible to the Fire Department to keep them abreast of what is happening onsite as soon as is practicable into the emergency.

Emergency Response Procedures

The senior emergency response official responding to an emergency will become the individual in charge of a site-specific Incident Command System (ICS). All emergency responders and their communications will be coordinated and controlled through the individual in charge of the ICS assisted by the senior official present for each employer.

Note: The “senior official” at an emergency response is the most senior official on the site who has the responsibility for controlling the operations at the site. Initially it is the senior officer on the first-due piece of responding emergency apparatus to arrive on the incident scene. As more senior officers arrive (i.e., battalion chief, fire chief, state law enforcement official, site coordinator, etc.) the position is passed up the line of authority which has been previously established.

The individual in charge of the ICS will identify, to the extent possible, all hazardous substances or conditions present and shall address as appropriate site analysis, use of engineering controls, maximum exposure limits, hazardous substance handling procedures, and use of any new technologies.

Based on the hazardous substances and/or conditions present, the individual in charge of the ICS will implement appropriate emergency operations, and assure that the personal protective equipment worn is appropriate for the hazards to be encountered. The personal protective equipment will be appropriate for fire fighting operations beyond the incipient stage for any incident.

Employees engaged in emergency response and exposed to hazardous substances presenting an inhalation hazard or potential inhalation hazard shall wear positive pressure self-contained breathing apparatus while engaged in emergency response, until such time that the individual in charge of the ICS determines through the use of air monitoring that a decreased level of respiratory protection will not result in hazardous exposures to employees.

The individual in charge of the ICS will limit the number of emergency response personnel at the emergency site, in those areas of potential or actual exposure to incident or site hazards, to those who are actively performing emergency operations. However, operations in hazardous areas shall be performed using the buddy system in groups of two or more.

Back-up personnel will be standing by with equipment ready to provide assistance or rescue. Qualified basic life support personnel, as a minimum, shall also be standing by with medical equipment and transportation capability.

The individual in charge of the ICS shall designate a safety officer, who is knowledgeable in the operations being implemented at the emergency response site, with specific responsibility to identify and evaluate hazards and to provide direction with respect to the safety of operations for the emergency at hand.

When activities are judged by the safety officer to be an IDLH and/or to involve an imminent danger condition, the safety officer shall have the authority to alter, suspend, or terminate those activities. The safety official shall immediately inform the individual in charge of the ICS of any actions needed to be taken to correct these hazards at the emergency scene.

After emergency operations have terminated, the individual in charge of the ICS shall implement appropriate decontamination procedures.

When deemed necessary for meeting the tasks at hand, approved self-contained compressed air breathing apparatus may be used with approved cylinders from other approved self-contained compressed air breathing apparatus provided that such cylinders are of the same capacity and pressure rating. All compressed air cylinders used with self-contained breathing apparatus shall meet U.S. Department of Transportation and National Institute for Occupational Safety and Health criteria.

Emergency Recognition and Prevention

The following procedures will be followed for emergency recognition and prevention:

Safe Distances and Places of Refuge

The following procedures will be followed for identifying safe distances and places of refuge:

Site Security and Control

The following procedures will be followed for maintaining site security and control:

Evacuation Routes and Procedures

The following procedures will be followed for identifying evacuation routes:

Emergency Alerting and Response Procedures

The following procedures will be followed for emergency alerting and response:

Critique of Response and Follow-up

All emergency responses will be critiqued and corrective actions identified.

Exclusion Zone

A system will be set up prior to entry into the Exclusion Zone to signal when an immediate evacuation of the Exclusion Zone is required.

Alternate Evacuation Routes: Alternate evacuation routes will be designated for those situations where egress from the contaminated or involved area cannot occur safely.

Reentry: In all situations, where an outside emergency results in evacuation of the Exclusion Zone, personnel shall not reenter until:

- The condition resulting in the emergency has been corrected.
- The hazards have been reassessed and are manageable.
- The site safety plan has been reviewed and revised if necessary.
- HAZMAT personnel have been fully briefed on any changes.

Decontamination Procedures

We will follow the following decontamination procedures:

PPE and Emergency Equipment

The HAZMAT team will be provided with appropriate personal protective equipment to include chemical protective clothing, gas monitoring equipment, self-contained breathing apparatuses, and other equipment deemed appropriate for their assigned duties.

Levels of Protection

Chemical

PPE

Personal Protective Equipment (PPE) Failure: If any team member experiences a failure or alteration of PPE that adversely affects personal protection, they and their shall immediately leave the Exclusion Zone. Reentry shall not be permitted until the PPE has been repaired or replaced. If there is body contamination or known or suspected over exposure, then a medical evaluation of the team member must be made. In such cases, medical clearance is necessary before reentry to the Exclusion Zone is permitted.

Other Equipment Failure: If any other equipment or apparatus fails to operate properly then the team leader and incident commander must be notified. They will determine the effect of this failure on continuing operations onsite. If the failure affects the safety of personnel or prevents completion of the work, then all affected personnel shall leave the contaminated area until the situation is evaluated and appropriate actions taken.

Maintenance and Certification of all Personal Protective and Emergency Equipment and Apparatus: All equipment must be maintained to ensure serviceability at all times. Complete records of PPE fit testing (if necessary), maintenance and certification for emergency equipment; and fire-fighting equipment shall be maintained by _____.

Emergency Medical Treatment and First Aid

The following procedures will be followed for medical treatment and first aid:

Medical Surveillance

The HAZMAT team will receive a baseline physical examination before being assigned duties to ensure fitness. Any employee that exhibits signs or symptoms resulting from an exposure to hazardous substances at the workplace will be provided with medical consultation at no cost to them.

Note: Under this standard, an Exposure Control Plan is required if employees have occupational exposure to blood or other potentially infectious materials that result from the performance of their duties (e.g. have you assigned an employee to be a designated first aid provider). This example program may be mandatory for your department and may be modified to meet the department's needs. Please reference the scope and application of the referenced OSHA standard to ensure that all requirements are being met.

Exposure Control Plan—Bloodborne Pathogens

(Ref. 29 CFR 1910.1030)

Purpose

The purpose of this exposure control plan is to:

- Eliminate or minimize employee occupational exposure to blood and/or certain other body fluids.
- Comply with the OSHA Bloodborne Pathogens Standard, 29 CFR 1910.1030.

Exposure Determination

OSHA requires a listing of job classifications in which employees have occupational exposure. Since not all the employees in these categories would be expected to incur exposure to blood or other potential infectious material (OPIM), tasks or procedures that would cause these employees to have occupational exposure must also be listed to understand clearly which employees in these categories are considered to have occupational exposure. The job classifications and associated tasks for these categories are as follows:

Job Classification	Task/Procedure

Implementation Schedule and Methodology

OSHA requires that this plan include a schedule and method of implementation for the various requirements of the standard. The following complies with this requirement.

Compliance Methods

Universal precautions will be observed to prevent contact with blood or OPIM. All blood or OPIM will be considered infectious, regardless of the perceived status of the source individual. Engineering and work practice controls will be utilized to eliminate or minimize exposure to employees at this facility. Where occupational exposure remains after institution of these controls, personal protective equipment will also be utilized.

Handwashing facilities will be made available to employees who incur exposure to blood or OPIM. *When handwashing facilities are not feasible, either an antiseptic cleanser in conjunction with clean cloth/paper towels or antiseptic towelettes will be provided. When using these alternatives, the employees must wash their hands with soap and running water as soon as feasible.*

Personal Protective Equipment (PPE)

(Insert job title of person responsible) is responsible for ensuring that the following provisions are met.

All PPE used will be provided without cost to the employee. PPE will be chosen based on the anticipated exposure to blood or OPIM. The PPE will be considered appropriate only if it does not permit blood or OPIM to pass through or

reach the employee's clothing, skin, eyes, mouth or other mucous membranes under normal conditions of use and for the duration of time while the protective equipment will be used.

PPE Cleaning, Laundering and Disposal

All PPE will be cleaned, laundered or disposed of by the department at no cost to employees. All repairs and replacements will be provided by the department at no cost to employees.

Gloves

Gloves will be worn where it is reasonably anticipated that employees will have hand contact with blood, OPIM, non-intact skin and mucous membranes; when performing vascular access procedures; and when handling or touching contaminated items or surfaces.

Disposable gloves are not to be washed or decontaminated for reuse and are to be replaced as soon as practical when they become contaminated or if they are torn, punctured or their ability to function as a barrier is compromised. Utility gloves may be decontaminated for reuse, provided that the integrity of the glove is not compromised. Utility gloves will be discarded if they are cracked, peeling, torn, punctured or show other signs of deterioration or when their ability to function as a barrier is compromised.

Eye and Face Protection

Masks, in combination with eye protection devices such as goggles or glasses with solid side shields, or chin length side face shields must be worn whenever splashes, spray, splatter or droplets of blood or OPIM may be generated and eye, nose or mouth contamination can be reasonably anticipated. The following situations require such protection:

Housekeeping

Note: A cleaning and decontamination schedule must be developed based on the type of contamination and the surfaces to be decontaminated. This schedule should include the frequency with which decontamination must be accomplished, such as immediately after a blood or body fluid release, once per shift, or after each procedure causing contamination of materials or surfaces.

Blood or OPIM release or spills must be reported to the supervisor or appropriately trained cleaning staff and surfaces must be decontaminated immediately or per the pre-established cleaning schedule. Decontamination may be accomplished by using sodium hypochlorite mixed with water in a 1:10 to 1:100 concentration. This must be mixed daily or immediately prior to use. Additionally other appropriate disinfectants may be used in accordance with the manufacturer's instructions as follows: *(insert list of predetermined appropriately selected EPA registered tuberculocidal disinfectants)*

Sharps and Other Regulated Waste

Regulated waste, including sharps, must be placed in containers that are closeable and constructed to contain all contents and prevent leakage. Sharps containers must be stored upright during use and may not be opened by employees.

All sharps and regulated waste containers must be labeled or color-coded and closed prior to removal to prevent spillage or protrusion of contents during handling, storage, transport or shipping.

Note: Disposal of all regulated waste must be in accordance with all applicable federal, state and local regulations.

Laundry Procedures

Laundry contaminated with blood or OPIM will be handled as little as possible. Such laundry will be placed in appropriately marked bags (biohazard labeled or color-coded red) at the location where it was used. The laundry will not be sorted or rinsed in the area of use.

Note: If the facility ships contaminated laundry offsite to a laundry that does not utilize universal precautions in the handling of all laundry, the contaminated laundry must be placed in bags or containers that are labeled or color-coded.

Hepatitis B Vaccine and Post-Exposure Evaluation and Follow-up

We make available the hepatitis B vaccine and vaccination series to all employees who have occupational exposure and post-exposure follow-up to employees who have had an exposure incident.

(Insert job title of person responsible) will ensure that all medical evaluations and procedures including the hepatitis B vaccine and vaccination series and post-exposure follow-up including prophylaxis are:

- Made available at no cost to the employee.
- Made available at a reasonable time and place.
- Performed by, or under the supervision of, a licensed physician or other licensed healthcare professional (PLHCP).
- Provided according to the recommendations of the U.S. Public Health Service.

Hepatitis B vaccination will be made available after the employee has received training in occupational exposure and within 10 working days of initial assignment to all employees who have occupational exposure unless: the employee has previously received the complete hepatitis B vaccination series; antibody testing has revealed that the employee is immune; or the vaccine is contraindicated for medical reasons.

For employees who complete the hepatitis B vaccination series, antibody testing will be made available at no cost to the employee one to two months after completion of the series, as recommended by the U.S. Public Health Service.

Employees who decline the hepatitis B vaccination will sign the OSHA required declination form indicating their refusal (Refer to hepatitis B declination at the end of program). Any employee who initially declines hepatitis B vaccination, but later decides to accept vaccination while still covered by the standard, will be provided the vaccination series as described above.

If at a future date the U.S. Public Health Service recommends a routine booster dose of hepatitis B vaccine, such booster doses will be made available at no cost to the employee.

Post-Exposure Evaluation and Follow-up

All exposure incidents will be reported, investigated, and documented. When an employee incurs an exposure incident, it will be reported to *(Insert job title of person responsible)*. Following a report of an exposure incident, the exposed employee will immediately receive a confidential medical evaluation and follow-up, including at least the following elements:

- Documentation of the route of exposure, and the circumstances under which the exposure incident occurred. If the incident involves percutaneous injury from a contaminated sharp, appropriate information should be entered in the sharps injury log.
- Identification and documentation of the source individual, unless it can be established that identification is infeasible or prohibited by state or local law. The source individual's blood will be tested as soon as feasible, and after consent is obtained, to determine HBV and HIV infectivity. If consent is not obtained, *(Insert job title of person responsible)* will establish that legally required consent cannot be obtained. When the source individual's consent is not required by law, the blood (if available) will be tested and the results documented.
- Results of the source individual's testing will be made available to the exposed employee, and the employee will be informed of applicable laws and regulations concerning disclosure of the identity and infectious status of the source individual.

Collection and testing of blood for hepatitis B virus (HBV) and human immunodeficiency virus (HIV) serological status will comply with the following:

- The exposed employee's blood will be collected as soon as feasible and tested after consent is obtained.
- The employee will be offered the option of having his or her blood collected for testing of the employee's HIV serological status. The blood sample will be preserved for up to 90 days to allow the employee to decide if the blood should be tested for HIV status.

Any employee who incurs an exposure incident will be offered post-exposure evaluation and follow-up in accordance with the OSHA standard. All post-exposure follow-up will be provided by *(Insert first aid clinic/doctor's office/urgent care/emergency room information)*.

Information Provided to the Health Care Professional

(Insert job title of person responsible) will ensure that the health care professional (HCP) responsible for the employee's hepatitis B vaccination is provided with a copy of the OSHA Bloodborne Pathogens Standard (29 CFR 1910.1030).

(Insert job title of person responsible) will ensure that the HCP who evaluates an employee following an exposure incident is provided with the following:

- A copy of the OSHA Bloodborne Pathogens Standard.
- A description of the exposed employee's duties as they relate to the exposure incident.
- Documentation of the route(s) of exposure and circumstances under which exposure occurred.
- Results of the source individual's blood testing.
- All medical records relevant to the appropriate treatment of the employee, including vaccination status.

Health Care Professional's Written Opinion

(Insert job title of person responsible) will obtain and provide the employee with a copy of the evaluating HCP's written opinion within 15 days of completion of the evaluation. For hepatitis B vaccination, the HCP's written opinion will be limited to whether the vaccination is indicated for an employee and whether the employee has received such vaccination.

For post-exposure follow-up, the HCP's written opinion will be limited to the following:

- A statement that the employee has been informed of the results of the evaluation.
- A statement that the employee has been told about any medical conditions resulting from exposure to blood or OPIM which may require further evaluation or treatment.

Note: The doctor must be informed that all other findings or diagnoses unrelated to the bloodborne pathogens exposure incident must remain confidential and must not be included in the written report from the doctor to the department.

Labels and Signs

(Insert job title of person responsible) will ensure that biohazard labels are affixed to containers of regulated waste, refrigerators and freezers containing blood or OPIM and other containers used to store, transport or ship blood or OPIM. The universal biohazard symbol will be used. Labels will be fluorescent orange or orange-red and will be affixed as close as feasible to the container by string, wire, adhesive, or other method that prevents loss or unintentional removal. Red bags or containers may be substituted for labels.

Information and Training

(Insert job title of person responsible) will ensure that training is provided at the time of initial assignment to tasks where occupational exposure may occur, and that training is repeated within 12 months of the previous training. Training will be tailored to the education and language level of the employee, and offered during the normal work shift.

Recordkeeping

Medical Records: *(Insert job title of person responsible)* is responsible for maintaining medical records as indicated below. These records are confidential and must be maintained for the duration of employment plus 30 years.

Training Records: *(Insert job title of person responsible)* is responsible for maintaining BBP training records. These records will be maintained for three years from the date of training.

Note: The declination form must include this exact wording with no additions or deletions. However, the information may be put on employer's letterhead or other department form.

Hepatitis B Vaccine Declination

I understand that due to my occupational exposure to blood or other potentially infectious materials I may be at risk of acquiring hepatitis B virus (HBV) infection. I have been given the opportunity to be vaccinated with hepatitis B vaccine, at no charge to myself. However, I decline hepatitis B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring hepatitis B, a serious disease. If in the future I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with hepatitis B vaccine, I can receive the vaccination series at no charge to me.

Employee's name (print)

Employee's signature

Date

Note: Under this standard, an Educational Program is required if employees are provided with portable fire extinguishers for their use. This is an example program and may be modified to meet the company's needs. Please reference the scope and application of the referenced OSHA standard to ensure that all requirements are being met.

Fire Extinguisher Educational Program

(29 CFR 1910.157)

A fire is the most common type of emergency for which businesses must plan. A critical decision when planning is whether employees should fight a small fire with a portable fire extinguisher or simply evacuate. Small fires can often be put out quickly by a well-trained employee with a portable fire extinguisher. However, to do this safely, the employee must understand the use and limitation of a portable fire extinguisher and the hazards associated with fighting fires. Evacuation plans that designate or require some or all of the employees to fight fires with portable fire extinguishers increase the level of complexity of the plan and the level of training that must be provided employees.

Fire Triangle

To understand how fire extinguishers work, you need to understand a little about fire. Fire is a very rapid chemical reaction between oxygen and a combustible material, which results in the release of heat, light, flames, and smoke.

For fire to exist, the following four elements must be present at the same time:

- Enough oxygen to sustain combustion,
- Enough heat to raise the material to its ignition temperature,
- Some sort of fuel or combustible material, and
- The chemical reaction that is fire.

How a Fire Extinguisher Works

Portable fire extinguishers apply an extinguishing agent that will either cool burning fuel, displace or remove oxygen, or stop the chemical reaction so a fire cannot continue to burn. When the handle of an extinguisher is compressed, agent is expelled out the nozzle. A fire extinguisher works much like a can of hair spray.

All portable fire extinguishers must be approved by a nationally recognized testing laboratory to verify compliance with applicable standards.

Different types of fire extinguishers are designed to fight different types of fire. The three most common types of fire extinguishers are air pressurized water, CO₂ (carbon dioxide) and dry chemical. The following table provides information regarding the type of fire and which fire extinguisher should be used.

Types of Fire Extinguishers

Ordinary Combustibles

Fires in paper, cloth, wood, rubber and many plastics require a water type extinguisher labeled A.

Flammable Liquids

Fires in oils, gasoline, some paints, lacquers, grease, solvents and other flammable liquids require an extinguisher labeled B.

Ordinary Combustibles, Flammable Liquids or Electrical Equipment

Multi-purpose dry chemical is suitable for use on class A, B, and C.

Metals

Fires involving powders, flakes or shavings of combustible metals such as magnesium, titanium, potassium, and sodium require special extinguishers labeled D.

Fire Extinguishers Provided for Employee Use

When fire extinguishers are available for employee use, the employer must educate employees on the principles and practices of using a fire extinguisher and the hazards associated with fighting small or developing fires. This education must be provided annually and when a new employee is first hired.

Employees who have been designated to use fire extinguishers as part of the emergency action plan, must be trained on how to use the fire extinguishers appropriately in the workplace. This training is a specialized form of education that focuses on developing or improving skills and it must be provided annually and when employees are first assigned these duties.

IDENTIFIED FIRE HAZARDS AND RESPONSIBLE PERSONNEL

Hazard Identification

Type	Building	Control	Extinguisher Location	Responsible Personnel

Fire Extinguisher Location

Type	Building	Extinguisher Location

The following steps should be followed when responding to incipient stage fire:

- Sound the fire alarm and call the fire department, if appropriate.
- Identify a safe evacuation path before approaching the fire. Do not allow the fire, heat or smoke to come between you and your evacuation path.
- Select the appropriate type of fire extinguisher.
- Discharge the extinguisher within its effective range using the PASS technique (pull, aim, squeeze, sweep).
- Back away from an extinguished fire in case it flames up again.
- Evacuate immediately if the extinguisher is empty and the fire is not out.
- Evacuate immediately if the fire progresses beyond the incipient stage.

Most fire extinguishers operate using the following P.A.S.S. technique:

1. **PULL:** Pull the pin. This will also break the tamper seal.
2. **AIM:** Aim low, pointing the extinguisher nozzle (or its horn or hose) at the base of the fire.
Note: Do not touch the plastic discharge horn on CO₂ extinguishers; it gets very cold and may damage skin.
3. **SQUEEZE:** Squeeze the handle to release the extinguishing agent.
4. **SWEEP:** Sweep from side to side at the base of the fire until it appears to be out. Watch the area. If the fire re-ignites, repeat steps 2–4.

Note: This program may be mandatory for the department. Please reference the scope and application of the referenced OSHA standard. This is an example program and may be modified to meet the department's needs. This program does not have to be in writing for employers with 10 or fewer employees. The standard should be referenced to ensure that all requirements are being met.

Fire Prevention Program

(Ref. 29 CFR 1910.39)

The primary goal of this fire protection program is to reduce or eliminate fires in the workplace by heightening the fire safety awareness of all employees. Another goal of this plan is to provide all employees with the information necessary to recognize hazardous conditions and take appropriate action before such conditions result in a fire emergency.

This plan details the basic steps necessary to minimize the potential for fire occurring in the workplace. Prevention of fires in the workplace is the responsibility of everyone employed by the department, but must be monitored by each supervisor overseeing any work activity that involves a major fire hazard. Every effort will be made by the department to identify those hazards that might cause fires and establish a means for controlling them.

The fire prevention plan will be administered by *(insert job title of responsible person)* who will compile a list of all major workplace fire hazards, the names or job titles of personnel responsible for fire control and prevention equipment maintenance, names or job titles of personnel responsible for control of fuel source hazards, and locations of all fire extinguishers in the workplace. The plan administrator or safety and health officer must also be familiar with the behavior of employees that may create fire hazards as well as periods of the day, month and year in which the workplace could be more vulnerable to fire.

This fire prevention plan will be reviewed annually and updated as needed to maintain compliance with applicable regulations and standards and remain state of the art in fire protection. Workplace inspection reports and fire incident reports will be maintained and used to provide corrections and improvements to the plan. This plan will be available for employee review at any time during all normal working hours.

Classification

Fires are classified into four groups according to sources of fuel: Class A, B, C and D based on the type of fuel source. Table 1 below describes the classifications of fire that can be used in making a hazard assessment.

Table 1

Class A	Ordinary combustible materials such as paper, wood, cloth, and some rubber and plastic materials.
Class B	Flammable liquids, flammable gases, greases and similar materials, and some rubber and plastic materials.
Class C	Energized electrical equipment and power supply circuits and related materials.
Class D	Combustible metals such as magnesium, titanium, zirconium, sodium, lithium and potassium.

Determining Fire Hazards

This section consists of two steps: first, identifying the existing fire hazards in the workplace and second, taking action to resolve them. The inspection checklist (located at end of program) provides a guide for precise fire-safe practices that must be followed. The location of these major fire hazards are denoted in the table found at the end of this program. Also found is a listing of the personnel responsible for the maintenance of the equipment and systems installed to prevent or control fires.

Material hazards will be identified, as evident on the specific safety data sheets (SDS), and labeled on containers as soon as they arrive in the workplace. The identification system will also be incorporated into the department's hazard communication program.

Storage and Handling Procedures

The storage of material will be arranged such that adequate clearance is maintained away from heating surfaces, air ducts, heaters, flue pipes and lighting fixtures. All storage containers or areas will prominently display signs to identify the material stored within. Storage of chemicals will be separated from other materials in storage, from handling operations and from incompatible materials. All individual containers will be identified as to their contents.

Only containers designed, constructed and tested in accordance with the U.S. Department of Transportation specifications and regulations are used for storage of compressed or liquefied gases. Compressed gas storage rooms will be areas reserved exclusively for that purpose with good ventilation and at least one hour fire resistance rating. The gas cylinders will be secured in place and stored away from any heat or ignition source. Pressurized gas cylinders will never be used without pressure regulators.

Ordinary Combustibles

- Wooden pallets will not be stacked over 6 feet tall. If feasible, extra pallets will be stored outside or in separate buildings to reduce the risk of fire hazards.
- Piles of combustible materials will be stored away from buildings and located apart from each other sufficiently to allow fire-fighting efforts to control an existing fire.

Flammable Materials

- Flammable liquids must be stored and used in accordance with 29 CFR 1910.106 or the most current NFPA 30.

Potential Ignition Sources

- Ensure that utility lights always have some type of wire guard over them.
- Don't misuse fuses. Never install a fuse rated higher than specified for the circuit.
- Investigate any appliance or equipment that smells strange. Space heaters, microwave ovens, hot plates, coffee makers and other small appliances will be rigidly regulated and closely monitored.
- The use of extension cords to connect heating devices to electric outlets will be prohibited.
- If a hot or under-inflated tire is discovered, it should be moved well away from the vehicle. As an alternative, the driver should remain with the vehicle until the tire is cool to the touch and then make repairs. If a vehicle is left with a hot tire, the tire might burst into flames and destroy the vehicle and load.

Welding and Cutting

Welding and cutting are not permitted unless authorized by management. If practical, welding and cutting operations will be conducted in well-ventilated rooms with a fire-resistant floor. If this practice is not feasible, contact (*insert job title of responsible person*) to ensure that the work areas have been surveyed for fire hazards, the necessary precautions taken to prevent fires, and issue a hot work permit. This hot work permit will only encompass the area, item and time that are specified on it.

If welding is to be performed over wooden or other combustible type floors, the floors will be swept clean, wetted down, and covered with either fire-retardant blankets, metal or other noncombustible coverings.

Welding will not be permitted in or near areas containing flammable or combustible materials (liquids, vapors or dusts). Welding will not be permitted in or near closed tanks that contain or have contained flammable liquids unless they have been thoroughly drained, purged, and tested free from flammable gases or vapors and the department's permit required confined spaces (PRCS) program is being followed. Welding will not begin until all combustible materials have been removed at least 35 feet from the affected areas, or if unable to relocate, covered with a fire-retardant covering. Openings in walls, floors or ducts will be covered if located within 35 feet of the intended work area. Welding will not be permitted on any closed containers.

Fire extinguishers will be provided at each welding or cutting operation. A trained watcher will be stationed at all times during the operation and for at least 30 minutes following the completion of the operation. This person will ensure that no stray sparks cause a fire and will immediately extinguish fires that do start.

Open Flames

No open flames will be permitted in or near spray booths or spray rooms. If indoor spray painting work needs to be performed outside of standard spray-painting booths, adequate ventilation will be provided. All potential ignition sources will also be eliminated.

Gasoline or alcohol torches will be placed so that the flames are at least 18 inches away from wood surfaces. They will not be used in the presence of dusts, vapors, flammable liquids, paper or similar materials. Torches will never be left unattended while they are burning.

The department has a specific policy regarding cigarette/cigar/pipe smoking in the workplace. Smoking and no smoking areas will be clearly delineated with conspicuous signs. Rigid enforcement will be maintained at all times. The plan administrator will enforce observance of permissible and prohibited smoking areas for employees and outside visitors to the workplace. Fire safe metal containers will be provided where smoking is permitted. No smoking areas will be checked periodically for evidence of discarded smoking materials.

Static Electricity

The department recognizes that it is impossible to prevent the generation of static electricity in every situation, but the department realizes that the hazard of static sparks can be avoided by preventing the buildup of static charges. One or more of the following preventive methods will be used: grounding, bonding, maintaining a specific humidity level (usually 60–70 percent), and ionizing the atmosphere.

Where a static accumulating piece of equipment is unnecessarily located in a hazardous area, the equipment will be relocated to a safe location rather than attempt to prevent static accumulation.

Housekeeping and Fire Prevention Techniques

The following are housekeeping techniques and procedures to prevent occurrences of fire:

- Keep storage and working areas free of trash.
- Place oily rags in covered containers and dispose of daily.
- Do not use gasoline or other flammable solvent or finish to clean floors.
- Use noncombustible oil-absorptive materials for sweeping floors.
- Dispose of materials in noncombustible containers that are emptied daily.
- Remove accumulation of combustible dust.
- Don't refuel gasoline powered equipment in a confined space, especially in the presence of equipment such as furnaces or water heaters.
- Don't refuel gasoline powered equipment while it is hot.
- Don't refuel plastic gasoline containers in the back of a truckbed.
- Follow proper storage and handling procedures.
- Ensure combustible materials in areas are present only in quantities required for the work operation.
- Clean up any spill of flammable liquids immediately.
- Ensure that if a worker's clothing becomes contaminated with flammable liquids, the individual changes clothes before continuing to work.
- Post "No Smoking" caution signs near the storage areas.
- Report any hazardous condition such as old wiring, worn insulation and broken electrical equipment to the supervisor.
- Keep motors clean and in good working order.
- Don't overload electrical outlets.
- Ensure all equipment is turned off at the end of the workday.
- Maintain the right type of fire extinguisher available for use.
- Use the safest cleaning solvents (nonflammable and nontoxic) when cleaning electrical equipment.
- Ensure that all passageways and fire doors are unobstructed. Stairwell doors must never be propped open, and materials must not be stored in stairwells.
- Periodically remove over-spray residue from walls, floors and ceilings of spray booths and ventilation ducts.
- Remove contaminated spray booth filters from the building as soon as replaced or keep immersed in water until disposed.

- Don't allow material to block automatic sprinkler systems or to be piled around fire extinguisher locations. To obtain the proper distribution of water, a minimum of 18 inches of clear space must be maintained below sprinkler deflectors. If there are no sprinklers, a 3-foot clearance between piled material and the ceiling must be maintained to permit use of hose streams. These distances must be doubled when stock is piled higher than 15 feet.
- Check daily for any discarded lumber, broken pallets or pieces of material stored on site and remove properly.
- Repile immediately any pile of material that falls into an aisle or clear space.
- Use weed killers that are not toxic and do not pose a fire hazard.

Fire Protection Equipment

Every building will be equipped with an electrically managed, manually operated fire alarm system. When activated, the system will sound alarms that can be heard above the ambient noise levels throughout the workplace. The fire alarm will also be automatically transmitted to the fire department. Any fire suppression or fire detection system will automatically actuate the building alarm system.

The automatic sprinkler system, if applicable, will adhere to NFPA 13, Standard for the Installation of Sprinkler Systems. The sprinkler system and components will be electrically supervised to ensure reliable operation. This includes gate valve tamper switches with a local alarm at a constantly attended site when the valve is closed. If a single water supply is provided by a connection to the city water supply, a low pressure monitor will be included. If pressure tanks are the primary source of water, air pressure, water level and temperature will be supervised. If fire pumps are provided to boost system pressure, supervision will monitor loss of pump power, pump running indication, low system pressure and low pump suction pressure.

If portable fire extinguishers are required or placed in a building, the fire extinguishers must be kept fully charged and in their designated places. The extinguishers must not be obstructed or obscured from view. The fire extinguishers must be inspected at least monthly to make sure that they are in their designated places, have not been tampered with or actuated, and are not corroded or otherwise impaired. The attached inspection tags on fire extinguishers will be initialed and dated each month.

The location of all hydrants, hose houses, portable fire extinguishers or other fire protective equipment will be properly marked with arrows and signs painted on the pavement. Painted arrows and signs will be repainted as necessary to ensure readability.

Training

All employees will be instructed on the locations and proper use of fire extinguishers in their work areas. Employees will also be instructed as to how to operate the building's fire alarm system, and be familiar with evacuation routes. The training of all employees will include the locations and types of materials and processes that pose potential fire hazards. Ongoing training will include regularly scheduled fire drills. The training program will also emphasize the following:

- Use and disposal of smoking materials.
- The importance of electrical safety.
- Proper use of electrical appliances and equipment.
- Unplugging heat-producing equipment and appliances at the end of each workday.
- Correct storage of combustible and flammable materials.
- Safe handling of compressed gases and flammable liquids (where appropriate).

Fire Prevention Checklist

This checklist should be reviewed regularly and kept up-to date

Electrical Equipment

- | | |
|---|---|
| <input type="checkbox"/> No makeshift wiring | <input type="checkbox"/> Fuse and control boxes clean and closed |
| <input type="checkbox"/> Extension cords serviceable | <input type="checkbox"/> Circuits properly fused or otherwise protected |
| <input type="checkbox"/> Motors and tools free of dirt and grease areas (if required) | <input type="checkbox"/> Equipment approved for use in hazardous |
| <input type="checkbox"/> Lights clear of combustible materials | <input type="checkbox"/> Safest cleaning solvents used |

Friction

- | | |
|--|---|
| <input type="checkbox"/> Machinery properly lubricated | <input type="checkbox"/> Machinery properly adjusted and/or aligned |
|--|---|

Special Fire-Hazard Materials

- | | |
|--|---|
| <input type="checkbox"/> Storage of special flammable isolated | <input type="checkbox"/> Nonmetal stock free of tramp metal |
|--|---|

Welding and Cutting

- | | |
|--|---|
| <input type="checkbox"/> Area surveyed for fire safety | <input type="checkbox"/> Combustible removed or covered |
| <input type="checkbox"/> Permit issued | |

Open Flames

- | | |
|--|---|
| <input type="checkbox"/> Kept away from spray rooms and booths | <input type="checkbox"/> Portable torches clear of flammable surfaces |
| <input type="checkbox"/> No gas leak | |

Portable Heaters

- | | |
|---|--|
| <input type="checkbox"/> Set up with ample horizontal and overhead clearances | <input type="checkbox"/> Safely mounted on noncombustible surfaces |
| <input type="checkbox"/> Secured against tipping or upset | <input type="checkbox"/> Use of steel drums prohibited |
| <input type="checkbox"/> Combustibles removed or covered | <input type="checkbox"/> Not used as rubbish burners |

Hot Surfaces

- | | |
|---|--|
| <input type="checkbox"/> Hot pipes clear of combustible materials | <input type="checkbox"/> Soldering irons kept off combustible surfaces |
| <input type="checkbox"/> Ample containers available and serviceable | <input type="checkbox"/> Ashes in metal containers |

Smoking and Matches

- | | |
|---|---|
| <input type="checkbox"/> No smoking” and “smoking” areas clearly marked areas | <input type="checkbox"/> No discarded smoking materials in prohibited |
| <input type="checkbox"/> Discarded cigarette containers available and serviceable | <input type="checkbox"/> Ashes in metal containers |

Spontaneous Ignition

- | | |
|---|--|
| <input type="checkbox"/> Flammable waste material in closed metal containers | <input type="checkbox"/> Piled material kept dry and well ventilated |
| <input type="checkbox"/> Flammable waste material containers emptied frequently | <input type="checkbox"/> Trash receptacle emptied daily |

Static Electricity

- | | |
|--|---|
| <input type="checkbox"/> Flammable liquid dispensing vessels grounded and bonded | <input type="checkbox"/> Proper humidity maintained |
| <input type="checkbox"/> Moving machinery grounded | |

Housekeeping

- | | |
|--|--|
| <input type="checkbox"/> No accumulation of rubbish | <input type="checkbox"/> Premises free of unnecessary combustible materials |
| <input type="checkbox"/> Safe storage of flammables | <input type="checkbox"/> No leaks or dripping of flammables and floor free of spills |
| <input type="checkbox"/> Passageways clear of obstacles freely | <input type="checkbox"/> Fire doors unblocked and operating |
| <input type="checkbox"/> Automatic sprinklers unobstructed | |

Fire Protection

- | | |
|--|--|
| <input type="checkbox"/> Proper type of fire extinguisher | <input type="checkbox"/> Extinguishing system in working order |
| <input type="checkbox"/> Fire extinguisher in proper location | <input type="checkbox"/> Service date current |
| <input type="checkbox"/> Access to fire extinguishers unobstructed | <input type="checkbox"/> Personnel trained in use of equipment |
| <input type="checkbox"/> Access to fire extinguishers clearly marked | <input type="checkbox"/> Personnel exits unobstructed and maintained |
| <input type="checkbox"/> Fire protection equipment turned on | |

*Note: The following program is a **best practice**. Please modify or delete content to these policies as deemed necessary.*

Fleet Management and Vehicle Safety Program

Motor Vehicle Record Checks

All employees who drive a department vehicle will have their driving records checked. (*Insert how often checks will be conducted if necessary.*) Driving records will be obtained from the N.C. Department of Transportation, Division of Motor Vehicles, by one of the following methods:

- Use the Internet Driving Record Process online at:
<https://edmv-dr.dot.state.nc.us/DrivingRecords/DrivingRecords>
- By mail. Follow the instructions found at:
<http://www.ncdot.gov/dmv/records/>

Violations that result in the suspension of an employee's license with the state DMV may result in termination of employment if the employee must drive to perform the job.

Additionally, we have defined the number of violations an employee can have before losing the privilege of driving a department owned vehicle or piece of equipment for work. If an employee has more than the following on his or her record using the Moving Violation Point System below as a guide, the employee will lose work driving privileges. The loss of privileges to drive department owned vehicles may require the employee to use a personal vehicle to continue employment or may result in termination of employment depending upon how the loss of privilege affects the employee's ability to perform the job.

_____ Maximum number of serious violations allowed.

_____ Maximum number of minor violations allowed.

Moving Violation Point System

Serious Violations (seven points)

- Driving under the influence of alcohol or drug (N/A).
- Fleeing the scene of an accident or law enforcement (N/A).
- Driving under license suspension or revocation (N/A).
- Passing a stopped school bus (N/A).
- Speeding in a construction zone.
- 15 or more MPH above the speed limit.

Minor Violations (four points)

- From 10 MPH to 15 MPH above the speed limit.
- Passing on the yellow line or through an intersection.
- Running a red light.
- Failure to obey traffic signals.
- Tailgating.

Minor Violations (two points)

- Less than 10 MPH above the speed limit.
- Failure to yield right of way.
- Failure to provide proper signals.

Accident Reporting Procedures

- Call 911.
- Provide first aid to injured parties if qualified and do not move accident victims unless fire or other condition makes it safer to do so.
- Wait for law enforcement. Do not move vehicle until authorized by law enforcement unless the situation dictates otherwise.
- Report accident to supervisor as soon as possible.
- Provide accident documentation to supervisor upon return to office and file accident report.

Securing Materials for Transport

Secure tools or equipment while being transported to prevent unsafe movement of materials. During a crash or when making sudden maneuvers, loose objects can slide around or become airborne, injuring the driver and any passengers. Objects that could become a hazard should be secured or stored outside the passenger compartment. Objects on the back or outside of vehicles must be properly secured to prevent it from falling off. Never throw trash or other materials in the back of open truck or vehicle areas.

Seat Belt Use Policy

Seat belts are extremely effective in preventing injuries and loss of life. All employees must wear seat belts when operating a department owned vehicle or any vehicle on department premises or on department business and all occupants are to wear seat belts or, where appropriate, child restraints when riding in a department owned vehicle or in a personal vehicle being used for department business. All employees and their families are strongly encouraged to always use seat belts and the proper child restraints whenever they are driving or riding in any vehicle in any seating position.

Spotter Safety

A spotter should always be used any time a vehicle or moving equipment with a restricted view is operating on site. The spotter's main responsibilities are to look out for himself or herself and look out for all others on the site. Some tips for the spotter include:

- Never leave the driver's sight without notifying the operator to stop the vehicle.
- Always signal in an area the driver can see.
- Be consistent with hand signals to ensure understanding.

Safe Operation Techniques

- Do not drive a vehicle/equipment in reverse gear with an obstructed rear view unless it has an audible reverse alarm distinguishable from the surrounding noise level or another worker signals that it is safe. On sites with multiple vehicles with backup alarms, employees can become accustomed to these alarms and no longer hear them. Under these circumstances, the use of a spotter may be necessary.
- Workers must be highly visible in all levels of light. Warning clothing, such as red or orange vests, are required and, if worn for night work, must be of reflective material that meets the requirements of the most current version ANSI/ISEA 107.
- Never allow untrained workers to operate equipment.
- Drive vehicles or equipment only on roadways or grades that are safely constructed and maintained. Failure to do so can result in overturned equipment.
- Make sure that you and all other personnel are in the clear before using dumping or lifting devices.
- Lower or block bulldozer and scraper blades, end-loader buckets, dump bodies, etc., when not in use, and leave all controls in neutral position.
- Set parking brakes when vehicles and equipment are parked, and chock the wheels when on an incline.

Use of Personal Vehicles for Department Business

When employee-owned vehicles are used for business purposes for more than once-a-week local errands, the following procedures will be followed:

- The vehicle must be properly registered, tagged and inspected per NCDMV requirements.
- The employee must provide semi-annual proof of insurance. Generally, this will be done by providing an up-to-date insurance policy or card.

In cases where an employee's duties require them to drive their own vehicle routinely (defined as "more than once a week in a continuing fashion") on department business, the employee will be required to provide a copy of their insurance declaration page and at management's discretion (based on counsel with the insurance agent/carrier) the employee may be requested to have the following minimum limits (*Example limits*) on their personal auto policy:

- \$300,000 combined single limit; or
- \$100,000 per person/\$300,000 per accident/\$50,000 property damage.

Minimum limits of personal autos listed above are for business purposes only. They are not meant to address employee's entire insurance needs. Evaluation of such needs should be referred to the employee's insurance agent or department.

Work Zone Safety

- Use traffic signs, barricades or flaggers when construction takes place near public roadways.
- Ensure the traffic control zone is divided and maintained in five distinct areas: advance warning area, transition area, buffer area, worker area and termination area.
- Display properly spaced advance warning signs to notify drivers of lane tapering, shoulder work, paving or other activity.

Flaggers, signaling by flaggers and the garments worn must follow the OSHA rules that are incorporated by reference from the U.S. Department of Transportation's *Manual on Uniform Traffic Control Devices*, Part 6.

Vehicle Maintenance

Vehicles will be inspected by (*insert job title of responsible person*) every (*insert inspection frequency*).

At a minimum, the following items will be checked:

- Ensure seat belts are in working order.
- Check vehicles before each shift to ensure that all parts and accessories are in safe operating condition. Examples include brake system, tire inflation and condition, emergency brakes, steering and all lights.
- Ensure audible alarms and horns are in working order. All bidirectional machines, such as front-end loaders, back hoes and bulldozers, must be equipped with a horn.

Cell Phones or Radios

The department will provide hands-free cell phones or other radio equipment to employees who have a business need for such equipment. "Hands-free" in this instance refers to not having to hold the phone while carrying on a discussion; however, placing calls and hanging up may require handling the phone.

For other employees, use of a cell phone while driving is prohibited when driving on department business. Drivers using a hands-free system should find a place to safely pull off of the road should they find themselves in complex or emotional conversations that can hinder safe driving or situations where they must refer to or take notes. No texting while driving is allowed.

For commercial vehicle operators, any applicable Federal Motor Carrier Safety Regulations (FMCSR) or state/local regulations regarding cell phone use should be followed where stricter than the above policy.

Commercial Motor Vehicle Operation (Commercial Driver's License—CDL)

For commercial motor vehicle operation, the following additional requirements under FMCSR 391 must be met. Some key elements of this section include:

- Drivers must be at least 21 years old.
- Drivers being able to read and speak the English language sufficiently to converse with the general public, to understand highway signs and signals in the English language, to respond to official inquiries, and to make entries on reports/records.
- Driver can, by reason of experience, training or both, safely operate the type of commercial motor vehicle you intend to have the driver operate.
- Driver is physically qualified to drive a commercial motor vehicle.
- Driver has a valid commercial motor vehicle operator's license.
- Driver has prepared and furnished you a list of moving violations covering the last 12 months.
- Driver is not disqualified to drive a commercial motor vehicle.
- Driver has successfully completed a driver's road test and has been issued a certificate of driver's road test from a previous or current employer.

For prospective commercial motor vehicle drivers, inquiries must be made of former employers over the last three years and, at a minimum, the last three years of the driver's driving records must be requested from the appropriate agency of every state where the driver was licensed to operate over the past three years.

Road Tests

Prior to operating a department vehicle, in addition to providing a valid driver's license and meeting the motor-vehicle record criteria, drivers must complete a road test provided by an authorized member of management. This is generally a 20-30 minute documented observation of your driving skills with the vehicle you are expected to be operating. Undue concerns may result in an advanced driver-training course (classroom or over the Internet) being required prior to driving a department vehicle.

Cargo Security

Cargo/equipment falling from vehicles can result in fatalities to pedestrians or other drivers.

Prior to each trip in a department pickup, truck or van, a final walk around of the vehicle by the driver should be completed to ensure that all cargo and equipment is adequately secured. In cases of questionable security, management or veteran drivers should be contacted for advice. Inspecting the cargo/equipment within the first 50 miles of the trip (as required for commercial motor vehicles per FMCSR 392.9) is recommended.

Drug and Alcohol Policy: Commercial Motor Vehicles Requiring a CDL

As applicable, FMCSR 382, "Controlled Substances and Alcohol Use and Testing," will be followed.

Vehicle Inspections

All passenger vehicles over 10,001 gross vehicle weight (GVW) are required to have a minimum of semi-annual inspections to ensure proper preventive maintenance (tire rotations, oil changes, etc.), drivability, care and recordkeeping.

All vehicles over 10,001 GVW, those that are designed for 15 or more passengers (including the driver), or those hauling hazardous materials to the extent that the vehicle needs to be placarded "Commercial Motor Vehicle" must have daily post-trip inspections performed and documented by the operator. This should also include documentation on maintenance concerns that would be seen by the next driver of the vehicle and any mechanical repairs that were completed between inspections.

Pretrip inspections, also known as walk-arounds, are required for commercial motor vehicles. This inspection also includes review of the last driver vehicle inspection report. No written documentation of this inspection is required unless there needs to be a sign-off on the prior driver vehicle inspection report.

Accident Review Committee

An accident review committee will be established and composed of three members chosen at large. One member will be a manager, one member will be a senior/experienced driver, and one member will be an employee chosen at large.

The purpose of this committee is to review the circumstances involving an accident to determine if the accident was preventable. The National Safety Council (NSC) guidelines will be used for this determination. A preventable accident is defined by NSC as: "Any occurrence involving a vehicle which results in property damage and/or personal injury, regardless of who was injured, what property was damaged, to what extent, or where it occurred; in which the driver in question failed to do everything he/she reasonably could have done to prevent the occurrence."

The definition of a preventable accident will be strictly and impartially applied. All accidents will be reviewed for evidence of defensive driving techniques.

Accident Review Findings

The findings of the accident review committee will be presented to the driver. If the committee finds the accident was preventable and the driver disagrees, the driver is encouraged to present "their side" and ask for a reopening of the finding. The committee may request assistance from insurance agency/carrier, loss control professionals in the event of a nonunanimous committee opinion or requested reopening. The committee, however, is under no obligation to reopen an accident review.

The findings of the committee will be placed in the driver's personal driving file for future review. If the accident was preventable, the driver may be subject to additional action as deemed appropriate by their supervisor or top-level management. These actions may include, but not be limited to, the following:

- Attendance at an advanced driver training seminar.
- Assignment (usually temporary) to a nondriving position.
- One and two above.
- Probation without pay from one to three weeks.
- Termination of employment (when driving record criteria is surpassed).

*Note: The following example policy is based on the referenced standard and may be modified to meet the department's needs. The standard does not require a written program, but as a **best practice**, it has been put into writing in this manual. Please reference the standard for all requirements that may be applicable to the department.*

Hand and Powered Tools Policy

(Ref. 29 CFR 1910.241–244)

Appropriate personal protective equipment, such as safety goggles and gloves, will be worn to protect against hazards that may be encountered while using hand tools.

Workplace floors will be kept as clean and dry as possible to prevent accidental slips with or around dangerous hand tools.

Power tools will be fitted with guards and safety switches. They are extremely hazardous when used improperly. The types of power tools are determined by their power source: electric, pneumatic, liquid fuel, hydraulic or powder-actuated.

Guards

The exposed moving parts of power tools need to be safeguarded. Belts, gears, shafts, pulleys, sprockets, spindles, drums, flywheels, chains, or other reciprocating, rotating or moving parts of equipment must be guarded.

Machine guards, as appropriate, must be provided to protect the operator and others from the following:

- Point of operation
- In-running nip points
- Rotating parts
- Flying chips and sparks

Safety guards must never be removed when a tool is being used. Portable circular saws having a blade greater than 2 inches (5.08 cm) in diameter must be equipped with guards at all times. An upper guard must cover the entire blade of the saw. A retractable lower guard must cover the teeth of the saw, except where it makes contact with the work material. The lower guard must automatically return to the covering position when the tool is withdrawn from the work material.

General Safe Work Practices

To prevent hazards associated with the use of power tools, workers should observe general safe work practices:

- Never carry a tool by the cord or hose.
- Never yank the cord or the hose to disconnect it from the receptacle.
- Keep cords and hoses away from heat, oil and sharp edges.
- Disconnect tools when not using them, before servicing and cleaning them, and when changing accessories such as blades, bits and cutters.
- Keep all people not involved with the work at a safe distance from the work area.
- Secure work with clamps or a vise, freeing both hands to operate the tool.
- Avoid accidental starting. Do not hold fingers on the switch button while carrying a plugged-in tool.
- Maintain tools with care; keep them sharp and clean for best performance.
- Follow instructions in the user's manual for lubricating and changing accessories.
- Be sure to keep good footing and maintain good balance when operating power tools.
- Wear proper apparel for the task. Loose clothing, ties or jewelry can become caught in moving parts.
- Remove all damaged portable electric tools from use and tag them "Do Not Use."

Operating Controls and Switches—Safe Work Practices

The following hand-held power tools must be equipped with a constant-pressure switch or control that shuts off the power when pressure is released: drills; tappers; fastener drivers; horizontal, vertical and angle grinders with wheels more than 2 inches (5.08 cm) in diameter; disc sanders with discs greater than 2 inches (5.08 cm); belt sanders; reciprocating saws; saber saws, scroll saws, and jigsaws with blade shanks greater than ¼ inch (0.63 cm) wide; and other similar tools. These tools also may be equipped with a “lock-on” control, if it allows the worker to also shut off the control in a single motion using the same finger or fingers. The following hand-held power tools must be equipped with either a positive “on-off” control switch, a constant pressure switch, or a “lock-on” control: disc sanders with discs 2 inches (5.08 cm) or less in diameter; grinders with wheels 2 inches (5.08 cm) or less in diameter; platen sanders, routers, planers, laminate trimmers, nibblers, shears and scroll saws; jigsaws, saber and scroll saws with blade shanks a nominal ¼ inch (0.63 cm) or less in diameter. It is recommended that the constant-pressure control switch be regarded as the preferred device.

Other hand-held power tools such as circular saws having a blade diameter greater than 2 inches (5.08 cm), chain saws, and percussion tools with no means of holding accessories securely must be equipped with a constant pressure switch.

Electric Tools—Safe Work Practices

Employees using electric tools must be aware of several dangers. Among the most serious hazards are electrical burns and shocks.

Electrical shocks, which can lead to injuries such as heart failure and burns, are among the major hazards associated with electric powered tools. Under certain conditions, even a small amount of electric current can result in fibrillation of the heart and death. An electric shock also can cause the user to fall off a ladder or other elevated work surface and be injured due to the fall.

To protect the user from shock and burns, electric tools must have a three-wire cord with a ground and be plugged into a grounded receptacle, be double insulated, or be powered by a low voltage isolation transformer. Three-wire cords contain two current-carrying conductors and a grounding conductor. Any time an adapter is used to accommodate a two-hole receptacle, the adapter wire must be attached to a known ground. The third prong must never be removed from the plug.

Double-insulated tools are available that provide protection against electrical shock without third-wire grounding. On double insulated tools, an internal layer of protective insulation completely isolates the external housing of the tool.

The following general practices should be followed when using electric tools:

- Operate electric tools within their design limitations.
- Use gloves and appropriate safety footwear when using electric tools.
- Store electric tools in a dry place when not in use.
- Do not use electric tools in damp or wet locations unless they are approved for that purpose.
- Keep work areas well lighted when operating electric tools.
- Ensure that cords from electric tools do not present a tripping hazard.

In the construction industry, employees who use electric tools must be protected by ground fault circuit interrupters (GFCI) or assured equipment grounding conductor program.

Portable Abrasive Wheel Tools—Safe Work Practices

Portable abrasive grinding, cutting, polishing and wire buffing wheels create special safety problems because they may throw off flying fragments. Abrasive wheel tools must be equipped with guards that (a) cover the spindle end, nut and flange projections; (b) maintain proper alignment with the wheel; and (c) do not exceed the strength of the fastenings.

Before an abrasive wheel is mounted, it must be inspected closely for damage and should be sound or ring tested to ensure that it is free from cracks or defects. To test, wheels should be tapped gently with a light nonmetallic instrument.

If the wheels sound cracked or dead, they must not be used because they could fly apart in operation. A stable and undamaged wheel, when tapped, will give a clear metallic tone or “ring.”

To prevent an abrasive wheel from cracking, it must fit freely on the spindle. The spindle nut must be tightened enough to hold the wheel in place without distorting the flange. Always follow the manufacturer’s recommendations. Take care to ensure that the spindle speed of the machine will not exceed the maximum operating speed marked on the wheel.

An abrasive wheel may disintegrate or explode during start-up. Allow the tool to come up to operating speed prior to grinding or cutting. The employee should never stand in the plane of rotation of the wheel as it accelerates to full operating speed. Portable grinding tools need to be equipped with safety guards to protect workers, not only from the moving wheel surface, but also from flying fragments in case of wheel breakage.

When using a powered grinder:

- Always use eye or face protection.
- Turn off the power when not in use.
- Never clamp a hand-held grinder in a vise.

Pneumatic Tools—Safe Work Practices

Pneumatic tools are powered by compressed air and include chippers, drills, hammers and sanders.

There are several dangers associated with the use of pneumatic tools. First and foremost is the danger of getting hit by one of the tool’s attachments or by some kind of fastener the worker is using with the tool.

Pneumatic tools must be checked to see that the tools are fastened securely to the air hose to prevent them from becoming disconnected. A short wire or positive locking device attaching the air hose to the tool must also be used and will serve as an added safeguard.

If an air hose is more than ½ inch (1.27 cm) in diameter, a safety excess flow valve must be installed at the source of the air supply to reduce pressure in case of hose failure.

In general, the same precautions should be taken with an air hose that are recommended for electric cords, because the hose is subject to the same kind of damage or accidental striking, and because it also presents tripping hazards.

When using pneumatic tools, a safety clip or retainer must be installed to prevent attachments, such as chisels on a chipping hammer, from being ejected during tool operation.

Pneumatic tools that shoot nails, rivets, staples or similar fasteners and operate at pressures more than 100 pounds per square inch (689 kPa) must be equipped with a special device to keep fasteners from being ejected, unless the muzzle is pressed against the work surface.

Airless spray guns that atomize paints and fluids at pressures of 1,000 pounds or more per square inch (6,890 kPa) must be equipped with automatic or visible manual safety devices that will prevent pulling the trigger until the safety device is manually released.

Eye protection is required, and head and face protection is recommended for employees working with pneumatic tools.

Screens must also 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. Never “dead-end” them against yourself or anyone else. A chip guard must be used when compressed air is used for cleaning.

Use of heavy jackhammers can cause fatigue and strains. Heavy rubber grips reduce these effects by providing a secure handhold. When operating a jackhammer, wear safety glasses and safety shoes that protect you against injury if the jackhammer slips or falls. A face shield should also be used.

Noise is another hazard associated with pneumatic tools. Working with noisy tools such as jackhammers requires proper effective use of appropriate hearing protection.

Liquid Fuel Tools

Fuel powered tools are usually operated with gasoline. The most serious hazard associated with the use of fuel-powered tools comes from fuel vapors that can burn or explode and also give off dangerous exhaust fumes. Be careful to handle, transport and store gas or fuel only in approved flammable liquid containers, according to proper procedures for flammable liquids.

Before refilling a fuel powered tool tank, shut down the engine and allow it to cool to prevent accidental ignition of hazardous vapors. When a fuel-powered tool is used inside a closed area, effective ventilation and/or proper respirators such as atmosphere-supplying respirators must be utilized to avoid breathing carbon monoxide. Fire extinguishers must also be available in the area.

Powder-Actuated Tools

Powder-actuated tools operate like a loaded gun and must be treated with extreme caution. In fact, they are so dangerous that they must be operated only by specially trained employees.

When using powder-actuated tools, wear suitable ear, eye and face protection. Select a powder level—high or low velocity—that is appropriate for the powder-actuated tool and necessary to do the work without excessive force.

The muzzle end of the tool must have a protective shield or guard centered perpendicular to and concentric with the barrel to confine any fragments or particles that are projected when the tool is fired. A tool containing a high velocity load must be designed not to fire unless it has this kind of safety device.

To prevent the tool from firing accidentally, two separate motions are required for firing. The first motion is to bring the tool into the firing position, and the second motion is to pull the trigger. The tool must not be able to operate until it is pressed against the work surface with a force of at least 5 pounds (2.2 kg) greater than the total weight of the tool.

If a powder-actuated tool misfires, hold the tool in the operating position for at least 30 seconds before trying to fire it again. If it still will not fire, the user must hold the tool in the operating position for another 30 seconds and then carefully remove the load in accordance with the manufacturer's instructions. This procedure will make the faulty cartridge less likely to explode. The bad cartridge should then be put in water immediately after removal. If the tool develops a defect during use, it should be *tagged* and *must be taken out of service immediately* until it is properly repaired.

Safety precautions that must be followed when using powder-actuated tools include the following:

- Do not use a tool in an explosive or flammable atmosphere.
- Inspect the tool before using it to determine that it is clean, that all moving parts operate freely, and that the barrel is free from obstructions and has the proper shield, guard, and attachments recommended by the manufacturer.
- Do not load the tool unless it is to be used immediately.
- Do not leave a loaded tool unattended, especially where it would be available to unauthorized people.
- Keep hands clear of the barrel end.
- Never point the tool at anyone.

When using powder-actuated tools to apply fasteners, several additional procedures must be followed:

- Do not fire fasteners into material that would allow the fasteners to pass through to the other side.
- Do not drive fasteners into very hard or brittle material that might chip or splatter or make the fasteners ricochet.
- Always use an alignment guide when shooting fasteners into existing holes.
- When using a high velocity tool, do not drive fasteners more than 3 inches (7.62 cm) from an unsupported edge or corner of material such as brick or concrete.
- When using a high velocity tool, do not place fasteners in steel any closer than ½ inch (1.27 cm) from an unsupported corner edge unless a special guard, fixture, or jig is used.

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 exception to fire-resistant fluid involves all hydraulic fluids used for the insulated sections of derrick trucks, aerial lifts, and hydraulic tools that are used on or around energized lines. This hydraulic fluid will be of the insulating type.

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

All jacks, including lever and ratchet jacks, screw jacks, and hydraulic jacks, must have a stop indicator and the stop limit must not be exceeded. Also, the manufacturer's load limit must be permanently marked in a prominent place on the jack and the load limit must 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. Put a block under the base of the jack when the foundation is not firm, and place a block between the jack cap and load if the cap might slip.

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

- The base of the jack 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 lubricated regularly. In addition, each jack must be inspected according to the following schedule: (a) for jacks used continuously or intermittently at one site—inspected at least once every six months, (b) for jacks sent out of the shop for special work—inspected when sent out and inspected when returned, and (c) for jacks subjected to abnormal loads or shock—inspected before use and immediately thereafter.

Note: Under this standard, a Hazard Communication Program is required if employees may be exposed to any chemical present in the workplace under normal conditions of use or in a foreseeable emergency. This example program may be modified to meet the department's needs. Please reference the scope and application of the referenced OSHA standard to ensure that all requirements are being met.

Hazard Communication Program

(Ref. 29 CFR 1910.1200)

This program will describe how to protect the safety and health of employees who are exposed to hazardous chemicals in the workplace, and to comply with the provisions of 29 CFR 1910.1200.

(Insert job title of responsible person) has been assigned the title of hazard communication program coordinator and is responsible for monitoring all related activities to ensure compliance with both the intent and specifics of this program.

Each supervisor will be held responsible for strict adherence to these policies and will closely monitor all activities involving hazardous chemicals.

Each employee will carefully follow established work practices and promptly report observed or potential problems to supervision.

No job is so vital or urgent as to justify the risk of employee overexposure to a hazardous chemical. Ask when in doubt. Proceed with a job only after being satisfied that it is safe to do so.

A list of all hazardous chemicals for each workplace has been made and is readily available upon request to any employee working on any shift. It is located at *(insert location of hazardous chemical list)*.

A safety data sheet (SDS) for each hazardous chemical on the list referenced above is on file at *(insert location of SDSs)*.

The SDSs are accessible during each work shift for any employee to review. If you have further questions about the SDS procedure, contact your supervisor.

(Insert job title of responsible person) is responsible to ensure that the list of hazardous chemicals is kept current and that a current SDS is on hand for each hazardous chemical used. A chemical that is not shown on the current list will not be ordered without prior coordination with *(insert job title of responsible person)*.

All containers of hazardous chemicals in each workplace will be conspicuously labeled with the identity of the chemical (same as on the applicable SDS) and the appropriate hazard warnings. If the chemical is a known or suspected cancer causing agent (carcinogen) or if it is known to affect a specific organ of the body, this information will also be placed on the container label. The person having supervisory responsibility for the storage or use of each hazardous chemical will ensure that such labels are not defaced and that they remain legible at all times.

(Insert job title of responsible person) will ensure that an adequate supply of labels is kept on hand and made available to the responsible supervisors.

(Insert job title of responsible person) is responsible for anticipating, as much as possible, the hazards that would be present for nonroutine tasks, such as a chemical spill or container rupture. Cleanup procedures and proper personal protective equipment will be considered and adequate training for such tasks will be addressed.

When an outside contractor will be used, it will be the responsibility of *(insert job title of responsible person)* to advise the contractor of any hazardous chemicals to which its employees may be exposed and the appropriate protective measures to be taken. Conversely, it will be the same person's responsibility to determine if the contractor will be using any hazardous chemicals during this work that would expose employees. Appropriate training and protective measures must be taken in order to protect employees. Prior to any work being performed by an outside contractor involving hazardous chemicals, *(insert job title of responsible person)* is to be advised.

All employees exposed to any hazardous chemicals will complete an information and training program that includes at least the subjects listed below. New employees must complete similar instruction before initial exposure to any hazardous chemical in the workplace.

Adequate training of all employees exposed to hazardous chemicals will be given by (*insert job title of responsible person*), assisted as needed by the hazard communication program coordinator.

Employee information for this program will include:

- The purpose and need for such a program, including the basic concept that gives every employee the right to know about hazardous chemicals with which they work.
- The location and availability of the written hazard communication program, plus the list of hazardous chemicals and their corresponding SDSs.
- The identity, upon request, of any chemical to which the employee is exposed. In the case of a trade secret chemical, the name shown on the SDS will be provided.

Employee training will include at least the following:

- Methods and observations used to detect the presence or release of a hazardous chemical in the work area, such as monitoring devices, appearance or odor.
- The physical and health hazards associated with each chemical, as specified in the SDS.
- Action that employees can take to protect their own safety and health, including specific procedures that have been established for normal work practices, emergency procedures and policies on the use of personal protective equipment.
- Details of the hazard communication program, including an explanation of the labeling system used on in-house containers of hazardous chemicals. Also details of how employees can obtain and use information contained in the SDS.

It is the intent of management to protect the safety and health of each employee. By following correct procedures, no employee should experience any harmful effects from working with chemicals in the workplace.

Note: Under this standard, a Hearing Conservation Program is required if employees are exposed to high noise levels. This example program may be mandatory for the department and may be modified to meet the department's needs. Please reference the scope and application of the referenced OSHA standard to ensure that all requirements are being met.

Hearing Conservation Program

(Ref. 29 CFR 1910.95)

All employees who are exposed at or above 85 dBA as an 8-hour time-weighted average (TWA) will be included in a hearing conservation program. Monitoring will be repeated whenever a change in production, process, equipment or control increases noise exposure to the extent that:

- Additional employees may be exposed at or above the action level.
- The attenuation provided by the hearing protectors being used by the employees may be rendered inadequate. A complete sound survey will be conducted every (insert years).

For noise levels exceeding 90 dBA, mandatory hearing protection and engineering and administrative control measures will be utilized to reduce employee exposures.

Under the current OSHA standard, all workers exposed to 85 dBA as an 8-hour time-weighted average (TWA) are to be included in a hearing conservation program. It is important to note that for work shifts in excess of eight hours, the 85 dBA TWA is reduced. For example, exposures in excess of 83.4 dBA for a 10-hour work shift and exposures in excess of 82.1 dBA for a 12-hour work shift necessitate inclusion in a hearing conservation program.

Exposure Monitoring

An ongoing noise exposure evaluation program is required under the OSHA Standard for Occupational Noise Exposure (29 CFR 1910.95) when information indicates that any employee's exposure may equal or exceed an 8-hour time-weighted average of 85 dBA. Monitoring will be repeated whenever a change in production, process, equipment or control increases noise exposure to the extent that:

- Additional employees may be exposed at or above the action level.
- The attenuation provided by the hearing protectors being used by the employees may be rendered inadequate. A complete sound survey of the department is recommended at least every two years.

If it is determined through noise monitoring that employee are exposed at or above 85 dBA as an 8-hour time-weighted-average, then the employees must be provided with:

- Annual hearing tests.
- Annual hearing conservation training.
- Hearing protection (optional or mandatory).
- The OSHA Hearing Conservation Standard (29 CFR 1910.95) posted.
- Notification of the results of the sound survey.

If the noise level exceeds 90 dBA, the standard requires that engineering and administrative control measures must be investigated, evaluated and, where feasible, utilized to reduce employee exposures. It is important that any measure investigated, utilized or evaluated to reduce the noise levels be documented. Hearing protection is mandatory for employees exposed at or above 90 dBA as an 8-hour time-weighted average.

Engineering Controls to Reduce Noise

Contact the equipment manufacturer for noise abatement suggestions.

Purchase quieter equipment and perform routine maintenance to reduce noise levels.

Reduction of noise levels at the source:

- Substitution of materials (i.e., plastic for metal).
- Dampening or reducing surface vibration.
- Increasing the distance between the employee and the noise source.
- Enclosures or sound insulation material.
- Relocation of job tasks that may be completed out of high noise areas.

Administrative Controls to Reduce Noise

When engineering measures alone cannot reduce the noise below 90 dBA, administrative controls may be used to minimize employee exposure such as worker rotation from high noise levels to quiet areas or limiting the length of time an employee can work when rotation is not possible.

Hearing Conservation Training

Hearing conservation training is required annually for all employees with noise exposures of 85 dBA TWA or greater. The goal of the training is to teach the employees the department hearing conservation program policies and the requirements of the standard.

The following topics will be included in the employee training of the hearing conservation program:

The effects of noise on hearing:

- It can take many years to occur and the employee may not realize the gradual hearing loss. The loss occurs without any pain and cannot be corrected by any known medical or surgical treatment. A good rule of thumb to remember is that if you have to raise your voice at a distance of 3 feet, you are in an area with a possible hazardous noise level. Repeated unprotected noise exposure will cause a permanent hearing loss. The hearing conservation program has been established to ensure that if you ever have a standard threshold shift, your noise exposure can be lessened by using engineering or administrative controls or more effective hearing protection. Thus the problem can be controlled.

The purpose of the annual hearing test and an explanation of the test procedures:

- The purpose of the annual hearing test is to monitor your hearing. Periodic audiometric testing provides an “early warning” of hearing disability. Factors such as noisy hobbies, ear infections, diseases of the ear, as well as general illness may also cause hearing loss. All employees’ hearing will be checked upon employment and once a year thereafter. You will be notified of any changes in your hearing. You cannot “fail” the test and you will not lose your job due to the results of the test.

The purpose of hearing protectors, instructions on selection, advantages, disadvantages, fitting use and care:

- The proper use of hearing protection will prevent many types of hearing loss. You must wear the required hearing protection properly and regularly to reap the benefits of the protection. You should have already been fitted by (insert name) for your size and type of earplug. If you have any problems with the fit of your hearing protectors, contact (insert name).

Hearing Tests

All employees who are exposed to a noise level of 85 dBA or above will be in the hearing conservation program and have their hearing checked annually. All hearing test results and other required documentation will be maintained in accordance with 29 CFR 1910.1020.

Employees will be scheduled as follows:

Testing will begin in *(time frame)* for all employees requiring the annual hearing test. Each employee's supervisor or designee will notify that employee of the test.

It is the responsibility of *(insert name)* to ensure that contractors providing hearing tests to employees meet OSHA requirements. It will be the responsibility of *(insert name)* to obtain and file the following documentation annually from the contractor providing the hearing tests: current audiometer calibration check records, last audiometer check, both background noise level records and current audiometer technician certification. If a mobile van used for testing cannot provide these records, then another testing center will be used.

(Insert name) will provide a file for the audiograms that is separate from other medical or personnel files. These files will be kept confidential.

Hearing Protection

The proper use of hearing protection will prevent many types of hearing loss. The employee must wear the required hearing protection properly and regularly to reap the benefits of the protection. If you have any problems with the fit of your hearing protectors, contact *(insert name)*.

How to Properly Wear Hearing Protectors

It is an OSHA requirement that the department ensures the proper initial fitting and that the department provides training in the use and care of all hearing provided to employees.

Employee hearing protection training is required:

- Annually during hearing conservation training.
- Each time an employee shows a standard threshold shift change in hearing.

To prevent a hearing loss, hearing protectors must be worn correctly and taken care of. Keep your ear plugs clean by washing them in warm soapy water and make sure they are completely dry before inserting them in your ears. Inspect your hearing protection regularly. If they become damaged, hard or worn out, replace them with a new pair.

Due to the fact that everyone has different size ear canals, each person will be fitted by *(insert name)* to ensure they receive the right size. Each employee will be instructed on how to put their personal hearing protectors in and also be given the chance to practice in front of the hearing conservationist. Two different types of hearing protectors will be provided to employees. If there is a problem with the fit comfort of your hearing protectors, see *(insert name)* and you will be given a different type of protection.

Hearing Protection Life Span

The life of the hearing protector is dependent upon the care it is given. A sponge type hearing protector is disposable. But, as long as it is clean, it may be used until it no longer expands. How long the hearing protection lasts is unique to each employee depending on the chemical make-up of their body, as follows:

- Sponge plugs—one or two days.
- Custom plugs—18–24 months.
- Insert plugs—four–six months.
- Muffs—replace when worn out.

Putting In Earplugs

FIRST

Put your left arm over your head and with your left hand, pull up on your right ear.



SECOND

With your right hand insert the earplug. Switch hands and insert the other plug in the same manner.

Remember both plugs must work for complete protection.



Recordkeeping

Records are an important part of any effective hearing conservation program. The information contained in these records reflects the quality and effectiveness of the department hearing conservation program.

A number of documents are required to be maintained under the OSHA hearing conservation standard once the action level has been initiated. Some of these records must be retained for specified periods as shown in the following records and documentation. It is also required that these records be provided, upon request, to employees, former employees, representatives designated by the individual employee, and the assistant secretary of labor.

The following records/documentation is required by OSHA:

- Sound survey (retain at least two years).
- Employee notification on the results of the sound survey.
- Posted OSHA hearing conservation standard.

Hearing testing (retain for at least the duration of employment)

- Annual
- Baseline

Audiogram Evaluation Requirements

- Standard threshold shift requirements
- Physician review

Hearing Protection

Hearing Conservation Training

Audiometer

- Acoustic calibration check
- Exhaustive calibration check
- Biological calibration check
- Self-listening check

Booth (if testing is done on site)

- Background noise

Recording hearing loss on the OSHA 300 log.

Employee Notification of the Results of the Sound Survey

Employees must be notified of the results of the sound survey. Whether written or verbal notification is used, documentation must be maintained. It is recommended that the results of the survey be posted in a central location. Records will be kept for two years.

Posted OSHA Hearing Conservation Standard

It is an OSHA requirement that a copy of the OSHA standard be posted in a location accessible to all employees.

Hearing Testing

The two types of hearing tests are annual hearing tests and baseline hearing tests. The annual hearing testing is required for employees with 85 dBA TWA or higher noise exposures. Testing can be done any time during the day. Baseline hearing testing is done when an employee is initially hired. The baseline is extremely important because it is the reference against which future audiograms are compared to determine the extent to which an employee's hearing is deteriorating. The standard requires that a baseline must be done within six months of hire.

If a mobile van is used, the baseline is required within one year of an employee's first exposure at or above the action level. However, the employee must wear protection for any period exceeding six months until the baseline is obtained. (North Carolina Workers' Compensation Law has a 90 working day grace period. If a department gives the baseline before the grace period is up then the department may be liable only for subsequent hearing loss.) It is required that the baseline audiogram be preceded by at least 14 hours without exposure to workplace noise. Time that hearing protection is worn may be included as part of the 14 hours without exposure to noise.

All employees will be notified that they need to avoid nonoccupational noise exposure during the 14 hours prior the audiometric test. If it is not possible to avoid high noise levels prior to testing, the employee should wear hearing protection prior to the test to minimize the possibility of a temporary threshold.

A retest audiogram can be conducted to verify or confirm a standard threshold result. Times when a retest may be needed:

- The department may obtain a retest within 30 days of the original test and use the results to determine whether a persistent threshold shift has occurred.
- The audiologist or physician requests a retest to confirm test results.
- The test administrator requests a new test due to errors in the original test.

Audiometer

The department must verify that the following checks are made:

- The functional operation of the audiometer must be checked before each day's use by a person with stable hearing thresholds.
- Acoustic calibration check annually per the requirements of Appendix E of the standard.
- Exhaustive calibration checks at least every two years per ANSI S3.6.

Pulsed-tone and self-recording audiometers must meet the requirements of Appendix C of the standard.

Booth

The following must be done:

- Noise levels inside the booth must be checked with the ventilation fan on and off each time the booth location or environment changes.
- With no change in the environment or location, it is recommended that the background noise levels be checked every three years.

Recording Hearing Loss on the OSHA 300 Log

Hearing loss meeting the criteria in 29 CFR 1904.10 must be recorded on the “*Occupational Illness or Injury Form*” in the hearing loss column.

Standard Threshold Shift

A standard threshold shift is a change in hearing threshold relative to the baseline audiogram of an average of 10 or more dBA at 2,000, 3,000 and 4,000 Hz. If a standard threshold shift has occurred, the employee must be informed in writing within 21 days of the determination. Employees must be trained in using hearing protectors and in care of the hearing protectors. If the employee is already using hearing protectors, they must be retrained and refitted. If necessary, hearing protectors can be changed to a different type.

*Note: The following policy has been put into writing as a **best practice**. Please modify or delete content to the program as deemed necessary to meet the department's needs.*

Heat Stress and Cold Stress Program

(Ref. 29 CFR 1910.120 and N.C. Gen. Stat. 95-129(1), “General Duty Clause of the OSH Act”)

Scope and Application

There is not an OSHA standard that specifically pertains to temperatures in the working environment. However, under the General Duty Clause (GDC) of the Occupational Safety and Health Act of North Carolina, as an employer you are required to provide employees with both working conditions and a work place that are free from any recognized hazards which cause or are likely to cause serious physical harm, serious physical injury, serious illness or death.

Additionally, OSHA Standard 29 CFR 1910.120, on Hazardous Waste Operations and Emergency Response, specifically requires a program to address the limitations of personal protective equipment during temperature extremes, heat stress and other appropriate medical considerations.

Heat Stress—Safe Work Practices

- Know the signs and symptoms of heat-related illnesses; monitor yourself and co-workers.
- Know the emergency plan for heat-related stress illnesses.
- Maintain a high level of physical fitness.
- Gradually acclimate to the heat.
- Avoid alcohol, caffeinated drinks (coffee, tea, soft drinks), and heavy meals.
- Drink lots of water; about one cup every 15 minutes. Sport drinks may also be consumed.
- Block out direct sun or other heat sources.
- Use cooling fans or air-conditioning; rest regularly.
- If possible, wear lightweight, light colored, loose-fitting clothes.
- Whenever possible, distribute the workload evenly over the day and incorporate work/rest cycles.
- Reduce physical demands during hot weather.
- Do heavier work in cooler times of the day.
- Rotate job functions to minimize overexertion and heat exposure.
- Be aware that certain personal protective equipment can increase the risk of heat-related illness.
- Immediately report any heat-related symptoms to your supervisor.

Techniques to Prevent Heat Stress

The techniques that can be applied to preventing heat stress fall into three general categories. The first category includes engineering controls designed to limit the environmental heat load and to enhance the rate at which heat can be eliminated from the body. The second category includes training for employees and providing personal protective equipment that can also be used in specific cases to limit heat stress potential. The third category involves work practices designed to reduce the level of metabolic heat that is generated by each worker.

Training and Personal Protective Equipment

Worker training is an extremely important aspect of a heat stress prevention program. Program objectives include:

- Training supervisors and workers to watch for and detect the major signs and symptoms of heat strain and to take immediate first aid steps when they are detected.
- Training supervisors to understand the importance of allowing workers to acclimatize to hot conditions and to self-pace their work rate during periods of high heat exposure.
- A general appreciation of the importance of keeping a supply of drinking water readily available for workers involved in hot work. The training must also emphasize the importance of drinking on a regular basis, rather than relying on thirst.

Medical screening of workers who may be exposed to hot work environments will help identify those employees whose ability to handle heat may be compromised by existing health problems such as heart disease.

Heat-Related Illnesses

- **Heat Stroke** is the most serious heat-related health problem. Heat stroke occurs when the body's temperature regulating system fails and body temperature rises to critical levels (greater than 104°F). This is a medical emergency that may result in death! The signs and symptoms of heat stroke are confusion, loss of consciousness and seizures. Workers experiencing heat stroke have a very high body temperature and may stop sweating. If a worker shows signs of possible heat stroke, **get medical help immediately**, and call 911.
 - Until medical help arrives, move the worker to a shady, cool area and remove as much clothing as possible. Wet the worker with cool water and circulate the air to speed cooling. Place cold wet cloths, wet towels or ice all over the body or soak the worker's clothing with cold water.
- **Heat Exhaustion** is the next most serious heat-related health problem. The signs and symptoms of heat exhaustion are headache, nausea, dizziness, weakness, irritability, confusion, thirst, heavy sweating and a body temperature greater than 100.4°F.
 - Workers with heat exhaustion should be removed from the hot area and given liquids to drink. Remove unnecessary clothing including shoes and socks. Cool the worker with cold compresses to the head, neck and face or have the worker wash his or her head, face and neck with cold water. Encourage frequent sips of cool water. Workers with signs or symptoms of heat exhaustion should be taken to a clinic or emergency room for medical evaluation and treatment. Make sure that someone stays with the worker until help arrives. If symptoms worsen, call 911 and get help immediately.
- **Heat Cramps** are muscle pains usually caused by physical labor in a hot work environment. Heat cramps are caused by the loss of body salts and fluid during sweating. Workers with heat cramps should replace fluid loss by drinking water and/or carbohydrate-electrolyte replacement liquids (e.g., sports drinks) every 15 to 20 minutes.
- **Heat Rash** is the most common problem in hot work environments. Heat rash is caused by sweating and looks like a red cluster of pimples or small blisters. Heat rash usually appears on the neck, upper chest, in the groin, under the breasts and in elbow creases. The best treatment for heat rash is to provide a cooler, less humid work environment. The rash area should be kept dry. Powder may be applied to increase comfort. Ointments and creams should not be used on a heat rash. Anything that makes the skin warm or moist may make the rash worse.

Rehabilitation

Adequate rest and rehydration are critical during training exercises and while on scene. NFPA 1584 outlines the best practices for firefighters in preventing heat stress and rehabilitating on the scene. Rehab usually consists of a shaded area, with water or sport drinks, and chairs available. Member's vital signs are typically monitored during this time as well.

Cold Stress—Safe Work Practices

- Recognize the environmental and workplace conditions that lead to potential cold-induced illnesses and injuries.
- Watch for signs and symptoms of cold-induced illnesses/injuries.
- Select proper clothing for cold, wet and windy conditions. Layer clothing to adjust to changing environmental temperatures. Wear a hat and gloves, in addition to underwear that will keep water away from the skin (polypropylene).
- Take frequent short breaks in warm dry shelters to allow the body to warm up.
- Perform training during the warmest part of the day.
- Avoid exhaustion or fatigue because energy is needed to keep muscles warm.
- Avoid overheating because excessive sweating increases the risk of hypothermia.
- Use the buddy system (work in pairs).
- Drink warm, sweet beverages (sugar water, sports-type drinks). Avoid drinks with caffeine (coffee, tea or hot chocolate) or alcohol.
- Eat warm, high-calorie foods like hot pasta dishes.

Frost Bite Response

- Move the person to a warm dry area. Don't leave the person alone.
- Remove any wet or tight clothing that may cut off blood flow to the affected area.
- DO NOT rub the affected area, because rubbing causes damage to the skin and tissue.
- Gently place the affected area in a warm (105°F) water bath and monitor the water temperature to slowly warm the tissue. Don't pour warm water directly on the affected area because it will warm the tissue too fast causing tissue damage. Warming takes about 25 to 40 minutes.
- After the affected area has been warmed, it may become puffy and blister. The affected area may have a burning feeling or numbness. When normal feeling, movement and skin color have returned, the affected area should be dried and wrapped to keep it warm. Note: If there is a chance the affected area may get cold again, do not warm the skin. If the skin is warmed and then becomes cold again, it will cause severe tissue damage. Seek medical attention as soon as possible.

Hypothermia Response

- Call for emergency help (i.e., ambulance or call 911).
- Move the person to a warm, dry area. Don't leave the person alone. Remove any wet clothing and replace with warm, dry clothing or wrap the person in blankets.
- Have the person drink warm, sweet drinks (sugar water or sports-type drinks) if they are alert. Avoid drinks with caffeine (coffee, tea or hot chocolate) or alcohol.
- Have the person move his or her arms and legs to create muscle heat. If this is impossible, place warm bottles or hot packs in the armpits, groin, neck and head areas. DO NOT rub the person's body or place in warm water bath. This may stop the heart.

*Note: The following example policy is based on the referenced standard. The standard does not require a written program, but as a **best practice**, it has been put into writing in this manual. Please modify or delete content to these policies as deemed necessary. Please reference the standard for all requirements that may be applicable to the department.*

Housekeeping Policy

(Ref. 29 CFR 1910.22)

Housekeeping is an important element of every safety and health program. When materials, tools and equipment all have a place for orderly storage and are returned to the proper place after use, they are easier to find and easier to inspect for damage and wear.

The following housekeeping safety procedures apply:

- Keep work areas and storage facilities clean, neat and orderly.
- Keep all aisles, stairways, passageways, exits and access ways to buildings free from obstructions at all times. Remove all grease and water spills from traffic areas immediately.
- It is everyone's responsibility to pick up and clean up.
- Do not place supplies on top of lockers, hampers, boxes or other moveable containers at a height where they are not visible from the floor.
- When piling materials for storage, make sure the base is firm and level. Cross tie each layer. Keep piles level and do not stack piles too high. Keep aisles clear and maintain adequate space to work in them.
- When storing materials suspended from racks or hooks, secure them from falling and route walkways a safe distance from the surface beneath.
- When storing materials overhead on balconies or mezzanines, provide adequate toeboards to keep objects from rolling over the edge.
- Do not let materials and supplies that are no longer needed accumulate. If it is not needed, get rid of it!
- Tools, equipment, machinery and work areas are to be maintained in a clean and safe manner. Defects and unsafe conditions must be reported to your supervisor.
- Return tools and equipment to their proper place when not in use.
- Lay out extension cords, air hoses, water hoses, ladders, pipes, tools, etc., in such a way as to minimize tripping hazards or obstructions to traffic.
- Clean up spills immediately to avoid hazards. In the event the removal cannot be done immediately, the area must be appropriately guarded, signed or roped off.
- Nail points, ends of loop or tie wires, etc., must not be left exposed when packing and unpacking boxes, crates, barrels, etc. Nails are to be removed as soon as lumber is disassembled.
- Store sharp or pointed articles to keep co-workers from coming in contact with the sharp edges or points.
- Dispose of all packing materials properly to reduce the chance of fires.
- Empty wastebaskets daily into approved containers.
- Put oily and greasy rags in a metal container for that purpose and dispose of properly and frequently.
- Maintain adequate lighting in obscure areas for the protection of both employees and the public. Keep landscaping well manicured to minimize hiding places.
- Employees are not to handle food, tobacco, etc., with residue from any lead-based product (such as leaded gasoline) on their hands. Consumption of food and beverages is prohibited in areas where hazardous substances are stored or used.
- Employees whose hands are cut or scratched are not to handle any lead-based products.

- All switches or drives on machinery must be shut down and locked out before cleaning, greasing, oiling, or making adjustments or repairs.
- Circuit breaker boxes and fuse boxes should be kept closed at all times. It is a requirement to maintain a minimum clearance of 36 inches in front of them.
- Flammables (kerosene, gasoline) and combustible materials (coats, rags, cleaning supplies) should not be stored in mechanical rooms or around electrical boxes.
- Extension cords should not be run across aisles or through oil or water. Inspect cords for kinks, worn insulation and exposed strands of wire before use.
- When fuses blow continually, it is an indication of an overload or short. Report this condition to your safety coordinator immediately.
- Keep electrical equipment properly maintained and free of grease and dirt.
- To prevent static sparks, keep drive belts dressed. Also check belts for proper tension to prevent overloading motors.
- Maintain fire inspections and other fire prevention measures.

*Note: The following example policy is based on the referenced standard. The standard does not require a written program, but as a **best practice**, it has been put into writing in this manual. Please modify or delete content to these policies as deemed necessary. Please reference the standard for all requirements that may be applicable to the department.*

Ladder Safety Policy

(Ref. 29 CFR 1910.25–27)

Ladders must be maintained in good condition at all times. Ladders that are not in good condition will be placed out of service immediately with a tag stating “out of service.” The employee will submit a maintenance request/work order for ladder repair.

Inspections

Portable ladders will be visually inspected each day prior to use.

Other ladders will be inspected at least annually or more often if the conditions of use or location necessitate more frequent inspection.

Loads

Self-supporting (foldout) and non-self-supporting (leaning) portable ladders must be able to support at least four times the maximum intended load, except extra-heavy-duty metal or plastic ladders, which must be able to sustain 3.3 times the maximum intended load.

Angle

Non-self-supporting ladders, which must lean against a wall or other support, are to be positioned at such an angle that the horizontal distance from the top support to the foot of the ladder is about one-fourth the working length of the ladder.

In the case of job-made wooden ladders, that angle should equal about one-eighth the working length. This minimizes the strain of the load on ladder joints that may not be as strong as on commercially manufactured ladders.

Rungs

Ladder rungs, cleats or steps must be parallel, level and uniformly spaced when the ladder is in position for use. Rungs must be spaced between 10 and 14 inches apart. For extension trestle ladders, the spacing must be 8–18 inches for the base, and 6–12 inches on the extension section. Rungs must be so shaped that an employee’s foot cannot slide off, and they must be skid resistant.

Slipping

Ladders are to be kept free of oil, grease, wet paint and other slipping hazards. Wood ladders must not be coated with any opaque covering, except identification or warning labels on one face only of a side rail.

Other Requirements

Foldout or stepladders must have a metal spreader or locking device to hold the front and back sections in an open position when in use. When two or more ladders are used to reach a work area, they must be offset with a landing or platform between the ladders.

The area around the top and bottom of a ladder must be kept clear. Ladders must not be tied or fastened together to provide longer sections, unless they are specifically designed for such use. Never use a ladder for any purpose other than the one for which it was designed.

Note: Under this standard, a Lockout/Tagout Program is required if employees service and maintain machines and equipment that can energize or release stored energy. This example program may be mandatory for the department and may be modified to meet the department's needs. The standard requires only your lockout/tagout procedures and inspections to be in writing. Please reference the scope and application of the referenced OSHA standard to ensure that all requirements are being met.

Lockout/Tagout (Control of Hazardous Energy) Program

(Ref. 29 CFR 1910.147)

The purpose of the lockout/tagout (LOTO) program is to provide a system for the locking out and/or tagging out of energy-isolating devices to protect employees from the unexpected energization or startup of machines or equipment, or the release of stored energy that could cause injury to the employee. Wherever possible, energy-isolating devices should be locked out. Before employees service, repair or perform maintenance, the machine or equipment must be isolated from all hazardous energy, and the energy isolation-device(s) for the machine or equipment must be locked out or tagged out.

Types and Magnitude of Energy and Hazards

Each employee must be instructed in the types and magnitude of energy used by the department. The following types of energy are used:

(a) _____ (b) _____

The magnitude of energy (a) (_____ energy) used is: _____; the magnitude of hazards presented by the _____ energy is: _____.

The magnitude of energy (b) (_____ energy) used is: _____; the magnitude of hazards presented by the _____ energy is: _____.

Training and Retraining of Affected and Authorized Employees

Each employee must be thoroughly trained with respect to lockout/tagout procedure used by our department. Each employee must know that lockout/tagout is used to protect employees against hazardous energy from inadvertent operation of equipment or machinery. Each employee must understand that he or she is to never attempt to operate an energy-isolating device when it is locked or tagged. Each employee must be retrained if there is a change in the employee's job assignment, a change in machinery or equipment that presents a new hazard, a change in energy control procedures, or management considers that retraining is necessary.

Training or retraining must include:

- How to recognize hazardous energy sources.
- Type and magnitude of energy used especially with respect to the machinery or equipment to which the employee will be exposed.
- Purpose of the lockout/tagout procedure.
- Steps for shutting down, isolating, blocking and securing equipment to which the employee will be exposed.
- Steps for placement, removal and transfer of lockout/tagout devices and the division of responsibility for accomplishing those tasks.
- Requirements for testing to determine and verify effectiveness of lockout/tagout devices.
- The proper use and limitations of tags.

Employees who will use (actually implement) the lockout/tagout procedure must receive written authorization from supervision.

Energy-Isolating Devices

Each employee must be instructed that every department has conducted a survey of all machinery, equipment and processes that possess potentially hazardous energy. The survey located all equipment and identified all isolating devices that must be locked or tagged to render the equipment safe for service, maintenance or repair and describe applicable lockout/tagout procedure. The information for each item of machinery or equipment has been recorded on Form A, which is maintained in the respective department and is readily available for use in conjunction with the lockout/tagout procedure.

Form A will be used whenever a new piece of equipment or machine is introduced into the work area or whenever a new procedure needs to be developed due to a change in process, machine or equipment making previous procedure invalid.

Form A Types/Locations of Energy-Isolating Devices

1. Name of department: _____
2. Name of equipment or machine: _____
3. Serial number of equipment or machine: _____
4. Location of equipment or machine: _____
5. Each type of energy used by the equipment or machine:
 - a. _____
 - b. _____
6. Magnitude of each source of energy:
 - a. _____
 - b. _____
7. Hazards to be expected from each source of energy:
 - a. _____
 - b. _____
8. Type and location of each device for isolating energy to the machine or equipment and the method of lockout/tagout to be used (use an additional form, if needed):

<u>Type</u>	<u>Location</u>	<u>Method of Lockout/Tagout</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

9. Identification of each device and manner by which energy can be stored in the machine or equipment and identification of the procedure for dissipating or restraining the stored energy (use additional form, if needed):

Device/Manner

Procedure

- a. _____
- b. _____

Sequence of Lockout/Tagout System—Procedure

Each employee will be informed of the lockout/tagout sequence. That sequence includes the following steps:

Step One—The authorized employee (designated by supervision to implement lockout/tagout) will notify all affected employees (operators and others in the area) that lockout/tagout is to be used and the reason for its use. Use Form A, “Types/Locations of Energy-Isolating Devices,” for the respective machine or equipment lists all pertinent information, including the magnitude of energy and the hazards to be expected.)

Step Two—The machine must be shut down by normal procedure.

Step Three—Each energy-isolating device must be located. (Use information from Form A for the respective machine or equipment.) Each device must be operated to isolate the equipment from the energy source(s).

Step Four—Each device or manner by which energy can be stored must be located. (Use information from Form A for the respective machine or equipment.)

Step Five—After responding to important notes (below), each energy-isolating device (information from Form A for the respective machine or equipment) must now be locked or tagged with assigned individual locks or tags.

Note:

- If a lock can be used, but a tag is chosen instead, complete a tagout justification before going on to step six.
- If more than one authorized employee is required to affix a lockout/tagout device (see group lockout), the designated group coordinator must have each authorized employee who affixes a lockout/tagout device sign his/her name and enter job title. Use a separate sheet if needed.

Step Six—(a) Ensure that personnel are not exposed; (b) attempt to start the equipment with the normal operating controls to ensure that lockout/tagout is effective; (c) return the operating controls to “neutral” or “off.” The equipment is now properly locked or tagged out.

Tagout Justification System

If the machine, equipment or process can be locked out and/or tagged out and a tag is chosen instead, respond to parts one and two of the following tagout justification system, then return to Sequence for LOTO, Step Six.

Requirement One

Full Employee Protection. If you cannot indicate a “yes” answer by checking each of the following items, do not use the tagout system:

- Tagout system provides full employee protection.
- Tagout devices placed at the same location where the lockout device would have been placed.
- Tagout system provides safety equivalent to the lockout program.
- Employees can fully comply with all tagout-related provisions.

Additional Safety Measures. Check the measure(s) used to provide equivalent protection and/or state any other alternative used:

- Isolating circuit element removal.
- Control switches blocked.
- Extra disconnecting device opened.
- Removal of valve handles.
- Alternative measures used to provide equivalent protection: _____.

Tagout Device. Check the tagout device against each criterion listed below. The tagout device should satisfy each criterion:

- Singularly identified.
- Device used only for controlling energy.
- Not used for other purposes.
- Durable/substantial.
- Able to withstand its intended environment.
- Nonreusable.
- Attachable by hand.
- Self-locking.
- Indicates employee identity.
- Exposure will not cause deterioration.
- Does not deteriorate in corrosive environment.
- Standardized as to: ___color; ___shape and size; ___print and format.
- Minimum unlocking strength of no less than 50 pounds.
- Equivalent to a one piece, all environment-tolerant nylon cable tie.

Warning Message. Ensure that the tagout device:

- Warns against hazardous conditions.
- Includes “Do Not Start (Open, Close, Energize, Operate, etc.)”

Training. Be certain that the employees have been trained that:

- Tags are simply warning devices.
- Tags do not provide physical restraint.
- Tags must never be removed without authorization.
- Tags may evoke a false sense of security.
- Tags are only part of the overall program.
- Tags must be securely attached.
- Tags must never be ignored or bypassed.

Requirement Two

A. State your reasons for using the tagout system:

B. State how equivalent employee protection was provided:

C. Describe the training provided to employees:

At which location was the training provided:

Include the date of the employee training:

Include the signature of the person who performed the training:

Include signature and date of the person who authorized the use of the tagout system:

Procedure for Restoring Machines or Equipment to Normal Production Operations

- When servicing, maintenance or repair is complete and the equipment/machine is ready to be started up, the authorized employee will ensure that: (a) no one is exposed to the equipment/machine; (b) all tools have been removed from the machine/equipment; (c) guards have been reinstalled; (d) there are no exposed electrical wires; (e) and that he or she is satisfied that it is safe for start up.
- After responding to important notes (below), remove all lockout/tagout devices.

Note:

- If the authorized employee is not available to remove the lockout/tagout devices, the devices may only be removed by or under the direction of the supervisor who completes the following:
 - (a) Identify the authorized employee whose device is being removed (insert name).
 - (b) Describe all reasonable efforts to locate this employee: (insert efforts made).
 - (c) Describe the action taken to ensure that, prior to his or her resumption of work, the employee knows that the device was removed (insert efforts made).
 - (d) Enter signature and date of supervisor to certify the above steps were taken (insert signature and date).
- If more than one authorized employee is required to remove a lockout/tagout device, the designated group coordinator will have each employee who removes a device sign his or her name and enter the job title.

Name(s)/Titles:

- Operate the devices to restore energy to the machine/equipment.

Temporary Removal of Lockout/Tagout Devices

When testing, the positioning of machines/equipment or other requirements demand the temporary removal of lockout/tagout devices, the authorized employee or supervisor must: (a) follow the sequence steps one through three; (b) conduct the tests or position the equipment; and (c) de-energize all systems and reapply energy control measures in accordance with policy.

Outside Contractors

If the maintenance, service or repair is performed by an outside contractor, the supervisor must appoint an employee to serve as the outside contractor's authorized employee for the purposes of this policy.

Group Lockout or Tagout

When group lockout/tagout is required and when more than one group is involved, a group coordinator must be designated by supervision. The designated group coordinator must seek agreement from the other authorized employees and must ensure that each authorized employee: (a) places his or her personal lockout or tagout device on the energy-isolating devices; or (b) places the device on a multiple lockout/tagout device (hasp) if the device cannot accept multiple locks/tags; or (c) secures the personal lock to a multiple-lock lockout box or cabinet that holds the key to the single lock on the energy-isolating device; and (d) signs and enters his/her job title at the time of affixing and removing the device.

Documentation of Employee Training

Documentation must be completed for each employee following every training or retraining session. Refer to form "Lockout/Tagout Training Documentation."

Lockout/Tagout Training Documentation

Name of Equipment/Procedure	_____
Employee Name:	_____
Employee Address:	_____
Home Phone:	(____) - ____ - _____
Cell Phone:	(____) - ____ - _____
Job Title:	_____
Department:	_____
Date of Training or Retraining:	____ / ____ / ____
Signature of Employee:	_____
Signature of Trainer:	_____
Is the employee authorized to implement lockout/tagout procedure?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Date Authorized:	____ / ____ / ____
Authorizing Supervisor's Signature:	_____

*Note: The following example policy is based on the referenced standard. The standard does not require a written program, but as a **best practice**, it has been put into writing in this manual. The assessments must be in writing. Please modify or delete content to these policies as deemed necessary. The standard should be referenced to ensure that all requirements are being met.*

Personal Protective Equipment Policy

(Ref. 29 CFR 1910.132)

Protective Equipment

When engineering and work practice controls do not completely eliminate hazards, it is necessary to protect workers with personal protective equipment. Personal protective equipment (PPE) includes hard hats, safety belts, safety goggles, face shields, gloves, aprons, toe guards and respirators. Supervisors will ensure that all their employees are properly protected.

Every effort will be made to select personal protective equipment that is acceptable for comfort, appearance and utility.

Hazard Assessments

The department will assess the hazards in the workplace that require the use of personal protective equipment. Where such hazards are identified, the department will:

- Select appropriate types of personal protective equipment to protect the employees from the hazards identified in the hazard assessment.
- Communicate selection decisions to each affected employee.
- Select personal protective equipment that properly fits each affected employee.
- Require each affected employee to wear the personal protective equipment selected.

The completed assessments are maintained by (insert job title of responsible person).

PPE Training

Each employee who is required to use personal protective equipment will be trained on:

- What personal protective equipment is necessary.
- When the personal protective equipment is necessary.
- How to properly don, doff, adjust and wear the personal protective equipment.
- The limitations of the personal protective equipment.
- The proper care, maintenance, useful life and disposal of the personal protective equipment.

As part of the training, each employee will demonstrate an understanding of the items specified above and the ability to use the equipment properly before being allowed to perform work requiring the use of personal protective equipment.

Retraining will be provided whenever the required PPE changes, or when the employee demonstrates lack of knowledge concerning use of the equipment.

Personal Protective Equipment Hazard Assessment

Location:	Department:	Date/Revision Date:
Job or Task	Potential Hazards	PPE Required

Note: Under this standard, a Respiratory Protection Program is required if employees are exposed to contaminated breathing air such as dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors. This example program may be mandatory for the department and may be modified to meet the department's needs. Please reference the scope and application of the referenced OSHA standard to ensure that all requirements are being met.

Respiratory Protection Program

(Ref. 29 CFR 1910.134)

General

In the control of those occupational diseases caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays or vapors, the primary objective will be to prevent atmospheric contamination. This will be accomplished as far as feasible by accepted engineering control measures (for example, enclosure or confinement of the operation, general and local ventilation, and substitution of less toxic materials). When effective engineering controls are not feasible, or while they are being instituted, appropriate respirators will be used.

Responsibilities

All employees must follow the requirements of the respiratory protection program.

Management

- Implement the requirements of this program.
- Provide a selection of respirators as required.
- Enforce all provisions of this program.
- Appoint an individual to administer the respiratory protection program.

Program Administrator

- Review sanitation/storage procedures.
- Ensure respirators are properly stored, inspected and maintained.
- Monitor compliance for this program.
- Provide training for affected employees.
- Review compliance and ensure monthly inspection of all respirators.
- Provide respirator fit testing.

Designated Occupational Health Care Provider (HCP)

- Conduct medical aspects of program.

Program Administrator

(Insert job title) will be designated as the program administrator who is qualified by appropriate training or experience that is commensurate with the complexity of the program to administer or oversee the respiratory protection program and conduct the required evaluations of program effectiveness.

Voluntary Use of Respirators

OSHA requires that the voluntary use of respirators (i.e., when respirators are not required by the department) be controlled as strictly as if their use were required. So any employee wearing a respirator voluntarily will fall under this respiratory protection program, be issued a copy of Appendix D of 29 CFR 1910.134, and fill out a medical questionnaire (Appendix C of 29 CFR 1910.134) and have it evaluated by the designated HCP. Training will be conducted on the proper storage, cleaning and maintenance of the respirator. All steps will be taken to ensure that the respirator does not pose a health risk to the person donning it.

Exception: *Employees whose only use of respirators involves the voluntary use of filtering (nonsealing) facepieces (dust masks, with one or two straps) do not fall under this program.*

Program Evaluation

Evaluations of the workplace are necessary to ensure that the written respiratory protection program is being properly implemented. This includes consulting with employees to ensure that they are using the respirators properly. Evaluations will be conducted as necessary to ensure that the provisions of the current written program are being effectively implemented and that it continues to be effective.

Program evaluation will include discussions with employees required to use respirators to assess the employees' views on program effectiveness and to identify any problems. Any problems that are identified during this assessment will be corrected. Factors to be assessed include, but are not limited to:

- Respirator fit (including the ability to use the respirator without interfering with effective workplace performance);
- Appropriate respirator selection for the hazards to which the employee is exposed;
- Proper respirator use under the workplace conditions the employee encounters; and
- Proper respirator maintenance.

Recordkeeping

The department will retain written information regarding medical evaluations, fit testing, and the respirator program. This information will facilitate employee involvement in the respirator program, assist the department in auditing the adequacy of the program, and provide a record for compliance determinations by OSHA.

Training and Information

Effective training for employees who are required to use respirators is essential. The training must be comprehensive, understandable, and recur annually, and more often if necessary. Training will be provided prior to requiring the employee to use a respirator in the workplace. The training will ensure that each employee can demonstrate knowledge of at least the following:

- Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator.
- Limitations and capabilities of the respirator.
- How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions.
- How to inspect, put on and remove, use, and check the seals of the respirator.
- What the procedures are for maintenance and storage of the respirator.
- How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators.
- The general requirements of this program.

Retraining will be conducted annually and when:

- Changes in the workplace or the type of respirator render previous training obsolete.
- Inadequacies in the employee's knowledge or use of the respirator indicate that the employee has not retained the requisite understanding or skill.
- Other situation arises in which retraining appears necessary to ensure safe respirator use.

Training will be conducted by instructors who have adequate knowledge of OSHA training requirements. Training is divided into the following sections:

Classroom Instruction

1. Overview of the department respiratory protection program and OSHA Standard.
2. Respiratory protection safety procedures.
3. Respirator selection.
4. Respirator operation and use.
5. Why the respirator is necessary.
6. How improper fit, usage or maintenance can compromise the protective effect.
7. Limitations and capabilities of the respirator.
8. How to use the respirator effectively in emergency situations, including respirator malfunctions.
9. How to inspect, put on and remove, use, and check the seals of the respirator.
10. What the procedures are for maintenance and storage of the respirator.
11. How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators.
12. Change out schedule and procedure for air-purifying respirators (APR).

Hands-on Respirator Training

1. Respirator inspection.
2. Respirator cleaning and sanitizing.
3. Recordkeeping.
4. Respirator storage.
5. Respirator fit check.
6. Emergencies.

Basic Respiratory Protection Safety Procedures

- Only authorized and trained employees may use respirators. Those employees may use only the respirator that they have been trained on and properly fitted to use.
- Only physically qualified employees may be trained and authorized to use respirators. A preauthorization and annual certification by a qualified physician will be required and maintained. Any changes in an employee's health or physical characteristics will be reported to the program administrator and will be evaluated by a qualified physician.
- Only the proper prescribed respirator or SCBA may be used for the job or work environment. Air-purifying respirators may be worn in work environments when oxygen levels are 19.5 percent to 23.5 percent and when the appropriate cartridge (as determined by the manufacturer and approved by NIOSH) for the known hazardous substance is used. SCBAs will be worn in oxygen deficient and oxygen rich environments (below 19.5 percent or above 23.5 percent oxygen).
- Employees working in environments where a sudden release of a hazardous substance is likely will wear an appropriate respirator for that hazardous substance. (Example: Employees working in an ammonia compressor room will have an ammonia APR respirator on their person.)
- Only SCBAs will be used in oxygen deficient environments, environments with an unknown hazardous substance or unknown quantity of a known hazardous substance, or any environment that is determined "immediately dangerous to life or health" (IDLH).
- Employees with respirators loaned on permanent checkout will be responsible for the sanitation, proper storage and security. Respirators damaged by normal wear will be repaired or replaced by the department when returned.
- The last employee using a respirator or SCBA that is available for general use will be responsible for proper storage and sanitation. Monthly and after each use, all respirators will be inspected with documentation to ensure its availability for use.

- All respirators will be located in a clean, convenient and sanitary location.
- In the event that employees must enter a confined space; work in environments with hazardous substances that would be dangerous to life or health should an RPE (respiratory protection equipment) fail (a SCBA is required in this environment); and/or conduct a HazMat entry, a “buddy system” detail will be used with a “safety watchman” with constant voice, visual or signal line communication. Employees will follow the established emergency response program and/or confined space entry program when applicable.
- Management will establish and maintain surveillance of jobs and work place conditions and degree of employee exposure or stress to maintain the proper procedures and to provide the necessary RPE.
- Management will establish and maintain safe operation procedures for the safe use of RPE with strict enforcement and disciplinary action for failure to follow all general and specific safety rules. Standard operation procedures for general RPE use will be maintained as an attachment to the respiratory protection program and standard operation procedures for RPE use under emergency response situations will be maintained as an attachment to the emergency response program.

Selection of Respirators

The department has evaluated the respiratory hazards in each workplace, has identified relevant workplace and user factors, and has based respirator selection on these factors. Also included are estimates of employee exposures to respiratory hazards and an identification of the contaminant’s chemical state and physical form. This selection has included appropriate protective respirators for use in IDLH atmospheres and has limited the selection and use of air-purifying respirators. All selected respirators are NIOSH certified.

(List department air contaminants, estimates of exposure and respirators to be used with those contaminants in this section.)

Filter Classifications—These classifications are marked on the filter or filter package

N-Series: Not Oil Resistant

- Approved for non-oil particulate contaminants.
- Examples: dust, fumes, mists not containing oil.

R-Series: Oil Resistant

- Approved for all particulate contaminants, including those containing oil.
- Examples: dusts, mists, fumes.
- Time restriction of 8 hours when oils are present.

P-Series: Oil Proof

- Approved for all particulate contaminants including those containing oil.
- Examples: dust, fumes, mists.
- See manufacturer’s time use restrictions on packaging.

Respirators for IDLH Atmospheres.

The following respirators will be used in IDLH atmospheres:

- A full facepiece pressure demand SCBA certified by NIOSH for a minimum service life of 30 minutes, or
- A combination full facepiece pressure demand supplied-air respirator (SAR) with auxiliary self-contained air supply.
- Respirators provided only for escape from IDLH atmospheres shall be NIOSH-certified for escape from the atmosphere in which they will be used.

Respirators for Atmospheres That Are Not IDLH

- The respirators selected must be adequate to protect the health of the employee and ensure compliance with all other OSHA statutory and regulatory requirements under routine and reasonably foreseeable emergency situations. The respirator selected must be appropriate for the chemical state and physical form of the contaminant.

Filters, Cartridges and Canisters

Identification

All filters, cartridges and canisters will be labeled and color-coded with the NIOSH approval label. The user will ensure that the label is not removed and remains legible. A change out schedule for filters and cartridge has been developed to ensure these elements of the respirators remain effective.

Replacement

An important part of the respiratory protection program includes identifying the useful life of cartridges and filters used on air-purifying respirators. Each filter and cartridge must be equipped with an end-of-service-life indicator (ESLI) certified by NIOSH for the contaminant.

If there is no ESLI appropriate for the conditions, a change schedule for canisters and cartridges based on objective information or data that will ensure that canisters and cartridges are changed before the end of their service life will be implemented.

Change Schedule

Stock of spare filters and cartridges will be maintained to allow immediate change when required or desired by the employee.

Cartridges will be changed based on the most limiting factor below:

- Prior to expiration date.
- Manufactures recommendations for the specific use and environment.
- After each use.
- When requested by employee.
- When contaminant odor is detected.
- When restriction to air flow has occurred as evidenced by increase effort by user to breathe normally.

Cartridges will remain in their original sealed packages until needed for immediate use.

Filters will be changed on the most limiting factor below:

- Prior to expiration date.
- Manufacturer's recommendations for the specific use and environment.
- When requested by employee.
- When contaminant odor is detected.
- When restriction to air flow has occurred as evidenced by increase effort by user to breathe normally.
- When discoloring of the filter media is evident.

Filters will remain in their original sealed package until needed for immediate use.

Respiratory Protection Schedule by Job and Working Condition

The department maintains a respiratory protection schedule by job and working condition. This schedule is provided to each authorized and trained employee. The schedule provides the following information:

- Job/working conditions

- Work location
- Hazards present
- Type of respirator or SCBA required
- Type of filter/canister required
- Location of respirator or SCBA
- Filter/cartridge change out schedule

The schedule will be reviewed and updated at least annually and whenever any changes are made in the work environments, machinery, equipment or processes or if respirator different respirator models are introduced or existing models are removed.

Permanent respirator schedule assignments are:

(List as appropriate)

Respirator Fit Testing

Before an employee is required to use any respirator with a negative or positive pressure tight-fitting facepiece, the employee must be fit tested with the same make, model, style and size of respirator that will be used. The department will ensure that an employee using a tight-fitting facepiece respirator is fit tested prior to initial use of the respirator, whenever a different respirator facepiece (size, style, model or make) is used, and at least annually thereafter.

The department has established a record of the qualitative and quantitative fit tests administered to employees including:

- The name or identification of the employee tested.
- Type of fit test performed.
- Specific make, model, style and size of respirator tested.
- Date of test.
- The pass/fail results for QLFTs or the fit factor and strip chart recording or other recording of the test results for QNFTs.

Additional fit tests will be conducted whenever the employee reports or the department, physician, supervisor or program administrator makes visual observations of changes in the employee's physical condition that could affect respirator fit. Such conditions include, but are not limited to, facial scarring, dental changes, cosmetic surgery or an obvious change in body weight.

If after passing a QLFT or QNFT, the employee notifies the department, program administrator, supervisor or physician that the fit of the respirator is unacceptable, the employee will be given a reasonable opportunity to select a different respirator facepiece and to be retested.

Types of Fit Tests

The fit test shall be administered using an OSHA-accepted QLFT or QNFT protocol. The OSHA-accepted QLFT and QNFT protocols and procedures are contained in Appendix A of the OSHA Respiratory Protection Standard, 29 CFR 1910.134.

- **QLFT** may only be used to fit test negative pressure air-purifying respirators that must achieve a fit factor of 100 or less.
- If the fit factor, as determined through an OSHA-accepted QNFT protocol, is equal to or greater than 100 for tight-fitting half facepieces, or equal to or greater than 500 for tight-fitting full facepieces, the QNFT has been passed with that respirator.
- **Fit testing of tight-fitting** atmosphere-supplying respirators and tight-fitting powered air-purifying respirators will be accomplished by performing quantitative or qualitative fit testing in the negative pressure mode, regardless of the mode of operation (negative or positive pressure) that is used for respiratory protection.

- **Qualitative fit testing** of these respirators will be accomplished by temporarily converting the respirator user's actual facepiece into a negative pressure respirator with appropriate filters or by using an identical negative pressure air-purifying respirator facepiece with the same sealing surfaces as a surrogate for the atmosphere-supplying or powered air-purifying respirator facepiece.
- **Quantitative fit testing** of these respirators will be accomplished by modifying the facepiece to allow sampling inside the facepiece in the breathing zone of the user, midway between the nose and mouth. This requirement will be accomplished by installing a permanent sampling probe onto a surrogate facepiece or by using a sampling adapter designed to temporarily provide a means of sampling air from inside the facepiece.
- Any modifications to the respirator facepiece for fit testing will be completely removed and the facepiece restored to NIOSH approved configuration before that facepiece can be used in the workplace.

Fit test records will be retained for respirator users until the next fit test is administered. Written materials required to be retained will be made available upon request to affected employees.

Respirator Operation and Use

Respirators will only be used following the respiratory protection safety procedures established in this program. The operations and use manuals for each type of respirator will be maintained by the program administrator and be available to all qualified users.

Surveillance by the direct supervisor will be maintained of work area conditions and degree of employee exposure or stress. When there is a change in work area conditions or degree of employee exposure or stress that may affect respirator effectiveness, the department will re-evaluate the continued effectiveness of the respirator.

For continued protection of respirator users, the following general use rules apply:

- Users will not remove respirators while in a hazardous environment.
- Respirators are to be stored in sealed containers out of harmful atmospheres.
- Store respirators away from heat and moisture.
- Store respirators such that the sealing area does not become distorted or warped.
- Store respirator such that the facepiece is protected.

Facepiece Seal Protection

The department does not permit respirators with tight-fitting facepieces to be worn by employees who have:

- Facial hair that comes between the sealing surface of the facepiece and the face or that interferes with valve function.
- Any condition that interferes with the face-to-facepiece seal or valve function.

If an employee wears corrective glasses or goggles or other personal protective equipment, the department will ensure that such equipment is worn in a manner that does not interfere with the seal of the facepiece to the face of the user.

Continuing Effectiveness of Respirators

The department will ensure that employees leave the respirator use area:

- To wash their faces and respirator facepieces as necessary to prevent eye or skin irritation associated with respirator use.
- If they detect vapor or gas breakthrough, changes in breathing resistance, or leakage of the facepiece.
- To replace the respirator or the filter, cartridge or canister elements.

If the employee detects vapor or gas breakthrough, changes in breathing resistance or leakage of the facepiece, the department will replace or repair the respirator before allowing the employee to return to the work area.

Procedures for IDLH atmospheres

For all IDLH atmospheres, the department will ensure that:

- One employee or, when needed, more than one employee is located outside the IDLH atmosphere.
- Visual, voice or signal line communication is maintained between the employees in the IDLH atmosphere and the employees located outside the IDLH atmosphere.
- The employees located outside the IDLH atmosphere are trained and equipped to provide effective emergency rescue.
- The employer or designee is notified before the employees located outside the IDLH atmosphere enter the IDLH atmosphere to provide emergency rescue.
- The employer or designee authorized to do so by the department, once notified, provides necessary assistance appropriate to the situation.

Employees located outside the IDLH atmospheres will be equipped with:

- Pressure demand or other positive pressure SCBAs, or a pressure demand or other positive pressure supplied-air respirator with auxiliary SCBA; and either
- Appropriate retrieval equipment for removing the employees who enters these hazardous atmospheres where retrieval equipment would contribute to the rescue of the employees and would not increase the overall risk resulting from entry; or
- Equivalent means for rescue where retrieval equipment is not required.

Cleaning and Disinfecting

The department will provide each respirator user with a respirator that is clean, sanitary and in good working order. The department will ensure that respirators are cleaned and disinfected using the standard operating procedure for cleaning and disinfecting.

The respirators will be cleaned and disinfected when:

- Respirators issued for the exclusive use of an employee will be cleaned and disinfected as often as necessary to be maintained in a sanitary condition.
- Respirators issued to more than one employee will be cleaned and disinfected before being worn by different individuals.
- Respirators maintained for emergency use will be cleaned and disinfected after each use.
- Respirators used in fit testing and training will be cleaned and disinfected after each use.

Cleaning and storage of respirators assigned to specific employees is the responsibility of that employee.

Respirator Inspection

All respirators/SCBAs will be inspected. Should any defects be noted, the respirator/SCBA will be taken to the program administrator. Damaged respirators will be repaired or replaced. The inspection of respirators will be the responsibility of the employee.

Respirators will be inspected as follows:

- All respirators used in routine situations will be inspected before each use and during cleaning.
- All respirators maintained for use in emergency situations will be inspected at least monthly and in accordance with the manufacturer's recommendations, and will be checked for proper function before and after each use.
- Emergency escape-only respirators will be inspected before being carried into the workplace for use.

Respirator inspections include the following:

- A check of respirator function, tightness of connections, and the condition of the various parts including, but not limited to, the facepiece, head straps, valves, connecting tube, and cartridges, canisters or filters.
- Check of elastomeric parts for pliability and signs of deterioration.
- Self-contained breathing apparatus will be inspected monthly. Air and oxygen cylinders will be maintained in a fully charged state and will be recharged when the pressure falls to 90 percent of the manufacturer's recommended pressure level. The department will determine that the regulator and warning devices function properly

For emergency use respirators, the additional requirements apply:

- Certify the respirator by documenting the date the inspection was performed, the name (or signature) of the person who made the inspection, the findings, required remedial action, and a serial number or other means of identifying the inspected respirator.
- Provide this information on a tag or label that is attached to the storage compartment for the respirator, is kept with the respirator, or is included in inspection reports stored as paper or electronic files. This information will be maintained until replaced following a subsequent certification.

Respirator Storage

Respirators are to be stored as follows:

- All respirators will be stored to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture and damaging chemicals, and they will be packed or stored to prevent deformation of the facepiece and exhalation valve.
- Emergency respirators will be:
 - Kept accessible to the work area.
 - Stored in compartments or in covers that are clearly marked as containing emergency respirators.
 - Stored in accordance with any applicable manufacturer's instructions.

Repair of Respirators

Respirators that fail an inspection or are otherwise found to be defective will be removed from service to be discarded, repaired or adjusted in accordance with the following procedures:

- Repairs or adjustments to respirators are to be made only by persons appropriately trained to perform such operations and will use only the respirator manufacturer's NIOSH-approved parts designed for the respirator.
- Repairs shall be made according to the manufacturer's recommendations and specifications for the type and extent of repairs to be performed.
- Reducing and admission valves, regulators, and alarms will be adjusted or repaired only by the manufacturer or a technician trained by the manufacturer.

Breathing Air Quality and Use

The department will ensure that compressed air, compressed oxygen, liquid air and liquid oxygen used for respiration accords with the following specifications:

- Compressed and liquid oxygen must meet the United States Pharmacopoeia requirements for medical or breathing oxygen.
- Compressed breathing air must meet at least the requirements for Grade D breathing air described in ANSI/Compressed Gas Association Commodity Specification for Air, G-7.1-1989, to include:
 - Oxygen content (v/v) of 19.5–23.5 percent.
 - Hydrocarbon (condensed) content of 5 milligrams per cubic meter of air or less.
 - Carbon monoxide (CO) content of 10 ppm or less.
 - Carbon dioxide content of 1,000 ppm or less.
 - Lack of noticeable odor.

- Compressed oxygen will not be used in atmosphere-supplying respirators that have previously used compressed air.
- Oxygen concentrations greater than 23.5 percent are used only in equipment designed for oxygen service or distribution.
- Cylinders used to supply breathing air to respirators meet the following requirements:
 - Cylinders are tested and maintained as prescribed in the Shipping Container Specification Regulations of the Department of Transportation (49 CFR part 173 and part 178).
 - Cylinders of purchased breathing air have a certificate of analysis from the supplier that the breathing air meets the requirements for Grade D breathing air.
 - Moisture content in breathing air cylinders does not exceed a dew point of –50 degrees F (–45.6 degrees C) at 1 atmosphere pressure.
 - Breathing air couplings are incompatible with outlets for nonrespirable worksite air or other gas systems. No asphyxiating substance will be introduced into breathing air lines.
 - Breathing gas containers will be marked in accordance with the NIOSH respirator certification standard, 42 CFR Part 84.

Medical Evaluation Protocol

Medical Evaluation Required

Employees hired by the (*insert FD name*) Department shall undergo a physical examination to determine their suitability for the fire service, including their ability to wear a SCBA or any other type of respirator required by the job.

Using a respirator may place a physiological burden on employees that varies with the type of respirator worn, the job and workplace conditions in which the respirator is used, and the medical status of the employee. The department provides a medical evaluation through a Physician or Other Licensed Health Care Professional (PLHCP) to determine the employee's ability to use a respirator, before the employee is fit tested or required to use the respirator in the workplace.

Medical Evaluation Procedures

The PLHCP, (*insert medical clinic/physician name*) will provide medical evaluations and examinations. Medical evaluation procedures are as follows:

(NOTE: Choose **Option 1** if firefighters will receive an initial medical examination by the PLHCP. Choose **Option 2** if firefighters will initially fill out the medical questionnaire at work (to then be evaluated by the PLHCP to determine the need for an actual medical exam.))

Option 1: Medical examinations to determine the firefighter's ability to wear an SCBA will be provided by the (*insert medical clinic/physician name*).

The designated Occupational Health Care Provider, (*insert medical clinic/physician name*) will provide the firefighter with a medical questionnaire required by the OSHA Respiratory Protection Standard 29 CFR 1910.134, Appendix C (a copy of this questionnaire is in Appendix A of this program).

Option 2: The (*insert FD name*) Department will provide the firefighter with the medical questionnaire (found in Appendix A of this program or in Appendix C of the 1910.134).

The questionnaire is sent confidentially to the designated PLHCP for review, and when evaluated and determined by the Physician (or other licensed health care provider), will receive a medical examination. Note: A medical examination is provided for an employee who gives a positive response to any question among questions in Part B of the questionnaire.

Firefighters will be permitted to fill out the questionnaire during work time.

Administration of the Medical Questionnaire and Examinations

The medical questionnaire and examinations will be administered confidentially during the employee's normal working hours or at a time and place convenient to the employee. The medical questionnaire will be administered in a manner that ensures that the employee understands its content.

Supplemental information for the Physician/Occupational Health Care Provider

The Program Administrator has provided the (*insert medical clinic/physician name*) with the following information. This information must be provided before the Physician (or other licensed health care provider) makes a recommendation concerning an employee's ability to use a respirator:

- A copy of this program;
- A copy of the OSHA Respiratory Protection Standard 29 CFR 1910.134;
- Information on the type and weight of the respirator used by the employee;
- Information on the frequency and length of respirator use (including use for rescue and escape);
- The expected physical work effort;
- Additional protective clothing and equipment to be worn (such as turn-out gear); and
- The potential temperature and humidity extremes and information on turn-out gear used for firefighting.

Note: Any supplemental information provided previously to the Physician regarding an employee need not be provided for a subsequent medical evaluation if the information and the Physician remain the same.

Follow-up Medical Examination

Firefighters will receive follow-up medical evaluations as required by the OSHA Respiratory Protection Standard (a positive response to any question among questions 1 through 8 in Section 2, Part A of the questionnaire), and/or as deemed necessary by the (*insert medical clinic/physician name*). The follow-up medical examination shall include any medical tests, consultations, or diagnostic procedures that the Physician deems necessary to make a final determination.

The (*insert FD name*) Department will provide the employee with an opportunity to discuss the questionnaire and examination results with the Physician.

Medical Determination

The (*insert medical clinic/physician name*) will provide the Program Administrator and firefighter with a written recommendation regarding the firefighter's ability to wear a respirator. Only the following information will be provided:

- A statement on the firefighter's ability to wear a respirator (any limitations on respirator use related to the medical condition of the employee, or relating to the workplace conditions in which the respirator will be used);
- The need for follow-up medical evaluation if any are necessary;
- A statement that the medical provider has provided the firefighter with a copy of the recommendation; and
- If the respirator is a negative pressure respirator and the physician finds a medical condition that may place the employee's health at increased risk if the respirator is used, the employer shall provide a Powered-Air Purifying Respirator (PAPR) if the physician's medical evaluation finds that the employee can use such a respirator; if a subsequent medical evaluation finds that the employee is medically able to use a negative pressure respirator, then the employer is no longer required to provide a PAPR.

Additional Medical Evaluations

Additional medical evaluations will be provided to firefighters under the following circumstances:

- The firefighter reports signs and/or symptoms related to their ability to wear to use an SCBA or other type of respirator, such as shortness of breath, dizziness, chest pains, or wheezing;
- An employee reports medical signs or symptoms that are related to ability to use a respirator;
- The (*insert medical clinic/physician name*), or supervisor, informs the respirator program administrator that the firefighter needs to be reevaluated;
- Information from the respiratory protection program, including observations made during fit testing and program evaluation, indicates a need for reevaluation; and
- A change occurs in workplace conditions (physical work effort, protective clothing, temperature, etc.) that may result in a substantial increase in the physiological burden placed on an employee.

Medical Records

Records of medical evaluations will be retained and made available in accordance with 29 CFR 1910.1020.

The Fire Department will provide employees access to their medical records. Access means the right and opportunity to examine and copy records.

Additional Requirements Beyond OSHA

The *(insert medical clinic/physician name)* shall also apply the medical evaluations in accordance with the standards established by NFPA 1582, the Standard on Comprehensive Occupational Medical Program for Fire Departments. The medical evaluation of a candidate required by this NFPA standard will include a medical history, examination, and any laboratory tests required to detect physical or medical condition(s) that could adversely affect his/her ability to safely perform the essential job tasks. This includes annual pulmonary function testing (spirometry) amongst other tests.

Appendix B to Sec. 1910.134:

Fit Testing and Seal Check

Types of Fit Tests

The fit test shall be administered using an OSHA-accepted Qualitative Fit-Testing (QLFT) or Quantitative Fit-Testing (QNFT) protocol. The OSHA-accepted QLFT and QNFT protocols and procedures are contained in Appendix A of OSHA Standard 29 CFR 1910.134.

- **Qualitative Fit-Testing (QLFT)** may be used to fit test negative pressure air-purifying respirators, if they will only be used in atmospheres less than ten times the PEL, since the QLFT protocols are only validated to achieve a fit factor of 100 or less. For greater concentrations, QNFT must be used. See Table 1 for a summary.
- **Quantitative Fit-Testing (QNFT):** When QNFT is used, all full-facepiece respirators must meet or exceed a fit factor of 500, while quarter- and half-mask respirators must meet or exceed 100.
 - If the fit factor, as determined through an OSHA-accepted QNFT protocol, is equal to or greater than 100 for tight-fitting half face pieces, or equal to or greater than 500 for tight-fitting full face pieces, the QNFT has been passed with that respirator.
- For positive pressure, atmosphere-supplying respirators, either QLFT or QNFT may be used. These respirators that pass either fit test may be used at the higher protection factors assigned to these respirators.
- *Fit test in Negative Pressure Mode:* Fit testing of tight-fitting atmosphere-supplying respirators and tight-fitting powered air-purifying respirators shall be accomplished by performing quantitative or qualitative fit testing in the negative pressure mode, regardless of the mode of operation (negative or positive pressure) that is used for respiratory protection.
 - Qualitative fit testing of these respirators shall be accomplished by temporarily converting the respirator user's actual face piece into a negative pressure respirator with appropriate filters, or by using an identical negative pressure air-purifying respirator face piece with the same sealing surfaces as a surrogate for the atmosphere-supplying or powered air-purifying respirator face piece.
 - Quantitative fit testing of these respirators shall be accomplished by modifying the face piece to allow sampling inside the face piece in the breathing zone of the user, midway between the nose and mouth. This requirement shall be accomplished by installing a permanent sampling probe onto a surrogate face piece, or by using a sampling adapter designed to temporarily provide a means of sampling air from inside the face piece.
 - Any modifications to the respirator face piece for fit testing shall be completely removed, and the face piece restored to NIOSH approved configuration, before that face piece can be used in the workplace.

Table 1 Acceptable Fit-Testing Methods		
	QLFT	QNFT
Half-Face, Negative Pressure, APR (<100 fit factor)	Yes	Yes
Full-Face, Negative Pressure, APR (<100 fit factor) used in atmospheres up to 10 times the PEL	Yes	Yes
Full-Face, Negative Pressure, APR (>100 fit factor)	No	Yes
PAPR	Yes	Yes
Supplied-Air Respirators (SAR), or SCBA used in Negative Pressure (Demand Mode) (>100 fit factor)	No	Yes
Supplied-Air Respirators (SAR), or SCBA used in Positive Pressure (Pressure Demand Mode)	Yes	Yes
SCBA - Structural Fire Fighting, Positive Pressure	Yes	Yes
SCBA/SAR - IDLH, Positive Pressure	Yes	Yes
Mouthbit Respirators	Fit-testing Not Required	
Loose-fitting Respirators (e.g., hoods, helmets)		

Fit Test Records

The (*insert FD name*) Department documents a record of the qualitative and quantitative fit tests administered to the firefighters that includes:

- The name or identification of the firefighter tested;
- Type of fit test performed;
- Specific make, model, style, and size of respirator tested;
- Date of test; and
- The pass/fail results for QLFTs or the fit factor and strip chart recording or other recording of the test results for QNFTs.

Fit test records will be retained for respirator users until the next fit test is administered.

Written materials required to be retained will be made available upon request to affected employees.

Example Fit Test Record

Date: (of fit test) _____
Firefighter: _____
(SCBA, SAR, APR) Manufacturer: _____
Model: _____
NIOSH Approval Number: _____

Face piece size:
Small _____ Medium _____ Large _____

Conditions which could affect respirator fit:

- Clean Shaven Facial Scar Dentures Absent
 1 -2 Day Beard Growth 2+ Day Growth
 Moustache Glasses

Comments: _____

Fit Test Protocol Used _____

- Pass Fail

Comments: _____

Employee Acknowledgment of Test Results:

Employee Name (Print): _____

Employee Signature _____ Date: _____

Test Conducted By (Print:): _____

(Signature): _____

NOTE: Appendix A of the OSHA Respiratory Protection Standard contains all the mandatory fit test protocols. One of those protocols must be used.

Seal Check Procedures (from mandatory Appendix B-1 to § 1910.134)

The individual who uses a tight-fitting respirator is to perform a user seal check to ensure that an adequate seal is achieved each time the respirator is put on. Either the positive and negative pressure checks listed in this appendix, or the respirator manufacturer's recommended user seal check method shall be used. User seal checks are not substitutes for qualitative or quantitative fit tests.

I. Facepiece Positive and/or Negative Pressure Checks

A. *Positive pressure check.* Close off the exhalation valve and exhale gently into the facepiece. The face fit is considered satisfactory if a slight positive pressure can be built up inside the facepiece without any evidence of outward leakage of air at the seal. For most respirators this method of leak testing requires the wearer to first remove the exhalation valve cover before closing off the exhalation valve and then carefully replacing it after the test.

B. *Negative pressure check.* Close off the inlet opening of the canister or cartridge(s) by covering with the palm of the hand(s) or by replacing the filter seal(s), inhale gently so that the facepiece collapses slightly, and hold the breath for ten seconds. The design of the inlet opening of some cartridges cannot be effectively covered with the palm of the hand. The test can be performed by covering the inlet opening of the cartridge with a thin latex or nitrile glove. If the facepiece remains in its slightly collapsed condition and no inward leakage of air is detected, the tightness of the respirator is considered satisfactory.

II. Manufacturer's Recommended User Seal Check Procedures

The respirator manufacturer's recommended procedures for performing a user seal check may be used instead of the positive and/or negative pressure check procedures provided that the employer demonstrates that the manufacturer's procedures are equally effective.

Appendix C to Sec. 1910.134:

OSHA Respirator Medical Evaluation Questionnaire (Mandatory)

To the employer: Answers to questions in Section 1, and to question 9 in Section 2 of Part A, do not require a medical examination.

To the employee:

Can you read (circle one): Yes/No

Your employer must allow you to answer this questionnaire during normal working hours, or at a time and place that is convenient to you. To maintain your confidentiality, your employer or supervisor must not look at or review your answers, and your employer must tell you how to deliver or send this questionnaire to the health care professional who will review it.

Part A. Section 1. (Mandatory) The following information must be provided by every employee who has been selected to use any type of respirator (please print).

1. Today's date: _____
 2. Your name: _____
 3. Your age (to nearest year): _____
 4. Sex (circle one): Male/Female
 5. Your height: _____ ft. _____ in.
 6. Your weight: _____ lbs.
 7. Your job title: _____
 8. A phone number where you can be reached by the health care professional who reviews this questionnaire (include the Area Code): _____
 9. The best time to phone you at this number: _____
 10. Has your employer told you how to contact the health care professional who will review this questionnaire (circle one): Yes/No
 11. Check the type of respirator you will use (you can check more than one category):
 - a. _____ N, R, or P disposable respirator (filter-mask, non-cartridge type only).
 - b. _____ Other type (for example, half- or full-facepiece type, powered-air purifying, supplied-air, self-contained breathing apparatus).
 12. Have you worn a respirator (circle one): Yes/No
- If "yes," what type(s): _____
-

Part A. Section 2. (Mandatory) Questions 1 through 9 below must be answered by every employee who has been selected to use any type of respirator (please circle "yes" or "no").

1. Do you *currently* smoke tobacco, or have you smoked tobacco in the last month: Yes/No
2. Have you *ever had* any of the following conditions?
 - a. Seizures: Yes/No
 - b. Diabetes (sugar disease): Yes/No
 - c. Allergic reactions that interfere with your breathing: Yes/No
 - d. Claustrophobia (fear of closed-in places): Yes/No
 - e. Trouble smelling odors: Yes/No
3. Have you *ever had* any of the following pulmonary or lung problems?
 - a. Asbestosis: Yes/No

- b. Asthma: Yes/No
 - c. Chronic bronchitis: Yes/No
 - d. Emphysema: Yes/No
 - e. Pneumonia: Yes/No
 - f. Tuberculosis: Yes/No
 - g. Silicosis: Yes/No
 - h. Pneumothorax (collapsed lung): Yes/No
 - i. Lung cancer: Yes/No
 - j. Broken ribs: Yes/No
 - k. Any chest injuries or surgeries: Yes/No
 - l. Any other lung problem that you've been told about: Yes/No
4. Do you *currently* have any of the following symptoms of pulmonary or lung illness?
- a. Shortness of breath: Yes/No
 - b. Shortness of breath when walking fast on level ground or walking up a slight hill or incline: Yes/No
 - c. Shortness of breath when walking with other people at an ordinary pace on level ground: Yes/No
 - d. Have to stop for breath when walking at your own pace on level ground: Yes/No
 - e. Shortness of breath when washing or dressing yourself: Yes/No
 - f. Shortness of breath that interferes with your job: Yes/No
 - g. Coughing that produces phlegm (thick sputum): Yes/No
 - h. Coughing that wakes you early in the morning: Yes/No
 - i. Coughing that occurs mostly when you are lying down: Yes/No
 - j. Coughing up blood in the last month: Yes/No
 - k. Wheezing: Yes/No
 - l. Wheezing that interferes with your job: Yes/No
 - m. Chest pain when you breathe deeply: Yes/No
 - n. Any other symptoms that you think may be related to lung problems: Yes/No
5. Have you *ever had* any of the following cardiovascular or heart problems?
- a. Heart attack: Yes/No
 - b. Stroke: Yes/No
 - c. Angina: Yes/No
 - d. Heart failure: Yes/No
 - e. Swelling in your legs or feet (not caused by walking): Yes/No
 - f. Heart arrhythmia (heart beating irregularly): Yes/No
 - g. High blood pressure: Yes/No
 - h. Any other heart problem that you've been told about: Yes/No
6. Have you *ever had* any of the following cardiovascular or heart symptoms?
- a. Frequent pain or tightness in your chest: Yes/No
 - b. Pain or tightness in your chest during physical activity: Yes/No
 - c. Pain or tightness in your chest that interferes with your job: Yes/No
 - d. In the past two years, have you noticed your heart skipping or missing a beat: Yes/No
 - e. Heartburn or indigestion that is not related to eating: Yes/No
 - f. Any other symptoms that you think may be related to heart or circulation problems: Yes/No
7. Do you *currently* take medication for any of the following problems?
- a. Breathing or lung problems: Yes/No
 - b. Heart trouble: Yes/No
 - c. Blood pressure: Yes/No
 - d. Seizures: Yes/No
8. If you've used a respirator, have you *ever had* any of the following problems? (If you've never used a respirator, check the following space and go to question 9:)
- a. Eye irritation: Yes/No
 - b. Skin allergies or rashes: Yes/No
 - c. Anxiety: Yes/No

- d. General weakness or fatigue: Yes/No
 - e. Any other problem that interferes with your use of a respirator: Yes/No
9. Would you like to talk to the health care professional who will review this questionnaire about your answers to this questionnaire: Yes/No

Questions 10 to 15 below must be answered by every employee who has been selected to use either a full-facepiece respirator or a self-contained breathing apparatus (SCBA). For employees who have been selected to use other types of respirators, answering these questions is voluntary.

10. Have you ever lost vision in either eye (temporarily or permanently): Yes/No
11. Do you *currently* have any of the following vision problems?
- a. Wear contact lenses: Yes/No
 - b. Wear glasses: Yes/No
 - c. Color blind: Yes/No
 - d. Any other eye or vision problem: Yes/No
12. Have you *ever had* an injury to your ears, including a broken eardrum: Yes/No
13. Do you *currently* have any of the following hearing problems?
- a. Difficulty hearing: Yes/No
 - b. Wear a hearing aid: Yes/No
 - c. Any other hearing or ear problem: Yes/No
14. Have you *ever had* a back injury: Yes/No
15. Do you *currently* have any of the following musculoskeletal problems?
- a. Weakness in any of your arms, hands, legs, or feet: Yes/No
 - b. Back pain: Yes/No
 - c. Difficulty fully moving your arms and legs: Yes/No
 - d. Pain or stiffness when you lean forward or backward at the waist: Yes/No
 - e. Difficulty fully moving your head up or down: Yes/No
 - f. Difficulty fully moving your head side to side: Yes/No
 - g. Difficulty bending at your knees: Yes/No
 - h. Difficulty squatting to the ground: Yes/No
 - i. Climbing a flight of stairs or a ladder carrying more than 25 lbs: Yes/No
 - j. Any other muscle or skeletal problem that interferes with using a respirator: Yes/No

Part B Any of the following questions, and other questions not listed, may be added to the questionnaire at the discretion of the health care professional who will review the questionnaire.

1. In your present job, are you working at high altitudes (over 5,000 feet) or in a place that has lower than normal amounts of oxygen: Yes/No
- If “yes,” do you have feelings of dizziness, shortness of breath, pounding in your chest, or other symptoms when you’re working under these conditions: Yes/No
2. At work or at home, have you ever been exposed to hazardous solvents, hazardous airborne chemicals (e.g., gases, fumes, or dust), or have you come into skin contact with hazardous chemicals: Yes/No

If “yes,” name the chemicals if you know them _____

3. Have you ever worked with any of the materials, or under any of the conditions, listed below:
- a. Asbestos: Yes/No
 - b. Silica (e.g., in sandblasting): Yes/No
 - c. Tungsten/cobalt (e.g., grinding or welding this material): Yes/No
 - d. Beryllium: Yes/No
 - e. Aluminum: Yes/No
 - f. Coal (for example, mining): Yes/No
 - g. Iron: Yes/No

- h. Tin: Yes/No
- i. Dusty environments: Yes/No
- j. Any other hazardous exposures: Yes/No

If "yes," describe these exposures: _____

- 4. List any second jobs or side businesses you have: _____

- 5. List your previous occupations: _____

- 6. List your current and previous hobbies: _____

- 7. Have you been in the military services? Yes/No
If "yes," were you exposed to biological or chemical agents (either in training or combat): Yes/No
- 8. Have you ever worked on a HAZMAT team? Yes/No
- 9. Other than medications for breathing and lung problems, heart trouble, blood pressure, and seizures mentioned earlier in this questionnaire, are you taking any other medications for any reason (including over-the-counter medications): Yes/No
If "yes," name the medications if you know them: _____

- 10. Will you be using any of the following items with your respirator(s)?
 - a. HEPA Filters: Yes/No
 - b. Canisters (for example, gas masks): Yes/No
 - c. Cartridges: Yes/No
- 11. How often are you expected to use the respirator(s) (circle "yes" or "no" for all answers that apply to you)?:
 - a. Escape only (no rescue): Yes/No
 - b. Emergency rescue only: Yes/No
 - c. Less than 5 hours per week: Yes/No
 - d. Less than 2 hours per day: Yes/No
 - e. 2 to 4 hours per day: Yes/No
 - f. Over 4 hours per day: Yes/No

- 12. During the period you are using the respirator(s), is your work effort:
 - a. Light (less than 200 kcal per hour): Yes/No
If "yes," how long does this period last during the average shift: _____ hrs. _____ mins.
Examples of a light work effort are **sitting** while writing, typing, drafting, or performing light assembly work; or **standing** while operating a drill press (1-3 lbs.) or controlling machines.

- b. Moderate (200 to 350 kcal per hour): Yes/No
If "yes," how long does this period last during the average shift: _____ hrs. _____ mins.
Examples of moderate work effort are **sitting** while nailing or filing; **driving** a truck or bus in urban traffic; **standing** while drilling, nailing, performing assembly work, or transferring a moderate load (about 35 lbs.) at trunk level; **walking** on a level surface about 2 mph or down a 5-degree grade about 3 mph; or **pushing** a wheelbarrow with a heavy load (about 100 lbs.) on a level surface.

- c. Heavy (above 350 kcal per hour): Yes/No
If "yes," how long does this period last during the average shift: _____ hrs. _____ mins.
Examples of heavy work are **lifting** a heavy load (about 50 lbs.) from the floor to your waist or shoulder; working on a loading dock; **shoveling**; **standing** while bricklaying or chipping castings; **walking** up an 8-degree grade about 2 mph; climbing stairs with a heavy load (about 50 lbs.).

13. Will you be wearing protective clothing and/or equipment (other than the respirator) when you're using your respirator: Yes/No

If "yes," describe this protective clothing and/or equipment: _____

14. Will you be working under hot conditions (temperature exceeding 77 deg. F): Yes/No

15. Will you be working under humid conditions: Yes/No

16. Describe the work you'll be doing while you're using your respirator(s):

17. Describe any special or hazardous conditions you might encounter when you're using your respirator(s) (for example, confined spaces, life-threatening gases):

18. Provide the following information, if you know it, for each toxic substance that you'll be exposed to when you're using your respirator(s):

Name of the first toxic substance: _____

Estimated maximum exposure level per shift: _____

Duration of exposure per shift: _____

Name of the second toxic substance: _____

Estimated maximum exposure level per shift: _____

Duration of exposure per shift: _____

Name of the third toxic substance: _____

Estimated maximum exposure level per shift: _____

Duration of exposure per shift: _____

The name of any other toxic substances that you'll be exposed to while using your respirator:

19. Describe any special responsibilities you'll have while using your respirator(s) that may affect the safety and well-being of others (for example, rescue, security):

Appendix D to Sec. 1910.134 (Mandatory): Information for Employees Using Respirators When Not Required Under the Standard

Respirators are an effective method of protection against designated hazards when properly selected and worn. Respirator use is encouraged, even when exposures are below the exposure limit, to provide an additional level of comfort and protection for workers. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the worker. Sometimes, workers may wear respirators to avoid exposures to hazards, even if the amount of hazardous substance does not exceed the limits set by OSHA standards. If your employer provides respirators for your voluntary use, or if you provide your own respirator, you need to take certain precautions to be sure that the respirator itself does not present a hazard.

You should do the following:

1. Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirators limitations.
2. Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you.
3. Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke.
4. Keep track of your respirator so that you do not mistakenly use someone else's respirator.

*Note: The following example policy is based on the referenced standard. The standard does not require a written program, but as a **best practice**, it has been put into writing in this manual. Please modify or delete content to these policies as deemed necessary. Please reference the standard for all requirements that may be applicable to the department.*

Walking and Working Surfaces Policy

(Ref. 29 CFR 1910.21–30)

Purpose

Slips, trips and falls constitute the majority of general industry accidents. They cause 15 percent of all accidental deaths and are second only to motor vehicles as a cause of fatalities.

Responsibilities

Safety Coordinator

- Conduct routine inspections to ensure all walking and working surfaces are free from slip, trip and fall hazards.
- Conduct training for employees who use ladders, scaffolds or other elevated platforms.
- Conduct training in use and inspection of fall prevention and arrest equipment.
- Ensure proper ladders are used for specific tasks.
- Provide adequate fall prevention and arrest equipment.

Employees

- Maintain work areas free from slip, trip and fall hazards.
- Correct or immediately report slip, trip and fall hazards.
- Use proper ladders for assigned tasks.

Hazard Control

Engineering Controls

- Proper construction of elevated locations.
- Use of hand, knee and toe rails where required.
- Proper design of fixed ladders and stairs.
- Adequate lighting in all areas.

Administrative Controls

- Training for all employees who work at elevated location.
- Routine inspections of ladders, stairs, walking and working surfaces.
- Following housekeeping program requirements.
- Immediate cleanup of material spills.

General Requirements

Housekeeping

Simple housekeeping methods can prevent slip-trip-fall hazards:

- All work areas, passageways, storerooms and service rooms will be kept clean and orderly and in a sanitary condition.

- The floor of every area will be maintained in a clean and, so far as possible, a dry condition. Where wet processes are used, drainage will be maintained and gratings, mats or raised platforms will be provided.
- Every floor, work area and passageway will be kept free from protruding nails, splinters, holes or loose boards.

Aisles and Passageways

- Aisles and passageways will be kept clear and in good repair with no obstruction across or in aisles that could create a hazard.
- Permanent aisles and passageways will be appropriately marked.
- Where mechanical handling equipment is used, aisles will be sufficiently wide. Improper aisle widths coupled with poor housekeeping and vehicle traffic can cause injury to employees, damage the equipment and material, and can limit egress in emergencies.

Floor Loading Protection

Load rating limits will be marked on plates and conspicuously posted. It will be prohibited to place, or cause or permit to be placed, a load greater than that for which such floor or roof is approved on any floor or roof of a building or other structure.

Guarding Floor and Wall Openings

Floor openings and holes, wall openings and holes, and the open sides of platforms may create hazards. People may fall through the openings or over the sides to the level below. Objects such as tools or parts may fall through the holes and strike people or damage machinery on lower levels.

Protection for Floor Openings

Standard railings will be provided on all exposed sides of a stairway opening, except at the stairway entrance. For infrequently used stairways, where traffic across the opening prevents the use of a fixed standard railing, the guard will consist of a hinged floor opening cover of standard strength and construction along with removable standard railings on all exposed sides, except at the stairway entrance.

A “standard railing” consists of toprail, midrail and posts, and will have a vertical height of 42 inches nominal from the upper surface of toprail to floor, platform, runway, or ramp level. Nominal height of midrail is 21 inches. A “standard toeboard” is 4 inches nominal in vertical height, with not more than ¼-inch clearance above floor level.

Floor openings may be covered rather than guarded with rails. When the floor opening cover is removed, a temporary guardrail will be in place or an attendant will be stationed at the opening to warn personnel.

Every floor hole into which people can accidentally walk will be guarded by either:

- A standard railing with toeboard, or
- A floor hole cover of standard strength and construction. While the cover is not in place, the floor hole will be constantly attended by someone or will be protected by a removable standard railing.

Protection of Open-Sided Floors, Platforms and Runways

Every open-sided floor or platform 4 feet or more above adjacent floor or ground level will be guarded by a standard railing on all open sides, except where there is an entrance to a ramp, stairway or fixed ladder. The railing will be provided with a toeboard wherever, beneath the open sides:

- People can pass,
- There is moving machinery, or
- There is equipment with which falling materials could create a hazard.

Every runway will be guarded by a standard railing, or the equivalent, on all sides 4 feet or more above floor or ground level. Wherever tools, machine parts, or materials are likely to be used on the runway, a toeboard will also be provided on each exposed side.

Stairway Railings and Guards

Every flight of stairs with four or more risers will have standard stair railings or standard handrails as specified below. Stair width is measured clear of all obstructions except handrails.

- On stairways less than 44 inches wide having both sides enclosed, at least one handrail will be affixed, preferably on the right side descending.
- On stairways less than 44 inches wide with one open side, at least one stair rail will be affixed on the open side.
- On stairways less than 44 inches wide having both sides open, two stair rails will be provided, one for each side.
- On stairways more than 44 inches wide, but less than 88 inches, one handrail will be provided on each enclosed side and one stair rail on each open side.
- On stairways 88 inches or more in width, one handrail will be provided on each enclosed side, one stair rail on each open side, and one intermediate stair rail placed approximately in the middle of the stairs.

A “standard stair railing” (stair rail) will be of construction similar to a standard railing, but the vertical height will be not more than 34 inches nor less than 30 inches from the upper surface of the top rail to the surface of the tread in line with the face of the riser at the forward edge of the tread.

Fixed Industrial Stairs

Fixed industrial stairs will be provided for access to and from places of work where operations necessitate regular travel between levels. Requirements include:

- Fixed industrial stairs will be strong enough to carry five times the normal anticipated live load.
- At the very minimum, any fixed stairway will be able to carry safely a moving concentrated load of 1,000 pounds.
- All fixed stairways will have a minimum width of 22 inches.
- Fixed stairs will be installed at angles to the horizontal of between 30 and 50 degrees.
- Vertical clearance above any stair tread to an overhead obstruction will be at least 7 feet measured from the leading edge of the tread.

Portable Ladders

The chief hazard when using a ladder is falling. A poorly designed, maintained or improperly used ladder may collapse under the load placed upon it and cause the employee to fall.

A ladder is an appliance consisting of two side rails joined at regular intervals by crosspieces on which a person may step to ascend or descend.

The various types of portable ladders include:

- Stepladder—A self-supporting portable ladder, nonadjustable in length, having flat steps and hinged back.
- Single Ladder—A non-self-supporting portable ladder, nonadjustable in length, consisting of but one section. Its size is designed by overall length of the side rail.
- Extension Ladder—A non-self-supporting portable ladder adjustable in length.

Portable Ladder Requirements

- Portable stepladders longer than 20 feet will not be used.
- Stepladders will be equipped with a metal spreader or locking device of sufficient size and strength to securely hold the front and back sections in open position.
- Single ladders longer than 30 feet will not be used.
- Extension ladders longer than 60 feet will not be used.
- Ladders will be maintained in good condition at all times.
- Ladders will be inspected frequently and those that have developed defects will be withdrawn from service for re-

pair or destruction and tagged or marked as “Dangerous, Do Not Use.”

Proper use of ladders is essential in preventing accidents. Even a good ladder can be a serious safety hazard when used by workers in a dangerous way.

Portable Ladder Safety Precautions

- Ladders will be placed with a secure footing, or they will be lashed, or held in position.
- Ladders used to gain access to a roof or other area will extend at least 3 feet above the point of support.
- The foot of a ladder will, where possible, be used at such a pitch that the horizontal distance from the top support to the foot of the ladder is one-quarter of the working length of the ladder (the length along the ladder between the foot and the support).
- The worker will always face the ladder when climbing up or down.
- Short ladders will not be spliced together to make long ladders.
- Ladders will never be used in the horizontal position as scaffolds or work platforms.
- The top of a regular stepladder will not be used as a step.
- Use both hands when climbing or descending ladders.
- Metal ladders will never be used near electrical equipment.

Fixed Ladders

A fixed ladder is a ladder permanently attached to a structure, building or equipment. A point to remember is that fixed ladders, with a length of more than 20 feet to a maximum unbroken length of 30 feet will be equipped with cages or a ladder safety device. A cage is a guard that is fastened to the side rails of the fixed ladder or to the structure to encircle the climbing space of the ladder for the safety of the person who must climb the ladder.

Cages will extend a minimum of 42 inches above the top of a landing, unless other acceptable protection is provided.

Cages will extend down the ladder to a point not less than 7 feet and no more than 8 feet above the base of the ladder.

Manually Propelled Mobile Ladder Stands and Scaffolds (Towers)

- All exposed surfaces of mobile ladder stands and scaffolds will be free from sharp edges, burrs or other safety hazards.
- The maximum work height will not exceed four times the minimum base dimension unless outriggers, guys or braces are added to provide stability.
- This standard requires guardrails and toeboards for work levels 10 feet or more above the ground or floor.

Other Working Surfaces

Portable dockboards (bridge plates) will be secured in position, either by being anchored or equipped with devices that will prevent their slipping. Movement of the dockboard during material handling operations has resulted in forklifts overturning, or falling off the dock, often with serious injury or death to the driver and damage to equipment and material.

- Handholds will be provided on portable dockboards to permit safe handling when the dockboard must be repositioned or relocated.
- Portable dockboards will be inspected prior to use.
- When not in use, portable dockboards will be stored in a manner to prevent damage.

*Note: The following section contains example training matrixes. Please add, modify or delete content to each matrix as deemed necessary to meet your department's needs. The matrixes and course descriptions are a **best practice**.*

Section 3

Training and Instruction

Employee Training

Orientation/Initial Training

All employees will go through an orientation training program that covers safe work practices, OSHA requirements, and safety policies and procedures. Depending on the employee's job or career track, the employee will then be released to the safety coordinator for on-the-job training (OJT), combination OJT/classroom, or other job progression training schedule. All employees will also be on a probation period dictated by human resources and management.

Orientation Training Matrix—Initial (Example)

Day 1	Day 2	Day 3	Day 4	Day 5
Welcome and Introductions	Respiratory Protection*	Noise and Hearing Protection*	Bloodborne Pathogens*	Emergency Response*
Department Safety Policy and Procedures	Respiratory Protection*	Diving Safe Practices	Bloodborne Pathogens*	CPR/First Aid
Department Safety Policy and Procedures	PPE*	Fire Extinguishers*	Compressed Gas Cylinders	CPR/First Aid
Accident Reporting and Investigation	Hazard Communication*	Fire Prevention*	Confined Space	CPR/First Aid
Workers' Compensation, Return to Work	Hazard Communication*	Emergency Action*	Confined Space	CPR/First Aid
Substance Abuse Policy/Disciplinary Policy	Hand and Power Tools	Fleet Management	Confined Space	CPR/First Aid
Walking and Working Surfaces	Electrical Safety*	Ladder Safety	Confined Space	CPR/First Aid
Housekeeping	LOTO*	Heat and Cold Stress	Confined Space	Summary

Note: Orientation topics will be modified as needed to best meet the needs of the employees and the Company. Each topic will be covered for a minimum of 30 minutes. Some topics may require several hours depending on the employee's assigned job duties and responsibilities.

*Required by OSHA—initial training (dependent on assigned job duties and responsibilities)

On-the-Job Training (OJT)

Each department has an OJT matrix that each new employee goes through before being released. The matrix for each department will be reviewed and updated as necessary by management.

OJT Matrix (Example)

Job: All			Department:		
Conducted by: Safety Coordinator			Location:		
Week 1	Monday	Tuesday	Wednesday	Thursday	Friday
	OJT—safe work practices	OJT—safe work practices	OJT—safe work practices	OJT—safe work practices	OJT—safe work practices

Note: Dependent on assigned job duties and responsibilities. Training may be a few days to several weeks.

Annual Refresher Training

Annual refresher training will be conducted by each department on required OSHA and other safety and health topics along with job safe practices. The following matrix will be updated and modified based on department needs. This will be the responsibility of management.

Annual Refresher Training Matrix (Example)

Job: All		Department:		
Trainer: Safety Coordinator		Location:		
Day 1	Day 2	Day 3	Day 4	Day 5
Lockout/Tagout*	PPE	Workers' Compensation, Return to Work	Confined Space	Safe Work Practices
Hearing Conservation*	Fire Extinguishers*	Substance Abuse Policy/Disciplinary Policy	Confined Space	Safe Work Practices
Respiratory Protection*	Walking and Working Surfaces	Heat and Cold Stress	Confined Space	Safe Work Practices
Respiratory Protection*	Emergency Action	Housekeeping	Confined Space	Safe Work Practices
Diving Safe Practices	Fire Prevention	Compressed Gas Cylinders	Emergency Response*	Safe Work Practices
Compressed Gas Cylinders	Electrical Safety	Ladder Safety	Chemicals	Safe Work Practices
Accident Reporting	Fleet Management	Workers' Compensation, Return to Work	Chemicals	Safe Work Practices
Hand and Power Tools	Bloodborne Pathogens*	Substance Abuse Policy/Disciplinary Policy	Chemicals	Summary

Each topic will be covered for a minimum of 30 minutes or based on need. All employees will receive annual refresher training. **Note:** Dependent on assigned job duties and responsibilities.

*Required by OSHA annually

**Required by OSHA every three years; OJT is optional.

Note: Fire extinguisher training is required annually when you require your employees to use them—not required if you don't. Machinery and machine guarding training is required annually if the department has mechanical power presses.

*Note: The following section contains example job progression training and skills assessments and matrixes. Please add, modify or delete content to each assessment and matrix as deemed necessary to meet your department's needs. These are a **best practice** only.*

Job Progression Training and Skills Assessment

The following departments are responsible for ensuring that the identified jobs follow their job progression matrix. They will also conduct a skills assessment to ensure adequate job progression. The skills assessment will be conducted at least annually.

Department	Job

Job Progression Matrix

Job:	Department:
Year 1	
Year 2	
Year 3	
Year 4	
Year 5	
Year 6	
Year 7	
Year 8	

The skills assessment form for each employee will be maintained in the personnel files.

*Note: The following section contains example periodic training schedules. Please add, modify or delete content to each schedule as deemed necessary to meet your department's needs. These are a **best practice** only.*

Periodic Training

Periodic safety training, which includes daily, weekly and monthly safety talks, will be conducted within specific departments along with prejob briefings.

Daily Safety Talks

The following departments will conduct daily five-minute safety talks (can be used in lieu of prejob briefings):

Topic choices are up to the supervisor or *(Insert job title of person responsible)*. A roster will be maintained for the personnel files.

Weekly Safety Talks

The following departments will conduct weekly safety talks:

Topic choices are up to the supervisor or *(Insert job title of person responsible)*. A roster will be maintained for the personnel files.

Monthly Safety Talks

The following departments will conduct monthly safety talks:

Topic choices are up to the supervisor or *(Insert job title of person responsible)*. A roster will be maintained for the personnel files.

*Note: Many OSHA standards require training, and some do not require documentation that the training was conducted. Documenting all training is a **best practice**. Many training records are required to be kept for three years; refer to the relevant OSHA standard for required recordkeeping timelines. If training is only required initially and then as needed thereafter, as a **best practice**, maintain your training records as deemed appropriate for your department.*

Employee Training Roster/Certificate of Training

Topic: _____ Date: _____

Trainer: _____

Employee Name:

Department:

Signature:

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Management Training

To ensure that managers have the skill sets required for their respective duties and responsibilities, they will receive at least (*insert number of hours*) hours annually of safety and health continuing education training. The following matrix will be updated and modified based on department and departmental needs.

This will be the responsibility of: (*Insert job title of person responsible*).

Management Training Matrix (Example)

Day 1	Day 2	Day 3	Day 4	Day 5
Welcome and Introductions	Management Skills	Risk Management	Safety Programs Refresher	Job Progression
Workers' Compensation	Management Skills	Risk Management	Safety Programs Refresher	Job Progression
Workers' Compensation	Management Skills	Risk Management	Safety Programs Refresher	Skills Assessment
Accident Investigations and Reporting	Management Skills	Risk Control	Safety Programs Refresher	Skills Assessment
Accident Review Boards	Risk Financing	Risk Control	Safety Programs Refresher	Job Safety Analyses
OSHA 300 Log, DART, and TCR	Risk Financing	Preventive Maintenance	Safety Programs Refresher	Job Safety Analyses
Safety Management	Union Process	Inspections	Prejob Briefings	Safe Work Practices
Safety Management	Disciplinary Policy/Alcohol and Drug Policy	Fleet Management	Safety Talks	Summary and Closing Remarks

Supervisor Training

To ensure that supervisors have the skill sets required for their respective duties and responsibilities, they will receive at least (*insert number of hours*) hours annually of safety and health continuing education training. The following matrix will be updated and modified based on department and departmental needs.

This will be the responsibility of: (*Insert job title of person responsible*).

Supervisor Training Matrix (Example) Department: _____

Day 1	Day 2	Day 3	Day 4	Day 5
Welcome and Introductions	OSHA 300 Log, DART and TCR	Union Process	Safe Work Practices	Skills Assessment
Workers' Compensation	Leadership Skills	Conducting Inspections	Safe Work Practices	Skills Assessment
Workers' Compensation	Leadership Skills	Safety Programs—Refresher	Safe Work Practices	Skills Assessment
Accident Reporting	Leadership Skills	Safety Programs—Refresher	Safe Work Practices	Job Progression
Supervisor Accident Investigations	Safety Management	Safety Programs—Refresher	Safe Work Practices	Job Progression
Supervisor Accident Investigations	Risk Control	Safety Programs—Refresher	Preventive Maintenance	Job safety Analyses
Accident Reviews and Corrective Action	Risk Management	Safety Programs—Refresher	Inspections	Safety Talks
Accident Reviews and Corrective Action	Disciplinary Policy/Alcohol and Drug Policy	Safety Programs—Refresher	Prejob Briefings	Summary and Closing Remarks

Section 4

Reference Material

N.C. Department of Labor

A–Z Topics

http://www.nclabor.com/osha/etta/A_to_Z_Topics/a_to_z_toc.htm

OSH Division Compliance Material

<http://www.nclabor.com/osha/compliance/manuals.htm>

PowerPoint Presentations

<http://www.nclabor.com/osha/etta/presentations/presentations.htm>

Publications

<http://www.nclabor.com/pubs.htm>

Safety and Health Programs

http://www.nclabor.com/osha/consult/sample_programs.htm

Training Requirements

<http://www.nclabor.com/osha/etta/indguide/ig49.pdf>

Federal Occupational Safety and Health Administration

Publications

<http://www.osha.gov/pls/publications/publication.html>

Firefighter Specific Publications:

OSHA's publication 3644 "*Firefighting Precautions at Facilities with Combustible Dust*"

https://www.osha.gov/Publications/OSHA_3644.pdf

"*Fire Service Features of Buildings and Fire Protection Systems*"

<http://www.osha.gov/Publications/3256-07N-2006-English.html>

"*Best Practices for Protecting EMS Responders during Treatment and Transport of Victims of Hazardous Substance Releases*"

<http://www.osha.gov/Publications/OSHA3370-protecting-EMS-respondersSM.pdf>

Hazard alert warning on the hazard of exposure to diesel engine exhaust

https://www.osha.gov/dts/hazardalerts/diesel_exhaust_hazard_alert.html

Carbon Monoxide Poisoning fact sheet

http://www.osha.gov/OshDoc/data_General_Facts/carbonmonoxide-factsheet.pdf

Training Resources

<http://www.osha.gov/dte/index.html>

Electronic Tools

Methicillin-resistant Staphylococcus aureus (MRSA)

<https://www.osha.gov/SLTC/etools/hospital/hazards/mro/mrsa/mrsa.html>

Fire Service Specific Websites

Federal Emergency Management Administration, United States Fire Administration (FEMA /USFA)

Is an entity of the Department of Homeland Security's Federal Emergency Management Agency. The USFA for the Fire Service provides training and education, firefighter fatality statistics.

<http://www.usfa.fema.gov/fireservice/>

FireFighterCloseCalls.com. A website devoted to firefighter safety.

<http://www.firefighterclosecalls.com/home.php>

National Fire Fighter Near-Miss Reporting System. The National Fire Fighter Near-Miss Reporting System is a voluntary, confidential, non-punitive and secure reporting system with the goal of improving firefighter safety.

<http://www.firefighternearmiss.com/>

National Fire Protection Association (NFPA)—provides fire codes and standards, safety information, training, and research.

<http://www.nfpa.org/>

National Institute of Occupational Safety and Health (NIOSH)—Fire Fighter Fatality Investigation and Prevention Program. This web page provides access to NIOSH investigation reports and other firefighter safety resources.

<http://www.cdc.gov/niosh/fire/>

NIOSH also has a safety and health topic page that provides a wealth of information for fire departments.

<http://www.cdc.gov/niosh/firefighters/>

North Carolina Department of Insurance, Office of State Fire Marshal (NCDOI, OSFM) has six divisions including the Fire and Rescue Training and Inspections Division and the Fire and Rescue Commission Division.

<http://www.ncdoi.com/OSFM/>

Vent.Enter.Search.com The Lost Art of the Fire Service. The goal of the operators of this website is to help ensure firefighters have the knowledge and education to make tactical, yet safe decisions.

<http://www.vententersearch.com/>

Document References

California State Fire Marshal's Office

An example training program on photovoltaics

www.osfm.fire.ca.gov/training/photovoltaics.php

Centers for Disease Control (CDC)

"Guidelines for Preventing the Transmission of Mycobacterium tuberculosis in Health-Care Settings", 2005

"Guidelines for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings", 2007

"Guidelines for Disinfection and Sterilization in Healthcare Facilities, 2008"

FEMA / USFA

"Firefighter Fatalities in the United States—2011"

A Guide for Understanding and Implementing An Ergonomics Program in Your Department"

<http://www.usfa.fema.gov/downloads/pdf/publications/fa-161.pdf>

U.S. Fire Administration Health and Wellness Guide for the Volunteer Fire and Emergency Services

http://www.usfa.fema.gov/downloads/pdf/publications/fa_321.pdf

International Association of Fire Chiefs (IAFC)

"Guide to Model Policies and Procedures for Emergency Vehicle Safety"

<http://www.iafc.org/Operations/content.cfm?ItemNumber=1374>

International Association of Fire Fighters (IAFF)

"2000 Death and Injury Survey"

Best Practices for Emergency Vehicle and Roadway Operations Safety in the Emergency Services"

developed between the DHS/USFA, and the IAFF

<http://www.iaff.org/hs/EVSP/guides.html>

N.C. Office of Emergency Medical Services,

Division of Health Service Regulation, Department of Health and Human Services

EMS credentialing and compliance

<http://www.ncdhhs.gov/dhsr/EMS/credcomp.htm>

NFPA

Fire Analysis and Research Division

"U.S. Firefighter Deaths Related to Training, 2001–2010", Rita F. Fahy, Paul R. LeBlanc, and Joseph L. Molis

"Fire Fighter Safety and Emergency Response for Solar Power Systems" by Casey C. Grant, P.E., Fire Protection Research Foundation

<http://www.nfpa.org/assets/files/PDF/Research/FFTacticsSolarPower.pdf>

Electric Vehicle Safety Training project
<http://www.evsaftytraining.org/>

NIOSH

“Criteria for a Recommended Standard: Occupational Exposure to Hot Environments” (Revised Criteria 1986)
Elements of Ergonomics Programs
<http://www.cdc.gov/niosh/topics/ergonomics/> **and** <http://www.cdc.gov/niosh/docs/97-117/>

Monterey County Fire Service

Highway Traffic Safety Guidelines
<http://www.mcftoa.org/wp-content/uploads/2011/03/Highway-Traffic-Safety-Guidelines-Revised-04-01-10.pdf>

Oregon OSHA

Ergonomics:
<http://www.cbs.state.or.us/external/osha/subjects/ergonomics.html>

OSFM

“Standard Operating Guidelines for Member Safety”
It contains standard operating guidelines (SOGs) templates that may be used as guidance for fire and rescue departments.

Phoenix Fire Department

Several good examples of standard operating procedures for fire and rescue operations.
<http://phoenix.gov/fire/sop.html>

U.S. Department of Transportation

Federal Highway Administration
Part VI of the Manual on Universal Traffic Control Devices (1988 edition, Revision 3, or Millennium edition)

USFA

United States Fire Administration—International Association of Fire Fighters (USFA—IAFF)
USFA-IAFF Emergency Incident Rehabilitation Manual.pdf
FA-112, Guide to Developing an Emergency Service Infection Control Program
<http://www.usfa.fema.gov/downloads/pdf/publications/fa-112.pdf>

Vincent Dunn

Safe Work Practices for Working on an Aerial Ladder
<http://www.firenuggets.com/dunndispatch/dunndispatch4.htm>

Washington State Department of Labor and Industries, State of Washington OSHA (WISHA)

Safety Standards for Firefighters
<http://apps.leg.wa.gov/WAC/default.aspx?cite=296-305>

Section 5

Facility Inspection Forms

- Comprehensive Safety Inspection Checklist
- Monthly Building Inspection Form

Comprehensive Safety Inspection Checklist

Yes No NA

Employer Posting

- Is the required NCDOL workplace poster displayed in a prominent location where all employees are likely to see it?
- Are emergency telephone numbers posted where they can be readily found in case of emergency?
- Where employees may be exposed to any toxic substances or harmful physical agents, has appropriate information concerning employee access to medical and exposure records and safety data sheets (SDS) been posted or otherwise made readily available to affected employees?
- Are signs concerning "exiting from buildings," room capacities, floor loading, biohazards, exposures to X-ray, microwave, or other harmful radiation or substances posted where appropriate?
- Is the summary of occupational injuries and illnesses posted February through April?

Recordkeeping

- Are all occupational injuries and illnesses, except minor injuries requiring only first aid, being recorded as required on the OSHA 300 log?
- Are employee medical records and records of employee exposure to hazardous substances or harmful physical agents up-to-date and in compliance with current OSHA standards?
- Are employee training records kept and accessible for review by employees, when required by OSHA standards?
- Have arrangements been made to maintain required records for the legal period of time for each specific type of record? (Some records must be maintained for at least 40 years.)
- Are operating permits and records up to date for such items as elevators, air pressure tanks and liquefied petroleum gas tanks?

Safety and Health Program

- Do you have an active safety and health program in operation that deals with general safety and health program elements as well as the management of hazards specific to your worksite?
- Is one person clearly responsible for the overall activities of the safety and health program?
- Do you have a working procedure for handling in-house employee complaints regarding safety and health?

Medical Services and First Aid

- Is there a hospital, clinic or infirmary for medical care in proximity of your workplace?
- If medical and first aid facilities are not in proximity of your workplace, is at least one employee on each shift currently qualified to render first aid?
- Have all employees who are expected to respond to medical emergencies as part of their work: (1) received first aid training; (2) had hepatitis B vaccination made available to them; (3) had appropriate training on procedures to protect them from bloodborne pathogens, including universal precautions; and (4) have available and understand how to use appropriate personal protective equipment to protect against exposure to bloodborne diseases?
- Where employees have had an exposure incident involving bloodborne pathogens, did you provide an immediate post-exposure medical evaluation and follow-up?
- Are medical personnel readily available for advice and consultation on matters of employees' health?
- Are emergency phone numbers posted?

Yes No NA

- Are first aid kits easily accessible to each work area, with necessary supplies available, periodically inspected and replenished as needed?
- Have first aid kit supplies been approved by a physician, indicating that they are adequate for a particular area or operation?
- Are means provided for quick drenching or flushing of the eyes and body in areas where corrosive liquids or materials are handled?

Fire Protection

- Is your local fire department well acquainted with your facilities, its location and specific hazards?
- If you have a fire alarm system, is it certified as required?
- If you have a fire alarm system, is it tested at least annually?
- If you have interior standpipes and valves, are they inspected regularly?
- If you have outside private fire hydrants, are they flushed at least once a year and on a routine preventive maintenance schedule?
- Are fire doors and shutters in good operating condition?
- Are fire doors and shutters unobstructed and protected against obstructions, including their counterweights?
- Are fire door and shutter fusible links in place?
- Are automatic sprinkler system water control valves, air and water pressure checked weekly/periodically as required?
- Is the maintenance of automatic sprinkler systems assigned to responsible people or to a sprinkler contractor?
- Are sprinkler heads protected by metal guards, when exposed to physical damage?
- Is proper clearance maintained below sprinkler heads?
- Are portable fire extinguishers provided in adequate number and type?
- Are fire extinguishers mounted in readily accessible locations?
- Are fire extinguishers recharged regularly and noted on the inspection tag?
- Are employees periodically instructed in the use of extinguishers and fire protection procedures?

Personal Protective Equipment and Clothing

- Are protective goggles or face shields provided and worn where there is any danger of flying particles or corrosive materials?
- Are approved safety glasses required to be worn at all times in areas where there is a risk of eye injuries such as punctures, abrasions, contusions or burns?
- Are employees who need corrective lenses (glasses or contacts) in working environments having harmful exposures required to wear only approved safety glasses or protective goggles or use other medically approved precautionary procedures?
- Are protective gloves, aprons, shields or other means provided and required where employees could be cut or where there is reasonably anticipated exposure to corrosive liquids, chemicals, blood or other potentially infectious materials? (See 29 CFR 1910.1030(b) for the definition of "other potentially infectious materials.")
- Are hard hats provided and worn where danger of falling objects exists?
- Are hard hats inspected periodically for damage to the shell and suspension system?

Yes No NA

- Is appropriate foot protection required where there is the risk of foot injuries from hot, corrosive or poisonous substances, falling objects, and crushing or penetrating actions?
- Are approved respirators provided for regular or emergency use where needed?
- Is all protective equipment maintained in a sanitary condition and ready for use?
- Do you have eyewash facilities and a quick drench shower within the work area where employees are exposed to injurious corrosive materials?
- Where special equipment is needed for electrical workers, is it available?
- Where food or beverages are consumed on the premises, are they consumed in areas where there is no exposure to toxic material, blood or other potentially infectious materials?
- Is protection against the effects of occupational noise exposure provided when sound levels exceed those of the OSHA noise standard?
- Are adequate work procedures, protective clothing and equipment provided and used when cleaning up spilled toxic or otherwise hazardous materials and liquids?
- Are there appropriate procedures in place for disposing of or decontaminating personal protective equipment contaminated with, or reasonably anticipated to be contaminated with, blood or other potentially infectious materials?

General Work Environment

- Are all worksites clean, sanitary and orderly?
- Are work surfaces kept dry or appropriate means taken to ensure the surfaces are slip-resistant?
- Are all spilled hazardous materials or liquids, including blood and other potentially infectious materials, cleaned up immediately and according to proper procedures?
- Are combustible scrap, debris and waste stored safely and removed from the worksite promptly?
- Is all regulated waste, as defined in the OSHA bloodborne pathogens standard (29 CFR 1910.1030), discarded according to federal, state and local regulations?
- Are accumulations of combustible dust routinely removed from elevated surfaces including the overhead structure of buildings?
- Is combustible dust cleaned up with a vacuum system to prevent the dust going into suspension?
- Is metallic or conductive dust prevented from entering or accumulating on or around electrical enclosures or equipment?
- Are covered metal waste cans used for oily and paint-soaked waste?
- Are all oil and gas fired devices equipped with flame failure controls that will prevent flow of fuel if pilots or main burners are not working?
- Are paint spray booths, dip tanks, etc., cleaned regularly?
- Are the minimum number of toilets and washing facilities provided?
- Are all toilets and washing facilities clean and sanitary?
- Are all work areas adequately illuminated?
- Are pits and floor openings covered or otherwise guarded?

Walkways

- Are aisles and passageways kept clear?
- Are aisles and walkways marked as appropriate?

Yes No NA

- Are wet surfaces covered with nonslip materials?
- Are holes in the floor, sidewalk or other walking surfaces repaired properly, covered or otherwise made safe?
- Is there safe clearance for walking in aisles where motorized or mechanical handling equipment is operating?
- Are materials or equipment stored in such a way that sharp projectiles will not interfere with the walkway?
- Are spilled materials cleaned up immediately?
- Are changes of direction or elevation readily identifiable?
- Are aisles or walkways that pass near moving or operating machinery, welding operations, or similar operations arranged so employees will not be subjected to potential hazards?
- Is adequate headroom provided for the entire length of any aisle or walkway?
- Are standard guardrails provided wherever aisle or walkway surfaces are elevated more than 30 inches above any adjacent floor or the ground?
- Are bridges provided over conveyors and similar hazards?

Floor and Wall Openings

- Are floor openings guarded by a cover, guardrail or equivalent on all sides (except at entrance to stairways or ladders)?
- Are toeboards installed around the edges of permanent floor openings (where people may pass below the opening)?
- Are skylight screens of such construction and mounting that they will withstand a load of at least 200 pounds?
- Is the glass in the windows, doors, glass walls, etc., which are subject to human impact, of sufficient thickness and type for the condition of use?
- Are grates or similar type covers over floor openings such as floor drains of such design that foot traffic or rolling equipment will not be affected by the grate spacing?
- Are unused portions of service pits and pits not actually in use either covered or protected by guardrails or equivalent?
- Are manhole covers, trench covers and similar covers, plus their supports, designed to carry a truck rear axle load of at least 20,000 pounds when located in roadways and subject to vehicle traffic?
- Are floor or wall openings in fire-resistive construction provided with doors or covers compatible with the fire rating of the structure and provided with a self-closing feature when appropriate?

Stairs and Stairways

- Are standard stair rails or handrails on all stairways having four or more risers?
- Are all stairways at least 22 inches wide?
- Do stairs have landing platforms not less than 30 inches in the direction of travel and extend 22 inches in width at every 12 feet or less of vertical rise?
- Do stairs angle no more than 50 and no less than 30 degrees?
- Are stairs of hollow-pan type treads and landings filled to the top edge of the pan with solid material?
- Are step risers on stairs uniform from top to bottom?
- Are steps on stairs and stairways designed or provided with a surface that renders them slip resistant?

Yes No NA

- Are stairway handrails located between 30 and 34 inches above the leading edge of stair treads?
- Do stairway handrails have at least 3 inches of clearance between the handrails and the wall or surface they are mounted on?
- Where doors or gates open directly on a stairway, is there a platform provided so the swing of the door does not reduce the width of the platform to less than 21 inches?
- Are stairway handrails capable of withstanding a load of 200 pounds, applied within 2 inches of the top edge, in any downward or outward direction?
- Where stairs or stairways exit directly into any area where vehicles may be operated, are adequate barriers and warnings provided to prevent employees stepping into the path of traffic?
- Do stairway landings have a dimension measured in the direction of travel at least equal to the width of the stairway?
- Is the vertical distance between stairway landings limited to 12 feet or less?

Elevated Surfaces

- Are signs posted, when appropriate, showing the elevated surface load capacity?
- Are surfaces elevated more than 30 inches above the floor or ground provided with standard guardrails?
- Are all elevated surfaces (beneath which people or machinery could be exposed to falling objects) provided with standard 4-inch toeboards?
- Is a permanent means of access and egress provided to elevated storage and work surfaces?
- Is required headroom provided where necessary?
- Is material on elevated surfaces piled, stacked or racked in a manner to prevent it from tipping, falling, collapsing, rolling or spreading?
- Are dockboards or bridge plates used when transferring materials between docks and trucks or rail cars?

Exiting or Egress

- Are all exits marked with an exit sign and illuminated by a reliable light source?
- Are the directions to exits, when not immediately apparent, marked with visible signs?
- Are doors, passageways or stairways that are neither exits nor access to exits and which could be mistaken for exits appropriately marked "NOT AN EXIT," "TO BASEMENT," "STOREROOM," etc.?
- Are exit signs provided with the word "EXIT" in lettering at least 5 inches high and the stroke of the lettering at least ½-inch wide?
- Are exit doors side-hinged?
- Are all exits kept free of obstructions?
- Are at least two means of egress provided from elevated platforms, pits or rooms where the absence of a second exit would increase the risk of injury from hot, poisonous, corrosive, suffocating, flammable or explosive substances?
- Are there sufficient exits to permit prompt escape in case of emergency?
- Are special precautions taken to protect employees during construction and repair operations?
- Is the number of exits from each floor of a building, and the number of exits from the building itself, appropriate for the building occupancy load?
- Are exit stairways that are required to be separated from other parts of a building enclosed by at least two-hour fire-resistive construction in buildings more than four stories in height, and not less than one-hour fire-resistive construction elsewhere?

Yes No NA

- Where ramps are used as part of required exiting from a building, is the ramp slope limited to 1 foot vertical and 12 feet horizontal?
- Where exiting will be through frameless glass doors, glass exit doors, storm doors, etc., are the doors fully tempered and do they meet the safety requirements for human impact?

Exit Doors

- Are doors that are required to serve as exits designed and constructed so that the way of exit travel is obvious and direct?
- Are windows that could be mistaken for exit doors made inaccessible by means of barriers or railings?
- Are exit doors openable from the direction of exit travel without the use of a key or any special knowledge or effort when the building is occupied?
- Is a revolving, sliding or overhead door prohibited from serving as a required exit door?
- Where panic hardware is installed on a required exit door, will it allow the door to open by applying a force of 15 pounds or less in the direction of the exit traffic?
- Are doors on cold storage rooms provided with an inside release mechanism that will release the latch and open the door even if it's padlocked or otherwise locked on the outside?
- Where exit doors open directly onto any street, alley or other area where vehicles may be operated, are adequate barriers and warnings provided to prevent employees stepping into the path of traffic?
- Are doors that swing in both directions and are located between rooms where there is frequent traffic provided with viewing panels in each door?

Portable Ladders

- Are all ladders maintained in good condition, joints between steps and side rails tight, all hardware and fittings securely attached, and moveable parts operating freely without binding or undue play?
- Are nonslip safety feet provided on each ladder?
- Are nonslip safety feet provided on each metal or rung ladder?
- Are ladder rungs and steps free of grease and oil?
- Is it prohibited to place a ladder in front of doors opening toward the ladder except when the door is blocked open, locked or guarded?
- Is it prohibited to place ladders on boxes, barrels or other unstable bases to obtain additional height?
- Are employees instructed to face the ladder when ascending or descending?
- Are employees prohibited from using ladders that are broken, missing steps, rungs, or cleats, broken side rails, or other faulty equipment?
- Are employees instructed not to use the top step of ordinary stepladders as a step?
- When portable rung ladders are used to gain access to elevated platforms, roofs, etc., does the ladder always extend at least 3 feet above the elevated surface?
- Is it required that when portable rung or cleat type ladders are used, the base is so placed that slipping will not occur, or it is latched or otherwise held in place?
- Are portable metal ladders marked with signs reading "CAUTION—Do Not Use Around Electrical Equipment" or equivalent wording?
- Are employees prohibited from using ladders as guys, braces, skids, gin poles or for other than their intended purposes?
- Are employees instructed to only adjust extension ladders while standing at a base (not while standing on the ladder or from a position above the ladder)?

Yes No NA

- Are metal ladders inspected for damage?
- Are the rungs of ladders uniformly spaced at 12 inches, center to center?

Hand Tools and Equipment

- Are all tools and equipment (both department- and employee-owned) used by employees at their work- place in good condition?
- Are hand tools such as chisels and punches that develop mushroomed heads during use reconditioned or replaced as necessary?
- Are broken or fractured handles on hammers, axes and similar equipment replaced promptly?
- Are worn or bent wrenches replaced regularly?
- Are appropriate handles used on files and similar tools?
- Are employees made aware of the hazards caused by faulty or improperly used hand tools?
- Are appropriate safety glasses, face shields, etc., used while using hand tools or other equipment that might produce flying materials or be subject to breakage?
- Are jacks checked periodically to ensure they are in good operating condition?
- Are tool handles wedged tightly in the head of all tools?
- Are tool cutting edges kept sharp so the tool will move smoothly without binding or skipping?
- Are tools stored in a dry, secure location where they won't be tampered with?
- Is eye and face protection used when driving hardened or tempered studs or nails?

Portable (Power-Operated) Tools and Equipment

- Are grinders, saws and similar equipment provided with appropriate safety guards?
- Are power tools used with the correct shield, guard or attachment, recommended by the manufacturer?
- Are portable circular saws equipped with guards above and below the base shoe?
- Are circular saw guards checked to ensure they are not wedged up, thus leaving the lower portion of the blade unguarded?
- Are rotating or moving parts of equipment guarded to prevent physical contact?
- Are all cord-connected, electrically operated tools and equipment effectively grounded or of the ap- proved double-insulated type?
- Are effective guards in place over belts, pulleys, chains, and sprockets on equipment such as concrete mixers and air compressors?
- Are portable fans provided with full guards or screens having openings ½ inch or less?
- Is hoisting equipment available and used for lifting heavy objects, and are hoist ratings and characteris- tics appropriate for the task?
- Are ground-fault circuit interrupters provided on all temporary electrical 15 and 20 ampere circuits used during periods of construction?
- Are pneumatic and hydraulic hoses on power-operated tools checked regularly for deterioration or damage?

Abrasive Wheel Equipment—Grinders

- Is the work rest used and kept adjusted to within ⅛ inch of the wheel?
- Is the adjustable tongue on the top side of the grinder used and kept adjusted to within ¼ inch of the wheel?

Yes No NA

- Do side guards cover the spindle, nut, flange and 75 percent of the wheel diameter?
- Are bench and pedestal grinders permanently mounted?
- Are goggles or face shields always worn when grinding?
- Is the maximum RPM rating of each abrasive wheel compatible with the RPM rating of the grinder motor?
- Are fixed or permanently mounted grinders connected to their electrical supply system with metallic conduit or other permanent wiring method?
- Does each grinder have an individual on and off control switch?
- Is each electrically operated grinder effectively grounded?
- Before new abrasive wheels are mounted, are they visually inspected and ring tested?
- Are dust collectors and powered exhausts provided on grinders used in operations that produce large amounts of dust?
- Are splash guards mounted on grinders that use coolant to prevent the coolant from reaching employees?
- Is cleanliness maintained around grinders?

Powder-Actuated Tools

- Are employees who operate powder-actuated tools trained in their use?
- Is each powder-actuated tool stored in its own locked container when not being used?
- Are powder-actuated tools left unloaded until they are actually ready to be used?
- Are powder-actuated tools inspected for obstructions or defects each day before use?
- Do powder-actuated tool operators have and use appropriate personal protective equipment such as hard hats, safety goggles, safety shoes and ear protectors?

Machine Guarding

- Is there a training program to instruct employees on safe methods of machine operation?
- Is there adequate supervision to ensure that employees are following safe machine operating procedures?
- Is there a regular program of safety inspection of machinery and equipment?
- Is all machinery and equipment kept clean and properly maintained?
- Is sufficient clearance provided around and between machines to allow for safe operations, set up and servicing, material handling, and waste removal?
- Are equipment and machinery securely placed and anchored when necessary to prevent tipping or other movement that could result in personal injury?
- Is there a power shut-off switch within reach of the operator's position at each machine?
- Can electric power to each machine be locked out for maintenance, repair or security?
- Are the noncurrent-carrying metal parts of electrically operated machines bonded and grounded?
- Are foot-operated switches guarded or arranged to prevent accidental actuation by personnel or falling objects?
- Are manually operated valves and switches controlling the operation of equipment and machines clearly identified and readily accessible?
- Are all emergency stop buttons colored red?

Yes No NA

- Are all pulleys and belts that are within 7 feet of the floor or working level properly guarded?
- Are all moving chains and gears properly guarded?
- Are splash guards mounted on machines that use coolant to prevent the coolant from reaching employees?
- Are methods provided to protect the operator and other employees in the machine area from hazards created at the point of operation, ingoing nip points, rotating parts, flying chips and sparks?
- Are machinery guards secure and so arranged that they do not offer a hazard in their use?
- If special hand tools are used for placing and removing material, do they protect the operator's hands?
- Are revolving drums, barrels and containers required to be guarded by an enclosure that is interlocked with the drive mechanism, so that revolution cannot occur unless the guard enclosure is in place?
- Do arbors and mandrels have firm and secure bearings and are they free from play?
- Are provisions made to prevent machines from automatically starting when power is restored after a power failure or shutdown?
- Are machines constructed so as to be free from excessive vibration when the largest size tool is mounted and run at full speed?
- If machinery is cleaned with compressed air, is air pressure controlled and personal protective equipment or other safeguards utilized to protect operators and other workers from eye and body injury?
- Are fan blades protected with a guard having openings no larger than ½ inch when operating within 7 feet of the floor?
- Are saws used for ripping equipped with anti-kick back devices and spreaders?
- Are radial arm saws so arranged that the cutting head will gently return to the back of the table when released?

Lockout/Tagout Procedures

- Is all machinery or equipment capable of movement required to be de-energized or disengaged and blocked or locked out during cleaning, servicing, adjusting or setting up operations, whenever required?
Where the power disconnecting means for equipment does not also disconnect the electrical control circuit:
- Are the appropriate electrical enclosures identified?
- Is means provided to ensure the control circuit can also be disconnected and locked out?
- Is the locking out of control circuits in lieu of locking out main power disconnects prohibited?
- Are all equipment control valve handles provided with a means for locking out?
- Does the lockout procedure require that stored energy (mechanical, hydraulic, air, etc.) be released or blocked before equipment is locked out for repairs?
- Are appropriate employees provided with individually keyed personal safety locks?
- Are employees required to keep personal control of their keys while they have safety locks in use?
- Is it required that only the employee exposed to the hazard place or remove the safety lock?
- Is it required that employees check the safety of the lockout by attempting to start up after making sure no one is exposed?
- Are employees instructed to always push the control circuit stop button prior to re-energizing the main power switch?
- Is there a means provided to identify any or all employees who are working on locked-out equipment by their locks or accompanying tags?

Yes No NA

- Are a sufficient number of accident preventive signs or tags and safety padlocks provided for any reasonably foreseeable repair emergency?
- When machine operations, configuration or size requires the operator to leave his or her control station to install tools or perform other operations and that part of the machine could move if accidentally activated, is such element required to be separately locked or blocked out?
- In the event that equipment or lines cannot be shut down, locked out and tagged, is a safe job procedure established and rigidly followed?

Welding, Cutting and Brazing

- Are only authorized and trained personnel permitted to use welding, cutting or brazing equipment?
- Do all operators have copies of the appropriate operating instructions and are they directed to follow them?
- Are compressed gas cylinders regularly examined for obvious signs of defects, deep rusting or leakage?
- Is care used in handling and storage of cylinders, safety valves, relief valves, etc., to prevent damage?
- Are precautions taken to prevent the mixture of air or oxygen with flammable gases, except at a burner or in a standard torch?
- Are only approved apparatus (torches, regulators, pressure-reducing valves, acetylene generators, manifolds) used?
- Are cylinders kept away from sources of heat?
- Are the cylinders kept away from elevators, stairs or gangways?
- Is it prohibited to use cylinders as rollers or supports?
- Are empty cylinders appropriately marked and their valves closed?
- Are signs reading "DANGER—NO SMOKING, MATCHES OR OPEN LIGHTS," or the equivalent, posted?
- Are cylinders, cylinder valves, couplings, regulators, hoses and apparatus kept free of oily or greasy substances?
- Is care taken not to drop or strike cylinders?
- Unless secured on special trucks, are regulators removed and valve protection caps put in place before moving cylinders?
- Do cylinders without fixed wheels have keys, handles or nonadjustable wrenches on stem valves when in service?
- Are liquefied gases stored and shipped valve end up with valve covers in place?
- Are provisions made to never crack a fuel gas cylinder valve near sources of ignition?
- Before a regulator is removed, is the valve closed and gas released from the regulator?
- Is red used to identify the acetylene (and other fuel gas) hose, green for oxygen hose, and black for inert gas and air hose?
- Are pressure-reducing regulators used only for the gas and pressures for which they are intended?
- Is open circuit (no-load) voltage of arc welding and cutting machines as low as possible and not in excess of the recommended limits?
- Under wet conditions, are automatic controls for reducing no-load voltage used?
- Is grounding of the machine frame and safety ground connections of portable machines checked periodically?

Yes No NA

- Are electrodes removed from the holders when not in use?
- Is it required that electric power to the welder be shut off when no one is in attendance?
- Is suitable fire extinguishing equipment available for immediate use?
- Is the welder forbidden to coil or loop welding electrode cable around his or her body?
- Are wet machines thoroughly dried and tested before being used?
- Are work and electrode lead cables frequently inspected for wear and damage and replaced when needed?
- Do means for connecting cable lengths have adequate insulation?
- When the object to be welded cannot be moved and fire hazards cannot be removed, are shields used to confine heat, sparks, and slag?
- Are fire watchers assigned when welding or cutting is performed in locations where a serious fire might develop?
- Are combustible floors kept wet, covered by damp sand or protected by fire-resistant shields?
- When floors are wet down, are personnel protected from possible electrical shock?
- When welding is done on metal walls, are precautions taken to protect combustibles on the other side?
- Before hot work is begun, are used drums, barrels, tanks and other containers so thoroughly cleaned that no substances remain that could explode, ignite or produce toxic vapors?
- Is it required that eye protection helmets, hand shields and goggles meet appropriate standards?
- Are employees exposed to the hazards created by welding, cutting or brazing operations protected with personal protective equipment and clothing?
- Is a check made for adequate ventilation where welding or cutting is performed?
- When working in confined places, are environmental monitoring tests taken and means provided for quick removal of welders in case of an emergency?

Compressors and Compressed Air

- Are compressors equipped with pressure relief valves and pressure gauges?
- Are compressor air intakes installed and equipped so as to ensure that only clean uncontaminated air enters the compressor?
- Are air filters installed on the compressor intake?
- Are compressors operated and lubricated in accordance with the manufacturer's recommendations?
- Are safety devices on compressed air systems checked frequently?
- Before any repair work is done on the pressure system of a compressor, is the pressure bled off and the system locked out?
- Are signs posted to warn of the automatic starting feature of the compressors?
- Is the belt drive system totally enclosed to provide protection for the front, back, top and sides?
- Is it strictly prohibited to direct compressed air toward a person?
- Are employees prohibited from using highly compressed air for cleaning purposes?
- If compressed air is used for cleaning off clothing, is the pressure reduced to less than 30 psi?
- When using compressed air for cleaning, do employees wear protective chip guarding and personal protective equipment?

Yes No NA

- Are safety chains or other suitable locking devices used at couplings of high pressure hose lines where a connection failure would create a hazard?
- Before compressed air is used to empty containers of liquid, is the safe working pressure of the container checked?
- When compressed air is used with abrasive blast cleaning equipment, is the operating valve a type that must be held open manually?
- When compressed air is used to inflate auto tires, is a clip-on chuck and an in-line regulator preset to 40 psi required?
- Is it prohibited to use compressed air to clean up or move combustible dust if such action could cause the dust to be suspended in the air and cause a fire or explosion hazard?

Compressed Air Receivers

- Is every receiver equipped with a pressure gauge and with one or more automatic spring-loaded safety valves?
- Is the total relieving capacity of the safety valve capable of preventing pressure in the receiver from exceeding the maximum allowable working pressure of the receiver by more than 10 percent?
- Is every air receiver provided with a drainpipe and valve at the lowest point for the removal of accumulated oil and water?
- Are compressed air receivers periodically drained of moisture and oil?
- Are all safety valves tested frequently and at regular intervals to determine whether they are in good operating condition?
- Is the inlet of air receivers and piping systems kept free of accumulated oil and carbonaceous materials?

Compressed Gas Cylinders

- Are cylinders with a water weight capacity over 30 pounds equipped with means for connecting a valve protector device or with a collar or recess to protect the valve?
- Are cylinders legibly marked to clearly identify the gas contained?
- Are compressed gas cylinders stored in areas that are protected from external heat sources such as flame impingement, intense radiant heat, electric arcs or high temperature lines?
- Are cylinders located or stored in areas where they will not be damaged by passing or falling objects or subjected to tampering by unauthorized people?
- Are cylinders stored or transported in a manner to prevent them from creating a hazard by tipping, falling or rolling?
- Are cylinders containing liquefied fuel gas stored or transported in a position so that the safety relief device is always in direct contact with the vapor space in the cylinder?
- Are valve protectors always placed on cylinders when the cylinders are not in use or connected for use?
- Are all valves closed off before a cylinder is moved, when the cylinder is empty, and at the completion of each job?
- Are low pressure fuel gas cylinders checked periodically for corrosion, general distortion, cracks or any other defect that might indicate a weakness or render it unfit for service?
- Does the periodic check of low pressure fuel gas cylinders include a close inspection of the cylinders' bottoms?

Hoist and Auxiliary Equipment

- Is each overhead electric hoist equipped with a limit device to stop the hook travel at its highest and lowest point of safe travel?

Yes No NA

- Will each hoist automatically stop and hold any load up to 125 percent of its rated load if its actuating force is removed?
- Is the rated load of each hoist legibly marked and visible to the operator?
- Are stops provided at the safe limits of travel for trolley hoists?
- Are the controls of hoists plainly marked to indicate the direction of travel or motion?
- Is each cage-controlled hoist equipped with an effective warning device?
- Are close-fitting guards or other suitable devices installed on hoists to ensure hoist ropes will be maintained in the sheave grooves?
- Are all hoist chains or ropes of sufficient length to handle the full range of movement of the application while still maintaining two full wraps on the drum at all times?
- Are nip points or contact points between hoist ropes and sheaves that are permanently located within 7 feet of the floor, ground or working platform guarded?
- Is it prohibited to use chains or rope slings that are kinked or twisted?
- Is it prohibited to use the hoist rope or chain wrapped around the load as a substitute for a sling?
- Is the operator instructed to avoid carrying loads over people?
- Are only employees who have been trained in the proper use of hoists allowed to operate them?

Entering Confined Spaces

- Are confined spaces thoroughly emptied of any corrosive or hazardous substances, such as acids or caustics, before entry?
- Are all lines to a confined space containing inert, toxic, flammable or corrosive materials valved off and blanked or disconnected and separated before entry?
- Is it required that all impellers, agitators or other moving equipment inside confined spaces be locked out if they present a hazard?
- Is either natural or mechanical ventilation provided prior to confined space entry?
- Are appropriate atmospheric tests performed to check for oxygen deficiency, toxic substances and explosive concentrations in the confined space before entry?
- Is adequate illumination provided for the work to be performed in the confined space?
- Is the atmosphere inside the confined space frequently tested or continuously monitored during conduct of work?
- Is there an assigned safety standby employee outside of the confined space, when required, whose sole responsibility is to watch the work in progress, sound an alarm if necessary and render assistance?
- Is the standby employee appropriately trained and equipped to handle an emergency?
- Is the standby employee or other employees prohibited from entering the confined space without lifelines and respiratory equipment if there is any question as to the cause of an emergency?
- Is approved respiratory equipment required if the atmosphere inside the confined space cannot be made acceptable?
- Is all portable electrical equipment used inside confined spaces either grounded and insulated or equipped with ground fault protection?
- Before gas welding or burning is started in a confined space, are hoses checked for leaks, compressed gas bottles forbidden inside of the confined space, torches lighted only outside of the confined area, and the confined area tested for an explosive atmosphere each time before a lighted torch is to be taken into the confined space?

Yes No NA

- If employees will be using oxygen-consuming equipment such as salamanders, torches or furnaces in a confined space, is sufficient air provided to ensure combustion without reducing the oxygen concentration of the atmosphere below 19.5 percent by volume?
- Whenever combustion-type equipment is used in a confined space, are provisions made to ensure the exhaust gases are vented outside of the enclosure?
- Is each confined space checked for decaying vegetation or animal matter that may produce methane?
- Is the confined space checked for possible industrial waste that could contain toxic properties?
- If the confined space is below the ground and near areas where motor vehicles are operating, is it possible for vehicle exhaust or carbon monoxide to enter the space?

Environmental Controls

- Are all work areas properly illuminated?
- Are employees instructed in proper first aid and other emergency procedures?
- Are hazardous substances, blood and other potentially infectious materials that may cause harm by inhalation, ingestion, or skin absorption or contact identified?
- Are employees aware of the hazards involved with the various chemicals they may be exposed to in their work environment, such as ammonia, chlorine, epoxies and caustics?
- Is employee exposure to chemicals in the workplace kept within acceptable levels?
- Are the safest methods and products being used?
- Is the work area's ventilation system appropriate for the work being performed?
- Are spray painting operations done in spray rooms or booths equipped with an appropriate exhaust system?
- Is employee exposure to welding fumes controlled by ventilation, use of respirators, exposure time or other means?
- Are welders and other workers nearby provided with flash shields during welding operations?
- If forklifts and other vehicles are used in buildings or other enclosed areas, are the carbon monoxide levels kept below maximum acceptable concentration?
- Has there been a determination that noise levels in the facilities are within acceptable levels?
- Are steps being taken to use engineering controls to reduce excessive noise levels?
- Are proper precautions being taken when handling asbestos and other fibrous materials?
- Are caution labels and signs used to warn of hazardous substances (e.g., asbestos) and biohazards (e.g., bloodborne pathogens)?
- Are wet methods used, when practicable, to prevent the emission of airborne asbestos fibers, silica dust and similar hazardous materials?
- Are engineering controls examined and maintained or replaced on a scheduled basis?
- Is vacuuming with appropriate equipment used whenever possible rather than blowing or sweeping dust?
- Are grinders, saws and other machines that produce respirable dusts vented to an industrial collector or central exhaust system?
- Are all local exhaust ventilation systems designed and operating properly such as air flow and volume necessary for the application, ducts not plugged, or belts slipping?
- Is personal protective equipment provided, used and maintained wherever required?

Yes No NA

- Are there written standard operating procedures for the selection and use of respirators where needed?
- Are restrooms and washrooms kept clean and sanitary?
- Is all water provided for drinking, washing and cooking potable?
- Are all outlets for water not suitable for drinking clearly identified?
- Are employees' physical capacities assessed before being assigned to jobs requiring heavy work?
- Are employees instructed in the proper manner of lifting heavy objects?
- Where heat is a problem, have all fixed work areas been provided with spot cooling or air conditioning?
- Are employees screened before assignment to areas of high heat to determine if their health condition might make them more susceptible to having an adverse reaction?
- Are employees working on streets and roadways where they are exposed to the hazards of traffic required to wear high visibility or reflective warning vests?
- Are exhaust stacks and air intakes so located that contaminated air will not be recirculated within a building or other enclosed area?
- Is equipment producing ultraviolet radiation properly shielded?
- Are universal precautions observed where occupational exposure to blood or other potentially infectious materials can occur and in all instances where differentiation of types of body fluids or potentially infectious materials is difficult or impossible?

Flammable and Combustible Materials

- Are combustible scrap, debris and waste materials (oily rags, etc.) stored in covered metal receptacles and removed from the worksite promptly?
- Is proper storage practiced to minimize the risk of fire, including spontaneous combustion?
- Are approved containers and tanks used for the storage and handling of flammable liquids?
- Are all connections on drums and piping vapor and liquid tight?
- Are all flammable liquids kept in closed containers when not in use (e.g., parts cleaning tanks and pans)?
- Are bulk drums of flammable liquids grounded and bonded to containers during dispensing?
- Do storage rooms for flammable liquids have explosion-proof lights?
- Do storage rooms for flammable have mechanical or gravity ventilation?
- Is liquefied petroleum gas stored, handled and used in accordance with safe practices and standards?
- Are "NO SMOKING" signs posted on liquefied petroleum gas tanks?
- Are liquefied petroleum storage tanks guarded to prevent damage from vehicles?
- Are all solvent wastes and flammable liquids kept in fire-resistant covered containers until they are removed from the worksite?
- Is vacuuming used wherever possible rather than blowing or sweeping combustible dust?
- Are firm separators placed between containers of combustibles or flammables, when stacked one upon another, to ensure their support and stability?
- Are fuel gas cylinders and oxygen cylinders separated by distance, fire-resistant barriers, etc., while in storage?
- Are fire extinguishers selected and provided for the types of materials in areas where they are to be used?
- Are fire control sprinkler heads kept clean?

Yes No NA

Class A: Ordinary combustible material fires.

Class B: Flammable liquid, gas or grease fires.

Class C: Energized electrical equipment fires.

- | | | | |
|--------------------------|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Are appropriate fire extinguishers mounted within 75 feet of outside areas containing flammable liquids and within 10 feet of any inside storage area for such materials? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Are extinguishers free from obstructions or blockage? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Are all extinguishers serviced, maintained and tagged at intervals not to exceed one year? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Are all extinguishers fully charged and in their designated places? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Where sprinkler systems are permanently installed, are the nozzle heads so directed and arranged that water will not be sprayed into operating electrical switchboards and equipment? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Are "NO SMOKING" signs posted where appropriate in areas where flammable or combustible materials are used or stored? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Are safety cans used for dispensing flammable liquids at a point of use? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Are all spills of flammable liquids cleaned up promptly? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Are storage tanks adequately vented to prevent the development of excessive vacuum or pressure as a result of filling, emptying or atmosphere temperature changes? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Are storage tanks equipped with emergency venting that will relieve excessive internal pressure caused by fire exposure? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Are "NO SMOKING" rules enforced in areas involving storage and use of hazardous materials? |

Hazardous Chemical Exposure

- | | | | |
|--------------------------|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Are employees trained in the safe handling practices of hazardous chemicals, such as acids and caustics? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Are employees aware of the potential hazards involving various chemicals stored or used in the workplace, such as acids, bases, caustics, epoxies and phenols? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Is employee exposure to chemicals kept within acceptable levels? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Are eyewash fountains and safety showers provided in areas where corrosive chemicals are handled? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Are all containers such as vats and storage tanks labeled with their identity and hazards? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Are all employees required to use personal protective clothing and equipment when handling chemicals (gloves, eye protection, respirators, etc.)? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Are flammable or toxic chemicals kept in closed containers when not in use? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Are chemical piping systems clearly marked as to their content? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Where corrosive liquids are frequently handled in open containers or drawn from storage vessels or pipelines, are adequate means readily available for neutralizing or disposing of spills or overflows properly and safely? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Have standard operating procedures been established and are they being followed when cleaning up chemical spills? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Where needed for emergency use, are respirators stored in a convenient, clean and sanitary location? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Are respirators intended for emergency use adequate for the various uses for which they may be needed? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Are employees prohibited from eating in areas where hazardous chemicals are present? |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Is personal protective equipment provided, used and maintained whenever necessary? |

Yes No NA

- Are there written standard operating procedures for the selection and use of respirators where needed?
- If you have a respirator protection program, are your employees instructed on the correct usage and limitations of the respirators? Are the respirators NIOSH approved for this particular application? Are they regularly inspected and cleaned, sanitized and maintained?
- If hazardous substances are used in your processes, do you have a medical or biological monitoring system in operation?
- Are you familiar with the threshold limit values or permissible exposure limits of airborne contaminants and physical agents used in your workplace?
- Have control procedures been instituted for hazardous materials, where appropriate, such as respirators, ventilation systems and handling practices?
- Whenever possible, are hazardous substances handled in properly designed and exhausted booths or similar locations?
- Do you use general dilution or local exhaust ventilation systems to control dusts, vapors, gases, fumes, smoke, aerosols or mists that may be generated in your workplace?
- Is ventilation equipment provided for removal of contaminants from such operations as production, grinding, buffing, spray painting and vapor degreasing and is it operating properly?
- Do you monitor employees to make sure there are no complaints about dizziness, headaches, nausea, irritation or other discomfort when they use solvents or other chemicals?
- Do you watch for employee health problems such as dryness, irritation or sensitization of the skin?
- Have you considered the use of an industrial hygienist or environmental health specialist to evaluate your operation?
- If internal combustion engines are used, is carbon monoxide kept within acceptable levels?
- Is vacuuming used, rather than blowing or sweeping dusts, whenever possible for cleanup?
- Are materials that give off toxic, asphyxiant, suffocating or anesthetic fumes stored in remote or isolated locations when not in use?

Respiratory Protection Program

- In any workplace where respirators are necessary to protect the health of the employee or whenever respirators are required by the employer, has a written respiratory protection program with worksite-specific procedures been established and implemented? If NA, go to next section.

The program must be updated as necessary to reflect those changes in workplace conditions that affect respirator use. You must include in the program the following provisions as applicable:

- Procedures for selecting respirators for use in the workplace.
- Medical evaluations of employees required to use respirators.
- Fit testing procedures for tight-fitting respirators.
- Procedures for proper use of respirators in routine and reasonably foreseeable emergency situations.
- Procedures and schedules for cleaning, disinfecting, storing, inspecting, repairing, discarding and otherwise maintaining respirators.
- Procedures to ensure adequate air quality, quantity and flow of breathing air for atmosphere-supplying respirators.
- Training of employees in the respiratory hazards to which they are potentially exposed during routine and emergency situations.
- Training of employees in the proper use of respirators, including putting on and removing them, any limitations on their use, and their maintenance.

Yes No NA

- Procedures for regularly evaluating the effectiveness of the program.

Hazardous Substances Communication

- Is there a list of hazardous substances used in your workplace?
- Is there a written hazard communication program dealing with safety data sheets (SDS), labeling and employee training?
- Is each container for a hazardous substance (including vats, bottles and storage tanks) labeled with product identity and a hazard warning (communication of the specific health hazards and physical hazards)?
- Is there a safety data sheet readily available for each hazardous substance used?
- Is there an employee training program for hazardous substances?

This program needs to include:

- An explanation of what an SDS is and how to use and obtain one.
- SDS contents for each hazardous substance or class of substances.
- Explanation of “right to know.”
- Identification of where employees can see the employer’s written hazard communication program and where hazardous substances are present in their work areas.
- Physical and health hazards of substances in the work area and specific protective measures to be used.
- Details of the hazard communication program, including how to use the labeling system and SDSs.

Bloodborne Pathogens

- If employees are exposed to blood or other potentially infectious material, is there a written exposure control plan? If NA, skip to the next section.

The employee training program on the bloodborne pathogens standard needs to contain the following elements:

- An accessible copy of the standard and an explanation of its contents.
- A general explanation of the epidemiology and symptoms of bloodborne diseases.
- An explanation of the modes of transmission of bloodborne pathogens.
- An explanation of the employer’s exposure control plan and the means by which employees can obtain a copy of the written plan.
- An explanation of the appropriate methods for recognizing tasks and other activities that may involve exposure to blood and other potentially infectious materials.
- An explanation of the use and limitations of methods that will prevent or reduce exposure, including appropriate engineering controls, work practices and personal protective equipment.
- Information on the types, proper use, location, removal, handling, decontamination and disposal of personal protective equipment.
- An explanation of the basis for selection of personal protective equipment.
- Information on the hepatitis B vaccine.
- Information on the appropriate actions to take and people to contact in an emergency involving blood or other potentially infectious materials.
- An explanation of the procedure to follow if an exposure incident occurs, including the methods of reporting the incident and the medical follow-up that will be made available.
- Information on post-exposure evaluations and follow-up.

Yes No NA

- An explanation of signs, labels and color-coding.
Are employees trained in the following:
- How to recognize tasks that might result in occupational exposure?
- How to use work practice and engineering controls and personal protective equipment and to know their limitations?
- How to obtain information on the types, selection, proper use, location, removal, handling, decontamination and disposal of personal protective equipment?
- Who to contact and what to do in an emergency?

Electrical

- Do you specify compliance with OSHA standards for all contract electrical work?
- Are all employees required to report as soon as practicable any obvious hazard to life or property observed in connection with electrical equipment or lines?
- Are employees instructed to make preliminary inspections and/or appropriate tests to determine what conditions exist before starting work on electrical equipment or lines?
- When electrical equipment or lines are to be serviced, maintained or adjusted, are necessary switches opened, locked out and tagged whenever possible?
- Are portable electrical tools and equipment grounded or of the double-insulated type?
- Are electrical appliances such as vacuum cleaners, polishers and vending machines grounded?
- Do extension cords being used have a grounding conductor?
- Are multiple-plug adapters prohibited?
- Are ground-fault circuit interrupters installed on each temporary 15 or 20 ampere, 120 volt AC circuit at locations where construction, demolition, modifications, alterations or excavations are being performed?
- Are all temporary circuits protected by suitable disconnecting switches or plug connectors at the junction with permanent wiring?
- Do you have electrical installations in hazardous dust or vapor areas? If so, do they meet the National Electrical Code (NEC) for hazardous locations?
- Are exposed wiring and cords with frayed or deteriorated insulation repaired or replaced promptly?
- Are flexible cords and cables free of splices or taps?
- Are clamps or other securing means provided on flexible cords or cables at plugs, receptacles, tools and equipment, and is the cord jacket securely held in place?
- Are all cord, cable and raceway connections intact and secure?
- In wet or damp locations, are electrical tools and equipment appropriate for the use or location or otherwise protected?
- Is the location of electrical power lines and cables (overhead, underground, underfloor, other side of walls) determined before digging, drilling or similar work is begun?
- Are metal measuring tapes, ropes, handlines or similar devices with metallic thread woven into the fabric prohibited where they could come in contact with energized parts of equipment or circuit conductors?
- Is the use of metal ladders prohibited in areas where the ladder or the person using the ladder could come in contact with energized parts of equipment, fixtures or circuit conductors?
- Are all disconnecting switches and circuit breakers labeled to indicate their use or equipment served?
- Are disconnecting means always opened before fuses are replaced?

Yes No NA

- Do all interior wiring systems include provisions for grounding metal parts of electrical raceways, equipment and enclosures?
- Are all electrical raceways and enclosures securely fastened in place?
- Are all energized parts of electrical circuits and equipment guarded against accidental contact by approved cabinets or enclosures?
- Is sufficient access and working space provided and maintained about all electrical equipment to permit ready and safe operations and maintenance?
- Are all unused openings (including conduit knockouts) in electrical enclosures and fittings closed with appropriate covers, plugs or plates?
- Are electrical enclosures such as switches, receptacles and junction boxes provided with tight-fitting covers or plates?
- Are disconnecting switches for electrical motors in excess of 2 horsepower capable of opening the circuit when the motor is in a stalled condition without exploding? (The horsepower rating of switches must be equal to or in excess of the motor's horsepower rating.)
- Is low voltage protection provided in the control device of motors driving machines or equipment that could cause probable injury from inadvertent starting?
- Is each motor disconnecting switch or circuit breaker located within sight of the motor control device?
- Is each motor located within sight of its controller or the controller disconnecting means capable of being locked in the open position or is a separate disconnecting means installed in the circuit within sight of the motor?
- Is the controller for each motor in excess of 2 horsepower rated in horsepower equal to or in excess of the rating of the motor it serves?
- Are employees who regularly work on or around energized electrical equipment or lines instructed in cardiopulmonary resuscitation (CPR)?
- Are employees prohibited from working alone on energized lines or equipment over 600 volts?

Noise

- Does every area in the workplace have a continuous noise level that does not exceed 85 dBA? If yes, skip to the next set of questions.
- Is there an ongoing preventive health program to educate employees in safe levels of noise, exposures, effects of noise on their health and the use of personal protection?
- Have work areas where noise levels make voice communication between employees difficult been identified and posted?
- Are noise levels being measured using a sound level meter or octave band analyzer and are records being kept?
- Have engineering controls been used to reduce excessive noise levels? Where engineering controls are determined to not be feasible, are administrative controls (such as worker rotation) being used to minimize individual employee exposure to noise?
- Is approved hearing protective equipment (noise attenuating devices) available to every employee working in noisy areas?
- Have you tried isolating noisy machinery from the rest of your operation?
- If you use ear protectors, are employees properly fitted and instructed in their use?
- Are employees in high noise areas given periodic audiometric testing to ensure that you have an effective hearing protection system?

Yes No NA

Fueling

- Is it prohibited to fuel an internal combustion engine with a flammable liquid while the engine is running?
- Are fueling operations done in such a manner that the likelihood of spillage will be minimal?
- When spillage occurs during fueling operations, is the spilled fuel washed away completely, evaporated, or other measures taken to control vapors before restarting the engine?
- Are fuel tank caps replaced and secured before starting the engine?
- In fueling operations, is there always metal contact between the container and the fuel tank?
- Are fueling hoses of a type designed to handle the specific type of fuel?
- Is it prohibited to handle or transfer gasoline in open containers?
- Are open lights, open flames, or sparking or arcing equipment prohibited near fueling or transfer of fuel operations?
- Is smoking prohibited in the vicinity of fueling operations?
- Are fueling operations prohibited in buildings or other enclosed areas that are not specifically ventilated for this purpose?
- Where fueling or transfer of fuel is done through a gravity flow system, are the nozzles of the self-closing type?

Identification of Piping Systems

- When nonpotable water is piped through a facility, are outlets or taps posted to alert employees that it is unsafe and not to be used for drinking, washing or other personal use?
- When hazardous substances are transported through above ground piping, is each pipeline identified at points where confusion could introduce hazards to employees?
- When a pipeline is identified by color painting, are all visible parts of the line so identified?
- When pipelines are identified by color painted bands or tapes, are the bands or tapes located at reasonable intervals and at each outlet, valve or connection?
- When pipelines are identified by color, is the color code posted at all locations where confusion could introduce hazards to employees?
- When the contents of pipelines are identified by name or name abbreviation, is the information readily visible on the pipe near each valve or outlet?
- When pipelines carrying hazardous substances are identified by tags, are the tags constructed of durable materials, the message carried clearly and permanently distinguishable, and are tags installed at each valve or outlet?
- When pipelines are heated by electricity, steam or another external source, are suitable warning signs or tags placed at unions, valves or other serviceable parts of the system?

Materials Handling

- Is there safe clearance for equipment through aisles and doorways?
- Are aisleways designated, permanently marked and kept clear to allow unhindered passage?
- Are motorized vehicles and mechanized equipment inspected daily or before use?
- Are containers of combustibles or flammables, when stacked while being moved, always separated by dunnage sufficient to provide stability?
- Are dockboards (bridge plates) used when loading or unloading operations are taking place between vehicles and docks?

Yes No NA

- Are trucks and trailers secured from movement during loading and unloading operations?
- Are dock plates and loading ramps constructed and maintained with sufficient strength to support imposed loading?
- Are hand trucks maintained in safe operating condition?
- Are chutes equipped with sideboards of sufficient height to prevent the materials being handled from falling off?
- Are chutes and gravity roller sections firmly placed or secured to prevent displacement?
- At the delivery end of the rollers or chutes, are provisions made to brake the movement of the handled materials?
- Are pallets inspected before being loaded or moved?
- Are hooks with safety latches or other arrangements used when hoisting materials so that slings or load attachments will not accidentally slip off the hoist hooks?
- Are securing chains, ropes, chockers or slings adequate for the job to be performed?
- When hoisting material or equipment, are provisions made to ensure no one will be passing under the suspended loads?
- Are safety data sheets available to employees handling hazardous substances?

Transporting Employees and Materials

- Do employees who operate vehicles on public thoroughfares have valid operator's licenses?
- When seven or more employees are regularly transported in a van, bus or truck, is the operator's license appropriate for the class of vehicle being driven?
- Is each van, bus or truck used regularly to transport employees equipped with an adequate number of seats?
- When employees are transported by truck, are provisions provided to prevent their falling from the vehicle?
- Are vehicles used to transport employees equipped with lamps, brakes, horns, mirrors, windshields and turn signals in good repair?
- Are transport vehicles provided with handrails, steps, stirrups or similar devices, so placed and arranged that employees can safely mount and dismount?
- Are employee transport vehicles equipped at all times with at least two reflective type flares?
- When cutting tools or tools with sharp edges are carried in passenger compartments of employee transport vehicles, are they placed in closed boxes or containers that are secured in place?
- Are employees prohibited from riding on top of any load that can shift, topple or otherwise become unstable?

Control of Harmful Substances by Ventilation

- Is the volume and velocity of air in each exhaust system sufficient to gather the dusts, fumes, mists, vapors or gases to be controlled and to convey them to a suitable point of disposal?
- Are exhaust inlets, ducts and plenums designed, constructed and supported to prevent collapse or failure of any part of the system?
- Are clean-out ports or doors provided at intervals not to exceed 12 feet in all horizontal runs of exhaust ducts?
- Are proper safeguards taken to ensure that where two or more different types of operations are being controlled through the same exhaust system, the combination of substances being controlled do not constitute a fire, explosion or chemical reaction hazard in the duct?

Yes No NA

- Is adequate makeup air provided to areas where exhaust systems are operating?
- Is the source point for makeup air located so that only clean, fresh air, which is free of contaminants, will enter the work environment?
- Where two or more ventilation systems are serving a work area, is their operation such that one will not offset the function of the other?

Sanitizing Equipment and Clothing

- Is personal protective clothing or equipment that employees are required to wear or use of a type capable of being cleaned easily and disinfected?
- Are employees prohibited from interchanging personal protective clothing or equipment unless it has been properly cleaned?
- Are machines and equipment that process, handle or apply materials that could be injurious to employees cleaned and/or decontaminated before being overhauled or placed in storage?
- Are employees prohibited from smoking or eating in any area where contaminants that could be injurious if ingested are present?
- When employees are required to change from street clothing into protective clothing, is a clean change room with separate storage facility for street and protective clothing provided?
- Are employees required to shower and wash their hair as soon as possible after a known contact has occurred with a carcinogen?
- When equipment, materials or other items are taken into or removed from a carcinogen-regulated area, is it done in a manner that will not contaminate nonregulated areas or the external environment?

Tire Inflation

- Where tires are mounted or inflated on drop center wheels, is a safe practice procedure posted and enforced?
- Where tires are mounted or inflated on wheels with split rims or retainer rings, is a safe practice procedure posted and enforced?
- Does each tire inflation hose have a clip-on chuck with at least 24 inches of hose between the chuck and an in-line hand valve and gauge?
- Does the tire inflation control valve automatically shut off the airflow when the valve is released?
- Is a tire restraining device, such as a cage, rack or other effective means, used while inflating tires mounted on split rims or rims using retainer rings?
- Are employees strictly forbidden from taking a position directly over or in front of a tire while it's being inflated?

Monthly Building Inspection Form

Building: _____ Inspector: _____ Date: _____

Yes	No	Identified Hazard	Comments/Action(s)
		Electric cord attached to building surface or run through door/ceiling/wall.	
		Electric cord frayed, cut, or damaged.	
		Light-duty 2-prong extension cord used.	
		Ground pin missing from cord.	
		Empty opening (knockout) in electric box.	
		Exposed live electrical parts.	
		Ungrounded equipment.	
		Storage within 3' of electric panels.	
		Circuit breakers/disconnects not labeled.	
		Fire extinguishers blocked/obscured.	
		Fire extinguishers w/o monthly check.	
		Exit doors blocked/locked.	
		Exit signs/arrows not in place and visible.	
		Emergency evacuation lights not tested.	
		Storage >5 feet w/o stepstool or ladder.	
		Storage within 18 inches of sprinkler heads.	
		Storage within 3 feet of heater/heat source.	
		Storage aisles <28 inches wide.	
		Storage stacks lean/unstable.	
		Compressed gas not capped/chained	
		Excessive flammables outside of cabinets.	
		Incompatible chemicals stored together.	
		Chemicals not labeled with name/hazards.	
		Material safety data sheets not available.	
		Emergency shower/eyewash not tested weekly.	
		Housekeeping not up to standards.	
		Wet/slippery floors not marked.	
		Trip hazards in floor, stairs, sidewalks etc	
		First aid kit and PPE not available.	
		Burned out or missing light bulbs.	
		Oily/greasy rags not in covered metal can.	
		Machinery guards not in place.	
		Guardrails/stair-rails missing or not in place.	
		PPE not provided and/or properly used.	
		Other:	
		Other:	

Monthly Inspection Checklist

Floors and floor openings	Yes	No	N/A
Are floors in good condition, free of broken and pitted surfaces?			
Are floor coverings, such as carpets and mats, in good condition?			
Are floor openings properly protected?			
Are stairways equipped with appropriate handrails, guardrails?			
Check floors for slippery conditions—a major cause of falls?			

Aisles and passageways	Yes	No	N/A
Are aisles and passageways kept clear?			
Are they free of tripping hazards?			

Machines	Yes	No	N/A
Are belts, pulleys, gears, chains and sprockets guarded?			
Are effective point of operation guards in use?			
Is additional guarding needed?			

Electrical	Yes	No	N/A
Are extension cords used appropriately, i.e., <i>not</i> in place of permanent wiring?			
Are electrical cords stretched across the floor without appropriate floor covers?			
Are electrical cords free from damage (exposed wires, missing grounding pins)?			
Are portable electrical tools grounded?			

Hand Tools	Yes	No	N/A
Are the right tools for the job used?			
Are tools in good condition?			
Are cutting edges sharp?			
Are tools with mushroomed heads, split handles and other defects tagged and removed from service?			

Housekeeping	Yes	No	N/A
Is the department clean and orderly?			
Are materials properly stored out of walkways or paths to exits?			

Storage of materials	Yes	No	N/A
Are materials and supplies properly stacked—within recommended heights?			
Are flammable materials properly handled and stored?			
Are all chemical containers appropriately labeled?			

Lighting	Yes	No	N/A
Is lighting in work and storage areas, passageways and stairways satisfactory?			
Check for burned out bulbs.			
Check light guarding and reflectors.			

Ventilation	Yes	No	N/A
Is there good general ventilation?			
Is there adequate local ventilation to control possible health hazards?			

Ladders	Yes	No	N/A
Are portable ladders of standard construction and in good condition?			
Are fixed ladders of standard construction and securely fastened?			

Fire Extinguishers	Yes	No	N/A
Are enough fire extinguishers of the right type available and easily accessible?			
Is all fire suppressant equipment in proper working order?			
Are fire extinguishers properly mounted?			
Are fire extinguishers inspected on a monthly and annual basis?			

Exits	Yes	No	N/A
Are emergency exits adequate in number and location and properly identified?			
Are any exits blocked or locked, preventing escape to the outside?			

OSH Publications

We provide a variety of OSH publications. These include general industry and construction regulations, industry guides that cover different OSH topics, quick cards, fact sheets and brochures that cover a wide variety of serious safety and health workplace hazards. Workplace labor law posters are available free of charge. To obtain publications, call toll free at 1-800-NC-LABOR (1-800-625-2267) or direct at 919-807-2875. You may view the list of publications and also download many of them at **www.nclabor.com/pubs.htm**.

Occupational Safety and Health (OSH)

Sources of Information

You may call 1-800-NC-LABOR (1-800-625-2267) to reach any division of the N.C. Department of Labor; or visit the NCDOL home page on the World Wide Web: <http://www.nclabor.com>.

Occupational Safety and Health Division

Mailing Address:
1101 Mail Service Center
Raleigh, NC 27699-1101
Local Telephone: 919-807-2900 Fax: 919-807-2856

Physical Location:
111 Hillsborough St.
(Old Revenue Building, 3rd Floor)

For information concerning education, training, interpretations of occupational safety and health standards, and OSH recognition programs contact:

Education, Training and Technical Assistance Bureau

Mailing Address:
1101 Mail Service Center
Raleigh, NC 27699-1101
Telephone: 919-807-2875 Fax: 919-807-2876

Physical Location:
111 Hillsborough St.
(Old Revenue Building, 4th Floor)

For information concerning occupational safety and health consultative services contact:

Consultative Services Bureau

Mailing Address:
1101 Mail Service Center
Raleigh, NC 27699-1101
Telephone: 919-807-2899 Fax: 919-807-2902

Physical Location:
111 Hillsborough St.
(Old Revenue Building, 3rd Floor)

For information concerning migrant housing inspections and other related activities contact:

Agricultural Safety and Health Bureau

Mailing Address:
1101 Mail Service Center
Raleigh, NC 27699-1101
Telephone: 919-807-2923 Fax: 919-807-2924

Physical Location:
111 Hillsborough St.
(Old Revenue Building, 2nd Floor)

For information concerning occupational safety and health compliance contact:

Safety and Health Compliance District Offices

Raleigh District Office (3801 Lake Boone Trail, Suite 300, Raleigh, NC 27607)

Telephone: 919-779-8570 Fax: 919-420-7966

Asheville District Office (204 Charlotte Highway, Suite B, Asheville, NC 28803-8681)

Telephone: 828-299-8232 Fax: 828-299-8266

Charlotte District Office (901 Blairhill Road, Suite 200, Charlotte, NC 28217-1578)

Telephone: 704-665-4341 Fax: 704-665-4342

Winston-Salem District Office (4964 University Parkway, Suite 202, Winston-Salem, NC 27106-2800)

Telephone: 336-776-4420 Fax: 336-767-3989

Wilmington District Office (1200 N. 23rd St., Suite 205, Wilmington, NC 28405-1824)

Telephone: 910-251-2678 Fax: 910-251-2654

To make an OSH Complaint, **OSH Complaint Desk:** 919-807-2796

For statistical information concerning program activities contact:

Planning, Statistics and Information Management Bureau

Mailing Address:
1101 Mail Service Center
Raleigh, NC 27699-1101
Telephone: 919-807-2950 Fax: 919-807-2951

Physical Location:
111 Hillsborough St.
(Old Revenue Building, 2nd Floor)

For information about safety videos, labor-related books or electronic resources contact:

N.C. Department of Labor Library

Mailing Address:
1101 Mail Service Center
Raleigh, NC 27699-1101
Telephone: 919-807-2850 Fax: 919-807-2849

Physical Location:
111 Hillsborough St.
(Old Revenue Building, 5th Floor)

N.C. Department of Labor (Other than OSH)

1101 Mail Service Center
Raleigh, NC 27699-1101
Telephone: 919-733-7166 Fax: 919-733-6197