`

LINCOLN COUNTY, NORTH CAROLINA

Occupational Safety Guidelines Manual

December 2012

Chapter

1

Chapter 1: Introduction & Safety Policy Statement

This manual outlines the Lincoln County, NC policy toward the management of risk control activities which have been established to provide a safe and healthy workplace for all employees. The purpose of this guideline is to prevent accidents and human suffering, to identify unsafe working conditions for correction to protect the general public and county employees and to safeguard assets. This guideline shall be followed by each Lincoln County, NC employee unless it is prevented by extreme circumstances or in the event of life safety.

The Occupational Safety and Health Act (OSH Act) of 1970 is the primary federal law which governs occupational health and safety in the private sector and federal government in the United States. It was enacted by Congress in 1970 and was signed by President Richard Nixon on December 29, 1970. Its purpose is to ensure that employers provide employees with an environment free from recognized hazards, such as but not limited to; exposure to toxic chemicals, excessive noise levels, mechanical dangers, heat or cold stress, or unsanitary conditions. The North Carolina Department of Labor is tasked with enforcement of the OSH Act. North Carolina was one of the first states to have an approved "State Plan" for OSHA enforcement and as such the intent of this guideline is to be compliant with the approved North Carolina OSHA plan.

The best claim is one that never happens; All County employees are responsible for safety and must be intimately familiar with the content of this Occupational Safety Manual. A detailed table of contents has been provided to facilitate the use of this manual.

If you are viewing this manual on your computer, there are hyperlinks (denoted by blue underlined text) throughout the document that can be clicked to automate access to the referenced information. Your browser will be launched and the location opened. Most topics covered in this guide have included checklists that can be reproduced and distributed for use by appropriate employees. It is the intent of this guideline is to promote a safe and healthy workplace, and to encourage each related County Department to comply with safety and health standards covered under the Occupational Safety and Health Act of 1970, as well as other Occupational Safety and Health Administration (OSHA) policies and directives as set forth by the North Carolina Department of Labor (NCDOL).

The safety of employees and the general public must take precedence over expediency and short cuts. Every attempt must be made to reduce the possibility of accidents and injuries and a realistic goal of "no injury" is desirable. It is good business and sound leadership to prevent injuries and identify hazards.

Mechanical safeguards against those operating exposures, which may result in injuries to employees, will be provided wherever possible. Safety is the responsibility of all persons, and employees must immediately report all accidents, incidents of unsafe acts, unsafe conditions and faulty equipment to their supervisor. Working conditions must not only meet accepted standards for the protection and safety of employees, but should also be maintained in a clean and orderly state, so as to encourage productive and efficient operations. All employees are encouraged to become aware of the need for safety and to report situations to their supervisor which they feel may pose a hazard. Accident prevention is the responsibility of all employees and they are encouraged to become familiar with all safety regulations, follow proper work procedures, and wear Personal Protective Equipment (PPE) when and as appropriate. Safety violations are subject to disciplinary action. All violations must be reported to the appropriate supervisor of that department for corrective action.

While every attempt to cover all risk issues that could reasonably be expected have been included, this manual is not exhaustive. Any department may build on or add to the policies and procedures listed in this guideline as to industry standards as long as they are consistent with the policies outlined in this manual.

Below is the County's Safety Policy Statement:

To All Employees: Your Safety is one of the most vital aspects of our operations and one of our core values. No operation in Lincoln County, NC is so important that it needs to be done in an unsafe or unhealthy manner. The safer our workplace becomes, the more efficient and productive our operation. Our policy is designed to keep our workplace at the highest level of safety and accidents at the lowest possible level. We believe that most accidents are preventable with proper training and mitigation techniques.

Management Responsibilities:

Management will provide or make available, safe equipment, safe tools and necessary protective equipment, and cooperate in all efforts to maintain a safe working environment. We will commit the necessary resources and time to create the safest and most efficient workplace possible.

Employee Responsibilities:

Every employee is expected to cooperate fully in helping to protect themselves and those around them. Participation in safety meetings, following safety rules, reporting unsafe work practices or conditions and contributing to a safe and healthy workplace is included in your duties and is a condition of employment.

Safety will take precedence over expediency and shortcuts.

No job is so important that it needs to be done in an unsafe manner.

Chapter

2

Chapter 2: General Safety Guidelines

Every employee is required to abide by safety rules, act in a safe manner, and be knowledgeable of potential hazards related to their job. Lists of job specific safety guidelines must be developed by each department. The following general safety rules apply to all locations and are to be enforced through the disciplinary policy:

- Report all personal injuries, no matter how minor, to your immediate supervisor as soon as possible. This must be done whether the injury results in lost time from work or requires medical attention or not. Prompt reporting of injuries is a requirement under the Workers' Compensation Law.
- Do not take any unnecessary chances or work under hazardous conditions. Learn the right way to do your job. That will be the safe way. If you do not thoroughly understand the job or task ask your supervisor for further instructions.
- Avoid horseplay and practical jokes on the job. Any employee participating in such activities will be subject to disciplinary action.
- Drinking of alcoholic beverages or use of illegal drugs on the job, or during working hours, is prohibited. Any employee reporting to work under the influence of alcoholic beverages or illegal drugs shall be subject to disciplinary action, up to and including termination, as outlined in personnel policy.
- Observe and obey all safety rules, signs, warnings, and instructions.
- Work at a speed consistent with Safety. Being in a hurry, such as running in passageways or on stairs is dangerous. Running on the job is prohibited, except in obvious extreme emergencies, or where required (ie: Sheriff Deputies).
- Use the handrails on stairs or on elevated places.
- Use an appropriate ladder or other climbing device to reach elevated work. Jumping down from an elevation such as a ladder, bench, or platform can result in injury.
- Always inspect tools and equipment before use. Report defects to supervisors and other potential users. Do not use tools and equipment that are defective.
- Work clear of suspended loads; if a load is moved above where you are working, stand aside until the suspended load has passed by.

- Operate only the machinery or equipment you have been authorized and trained to operate safely.
- Remove jewelry such as rings, identification bracelets, etc., in work involving climbing, materials handling, or operating mechanical equipment.
- Never reach over moving parts of machinery or equipment.
- Never operate machinery or equipment with guards removed.
- Report to work in appropriate clothing suitable for the type of work you perform. This includes footwear designed to protect your feet and to avoid slipping. Avoid wearing loose-fitting clothing or jewelry near machinery or equipment with moving parts.
- Always use all safety equipment and personal protective equipment provided for your job.
- Good housekeeping is always necessary in order to prevent accidents. Do not allow waste to accumulate in your work area. Dispose of waste materials properly.
- Report any unsafe conditions or unsafe acts to your supervisor immediately.
- Health and sanitation rules must be observed for the welfare and consideration of other employees.
- Repeat violators of safety rules and procedures may be subject to disciplinary action and/or dismissal.

Hazard Assessment

Assessment is a process of determining physical requirements, environmental conditions and safety factors relating to a specific task. Although hazard assessments are best used for stationary or repetitive tasks, it is also the key factor in preparing and training for all events. Once the hazard assessment is completed, each related department needs to develop Standing Operating Guidelines (SOG's) for each task that they are expected to perform. Standing Operating Guidelines are written step-by-step guidelines for a specific task which may be hazardous or critical. The purpose of an SOG is to provide written guidance for a particular task such that any qualified person can successfully and safely complete the task. SOG's are best developed and used for highly skilled jobs and when the equipment and work environment change often. For example, an SOG with appropriate warnings and cautions, would best be developed and used for tasks such as confined space entry, maintenance tasks, lockout-tag out, welding operations and system startup and shutdown.

Standard Operating Guidelines Framework

1. A written step by step guideline for a specific task
    a. Job Physical Requirements
    b. Job Environmental Conditions
2. Description of possible hazards & cautions /potential Accident or Hazards associated with each step.
3. Hazard control steps.
4. List of required personal protective equipment (PPE)
5. PPE determination process
6. Qualifications required for the operation
7. Resource for supervisors to train new employees
8. Control / sequence of job steps / Safe Job Practice for each step, industry standards.
9. Identification and control of potential hazards
    a. Hazard types:
        i. Impact, overhead hazards
        ii. Contact with Chemicals
        iii. Caught on or between
        iv. Lacerations
        v. Burns
        vi. Slip or Fall
        vii. Over exertion
        viii. Cumulative Trauma
10. Benchmark for accident investigation
11. Location of all Material Safety Data Sheets (MSDS)

Development of Standard Operating Guidelines:

1. Draft SOG's, Department Heads
2. Review and approval of SOG's, Safety Coordinator and safety committee
3. Approval of SOG's, County Manager and Assistant County Manager
4. Review and updating SOG's, Department Heads
5. Periodic Training using SOG's, Department Heads and Safety Coordinator
6. Review and Approval of Standard Operating Guideline

Implementation of Standard Operating Guidelines

1. Once a SOG is completed, the supervisor should review it with all impacted employees and all new employees.
2. All new hazards, operations, equipment and tools must be updated in the SOG's and communicated to all Employees as soon as possible. All SOG's must be reviewed periodically and up-dated annually. Responsibilities:
    a. **Management (Department Head)**
        i. Ensure complete & effective SOG's are developed for all tasks.
        ii. Ensure SOG's are reviewed with employees/members and annually thereafter. Utilize SOG's in accident investigations and retraining.
        iii. Ensure SOG's are modified if a new step or process is added.
        iv. Ensure SOG's are developed for non-routine tasks that have a high degree of safety risk.
    b. **Supervisors (Department Specific)**
        i. Use SOG's to train all new employees/members.
        ii. Use SOG's when performing job performance evaluations.
        iii. Develop and submit SOG's for all tasks in their area of responsibility.
        iv. Review SOG's annually with all employees assigned to their department.
        v. The most important person in SOG process is the Supervisor, who is in constant contact with employees and should be familiar with the hazards of their Department and accepted industry standards. Supervisors are in a better position to recognize and correct unsafe acts and conditions as they occur.
    c. **Safety Coordinator (County)**
        i. Assist Management and Supervisors in developing SOG's.
        ii. Maintain a master file of all SOG's.
        iii. Assure that new SOG's are developed for new equipment or procedures and ensure they meet industry standards and comply with NC DOL state OSHA plan.

Chapter

3

Chapter 3: Emergency Action Plan

This Emergency Action Plan is intended to provide guidelines on general evacuation and along with inclement weather procedures (see inclement and severe weather appendix) that will help provide protection against injury to our employees and customers, damage to property, and disruption of business operations. All employees must become familiar with the provisions of this plan in an effort to make their responses automatic in the event of a possible fire or other emergency requiring evacuation.

The following potential emergencies might occur within Lincoln County facilities and thus call for the implementation of this Emergency Action Plan: fire, severe or inclement weather, tterrorism, bomb threats, chemical agent threats, biological agent threats, mail threat, and medical emergencies. Listed below are specific guidelines for each of these. Other emergencies that might occur include explosion, water damage, aircraft crash, structure or building collapse, vandalism or malicious damage, power failure, prolonged computer failure, prolonged telecommunications failure, epidemics, pandemics. Specific departmental SOGs may be written for these types of emergencies if necessary.

In the event of an emergency that impacts all County operations, the County Manager will notify all employees through the Linc Alerts systems. **All county employees will need to sign up for the Linc Alerts (WENS) program in order to get updates of notifications while at work and when away from the work place.** This notification will include any changes to normal operating hours and specific reporting duties for "essential" and "now essential" positions during the emergency. In the event of an emergency that requires notifying our citizens about County operations, the County Manager will be responsible for releasing press releases.. All calls/concerns from either citizens or the media should be directed to the County Manager's Office.

If, after reading this plan, you find that improvements can be made, please contact the plan administrator. We encourage all suggestions because we are committed to the success of our Emergency Action Plan. We strive for clear understanding, safe behavior, and involvement in the program from every level of employees within Lincoln County.

Departmental Administrative Duties

Each Department head must develop and maintain an Emergency Action Plan for their specific department.

Their responsibilities include:

- Maintaining a written Emergency Action Plan for regular and after hours work conditions; including a call list for all employees.
- Notifying the local fire, Sheriff or police departments through 911 Center and the building owner/superintendent in the event of an emergency affecting the facility;
- Taking security measures to protect employees;
- Distributing guidelines for reporting emergencies, and defining the location of safe exits and evacuation routes for each employee;
- Conducting drills to acquaint employees with emergency guidelines and evaluating the effectiveness of the plan;
- Training designated employees in emergency response;
- Deciding which emergency response to initiate (evacuate or not);
- Ensuring that equipment is also protected during emergencies.
- Maintaining records and property as necessary; and
- Ensuring that the facility meets all local fire codes, building codes, and regulations.

The County Safety Officer is responsible for reviewing and updating each department's plan annually, or upon request.

The Department Head has full authority to implement the Emergency Action Plan in a threatening emergency if they believe it could impact human health. The County Manager's Office should be contacted as soon as possible in these situations. This does not include decisions on County operations during weather emergencies; the County Manager will make decisions in this cases.

The County Safety Officer can be contacted regarding further information about duties under this written Emergency Action Plan.

Essential / Non-essential Positions During an Emergency

Many County Departments including EMS, Sheriff, Detention Center, Communications Center, Information Technology, DSS, Health, and Public Works have critical operations that cannot be shut down for emergencies. There are also many clerical or support functions that may not be necessary during an emergency. The Department Director in conjunction with the Human Resources Department will determine which positions are categorized as essential or non-essential as far as reporting during an emergency. However, any employee may be required to report for work during an emergency.

Evacuation Guidelines and Threats

The Emergency Action Plan for each facility includes the designation of a "safe area" outside the facility. All employees should meet at that area in the event of an evacuation. One person should be designated to maintain and bring a list of all employees who work in the area so that everyone can be accounted for in the event of an evacuation. The Department Director or County Manager will determine if an evacuation is necessary. Evacuation guidelines may be implemented for any of the emergency types listed below. Also included below are specific guidelines for each of the emergency types.

Fires

Guidelines for Handling Fires

If you discover a fire, see/smell smoke or if the fire alarms are activated, immediately follow these guidelines:

1. If the fire alarms are not ringing, activate the building alarm. Fire alarm pull stations are located in department specific locations and all employees should know their whereabouts.
2. Do not collect personal or official items; leave the area of the fire immediately and walk; do not run, to the nearest exit and the designated gathering area.
3. If possible and only if you can do so safely, turn-off equipment as you exit.
4. Instruct or assist others in exiting the building
5. Evacuate the building immediately. DO NOT TRY TO EXTINGUISH THE FIRE.
6. Walk to your designated meeting location or upwind from the building staying clear of streets, driveways, sidewalks, and other access ways to the building. Each Department Head is to account for all of their employees, keep them together and report any missing persons to the Fire Department Officer in Charge and emergency personnel at the scene.
7. You should provide the fire/police teams with the details of the problem upon their arrival. Any special hazard information you might know is essential for the safety of the emergency responders.
8. You should not re-enter the building until directed to do so by the Department Head or designee.
9. If you or another person's clothing catches fire, extinguish the burning clothing by using the stop-drop-and-roll technique, wrap the victim in a fire blanket or douse with water. Get medical attention promptly.

Severe Weather Watches and Warnings Definitions

Appendix A contains definitions regarding severe weather watches and warnings.

Terrorist Threats

Terrorist threats, many of which are hoaxes, manifest themselves in many forms from bomb threats to talcum powder in an envelope. Each of these situations must be handled calmly and rapidly.

BEFORE:

- Learn about the nature of terrorism.
- Terrorists look for visible targets where they can avoid detection before or after an attack such as international airports, large cities, major international events, resorts, and high-profile landmarks and critical infrastructure.

Prepare to deal with a terrorist incident by adapting many of the same techniques used to prepare for other crises.

- Be alert and aware of the surrounding area. The very nature of terrorism suggests that there may be little or no warning.
- Take precautions when traveling. Be aware of conspicuous or unusual behavior. Do not accept packages from strangers. Do not leave luggage unattended.
- Learn where emergency exits are located. Think ahead about how to evacuate a building, subway or congested public area in a hurry. Learn where staircases are located.
- Notice your immediate surroundings. Be aware of heavy or breakable objects that could move, fall or break in an explosion.

Bomb Threats

Ninety-nine percent of all bomb threats are just that - threats. There is no way of knowing whether an actual bomb exists, and precautions will be taken when any bomb threat is received. The telephones in the facility are capable of receiving a bomb threat call directly therefore all employees should be aware of proper guidelines to follow if a bomb threat call is received, or if a threat has been left in voice mail. The chances of keeping a bomb threat caller on the line are small; however, please try your best to keep them on the line and follow the guidelines below. See Appendix C for more information about incident report for bomb threats.

In the event that a bomb threat or other terrorist threat has been left on an employee's voice mail, do not erase the message. The police will be able to listen to the threat and possibly obtain clues as to the caller, origin of call, or placement of the threatening device.

After you've been notified of a bomb threat, do not touch any suspicious packages. In evacuating a building, avoid standing in front of windows or other potentially hazardous areas. Do not restrict sidewalk or streets to be used by emergency officials.

Chemical Agents

Chemical agents are poisonous gases, liquids or solids that have toxic effects on people, animals or plants. Most chemical agents cause serious injuries or death. The severity of an injuries depends on the type and amount of the chemical agent used, and the duration of exposure.

Were a chemical agent attack to occur, authorities would instruct employees/citizens to either seek shelter where they are and seal the premises or evacuate immediately. Exposure to chemical agents can be fatal. Leaving the shelter to rescue or assist victims can be a deadly decision. There is no assistance that the untrained can offer that would likely be of any value to the victims of chemical agents.

Biological Agents

Biological agents are organisms or toxins that have illness-producing effects on people, livestock and crops.

Because biological agents cannot necessarily be detected and may take time to grow and cause a disease, it is almost impossible to know that a biological attack has occurred. If officials become aware of a biological attack through an informant or warning by terrorists, they would most likely instruct employees to either seek shelter where they are and seal the premises or evacuate immediately.

A person affected by a biological agent requires the immediate attention of professional medical personnel. Some agents are contagious, and victims may need to be quarantined. Also, you should know that some medical facilities may not receive victims for fear of contaminating the hospital population.

Mail Threats

In the event you receive an envelope containing any powdery substance, immediately stop opening the container. Notify the Lincoln County Sheriff's Office (911) and the Department Head and wash your hands, and proceed to the evacuation area. The Department Head will notify Police and Fire departments and provide a description of the substance. On scene treatment will be dictated by the Fire/EMS.

Medical Emergencies

In the event of situations requiring medical response contact 911 and report your problem. PLEASE NOTE, in some offices, you must dial a 7or 9 to access an outside line! **All county employees will be offer CPR/First Aid training each year if they want to take it. The Department Head will determine if any employee working under them are required to take CPR/First Aid training and maintain their certification due to the type of work they perform**

If you sustain an injury or are involved in an accident requiring first aid treatment even minor injuries:

- Inform your supervisor immediately.
- Seek First Aid with the assistance of your Supervisor.
- Access to a first aid kit is not intended to be a substitute for medical attention. Seek professional medical attention, if needed.

Incidents Requiring Emergency Medical Treatment:

If you sustain a severe injury or illness:

- Call out for help and seek assistance from a co-worker.
- Lie or sit still until a first aid or emergency medical personnel arrive.

If you witness or are arriving to the aid of a seriously injured or ill co-worker:

- Point to someone nearby and instruct them firmly to dial 911 for emergency medical assistance.
- Instruct another co-worker to go outside and guide the emergency responders to the injured or ill person upon their arrival.
- Render first aid only to the degree you are qualified and always wear personal protective equipment such as latex gloves to prevent exposure to blood borne pathogens, such as HIV and Hepatitis that may be present in bodily fluids. Gloves can be found in every first aid kit. It is not a work requirement by Lincoln County to provide first aid.
- Provide information and details regarding the injury or illness and any first aid rendered to emergency medical personnel.

In all cases:

- Provide details to your supervisor for the completion of an accident investigation report as soon as possible.
- Communicate to your Supervisor or Manager any work restrictions imposed by your physician.
- Follow your physician's medical advice (i.e. work-restrictions, at-home therapy, etc.).

FOR MORE INFORMATION

Occupational Safety & Health Act (OSHA) - Regulations (Standards - 29 CFR) Part 1910.38: Emergency Action Plan. OSHA's Emergency Action Plan Standard

APPENDICES

Appendix 3 - A	Severe Weather Watches and Warnings Definitions
Appendix 3 - B	MEMO Adverse Weather policy, County Manager George Wood
Appendix 3 - C	LINCOLN COUNTY PERSONNEL POLICY, Severe Weather Operations
Appendix 3 – D	If you are the First or Among the First to be Informed of/or Discover a Disaster
Appendix 3 - E	Bomb Threat Incident Report

Appendix 3 – A: Severe Weather Watches and Warnings Definitions

- Flood Watch: High flow or overflow of water from a river is possible in the given time period. It can also apply to heavy runoff or drainage of water into low-lying areas. These watches are generally issued for flooding that is expected to occur at least 6 hours after heavy rains have ended.
- Flood Warning: Flooding conditions are actually occurring or are imminent in the warning area.
- Flash Flood Watch: Flash flooding is possible in or close to the watch area. Flash Flood Watches are generally issued for flooding that is expected to occur within 6 hours after heavy rains have ended.
- Flash Flood Warning: Flash flooding is actually occurring or imminent in the warning area. It can be issued as a result of torrential rains, a dam failure, or ice jam.
- Tornado Watch: Conditions are conducive to the development of tornadoes in and close to the watch area.
- Tornado Warning: A tornado has actually been sighted by spotters or indicated on radar and is occurring or imminent in the warning area.
- Severe Thunderstorm Watch: Conditions are conducive to the development of severe thunderstorms in and close to the watch area.
- Severe Thunderstorm Warning: A severe thunderstorm has actually been observed by spotters or indicated on radar, and is occurring or imminent in the warning area.
- Tropical Storm Watch: Tropical storm conditions with sustained winds from 39 to 73 mph are possible in the watch area within the next 36 hours.
- Tropical Storm Warning: Tropical storm conditions are expected in the warning area within the next 24 hours.
- Hurricane Watch: Hurricane conditions (sustained winds greater than 73 mph) are possible in the watch area within 36 hours.
- Hurricane Warning: Hurricane conditions are expected in the warning area in 24 hours or less.
- Winter Storms

Appendix 3 – B: Adverse Weather Plan

COUNTY OF LINCOLN, NORTH CAROLINA
115 WEST MAIN STREET, 3RD FLOOR CITIZENS CENTER • LINCOLNTON, NORTH CAROLINA 28092

OFFICE OF THE COUNTY MANAGER
GEORGE A. WOOD, COUNTY MANAGER
MARTHA W. LIDE, ASST. COUNTY MANAGER
(704) 736-8471
FAX (704) 736-8820

Department Heads

From: George A. Wood,
County Manager
Date: 17 January 2012
Subject: Adverse Weather Information Plan

All county employees are expected to work their normal work schedule in the event of adverse weather conditions. County offices and departments shall remain open for the full scheduled working day, unless authorization for early closing or other deviation is received from the County Manager's office. All offices and departments will be given sufficient advance notice of any authorized shutdowns or early closings.

Employees who leave work before an official early closing time, as well as employees who report for work later or do not report for work at all will be required to use earned annual leave time for the hours or days taken.

If adverse weather occurs during the night, a decision about the County office work schedule will be made by 6:30 a.m. the following morning. This decision will be relayed to the media, Comm Center, and by a plan to notify each department head, who in turn will notify supervisors. Please call your supervisor if you have any questions about reporting to work.

The safety of all Lincoln County employees is the first concern of the County Manager, and will always be considered in the decision making process.

This year we will be using the county's new LincAlerts/LincInfo Emergency Notification System to notify employees in the event of a county office closing or delayed opening. Each Department Head has been provided a phone list for you as a reference and backup in the event of a problem with the emergency notification system. See your Department Head for a copy of the adverse weather communication phone tree plan. Please retain for your records.

Appendix 3 – C: Article VI Personnel Policy

LINCOLN COUNTY PERSONNEL POLICY
ARTICLE VI. HOLIDAYS AND LEAVE

Section 20 **Severe Weather and Emergency Conditions**

A. Purpose

As a local government, the essential services of Lincoln County must be provided even during periods of severe weather or emergency conditions. The County is committed to maintaining full service levels to the extent possible. However, there are certain severe weather conditions or other emergency conditions that may necessitate closing, delaying the opening of County offices, or extending work periods beyond the employee's regular work schedule:

• Severe weather conditions may be due to weather events such as tornadoes, ice storms, high winds, snowstorms, and thunderstorms.
• Other emergency events may include natural disasters, industrial disasters, traffic/transport disasters (railroad, transfer truck accidents), and/or terrorist activities that result in a risk to persons and/or property.

If a severe weather condition or other emergency event results in extensive property damage or loss of lives, the Chairman of the Board of County Commissioners may declare the event to be a Disaster. Under severe or emergency weather conditions, the County Manager may modify the employees' work schedule as necessary at his discretion.

B. Announcements and Notifications

1. When conditions warrant, the County Manager will determine and announce all decisions to close, delay, or cancel activities of the County.

2. When the County's schedule is altered, an announcement will be available through news media outlets, the Lincoln County Government Contact System, via the County's website, telephone tree or other automated notification system.

3. If severe weather or emergency conditions develop during the day, employees will be notified of closings through normal supervisory channels.

C. Reporting For Work

1. All employees are expected to make the necessary advanced preparations to report each scheduled workday.

2. All employees are responsible for ensuring they can be reached via valid contact information at all times.

3. For purposes of severe weather or other emergency events, County Operations are deemed "Essential" or "Non-essential."
    - Essential County Operations are designated as, but not limited to: Sheriff's Office and Jail, Emergency Communications, Transportation, Emergency Management, Fire Marshal, Emergency Sheltering, Public Works, Water and Wastewater Field Operations, Maintenance and Grounds, and Planning and Inspections.
    - Essential employees are expected to report for work on their regular schedule in spite of any closing, delay, or cancellation.
    - Non-essential County Operations are County provided services that are not generally needed at the time of a severe weather or other emergency event and include, but are not limited to: Information Technology, Libraries, Human Resources, Elections, Register of Deeds, and Tax Department.
    - Non-essential are excused from reporting during an official closing, delay, or cancellation unless they are notified by an appropriate supervisor that they must report for work to support the necessary operations of County Government in spite of the closing, delay, or cancellation of other activities. Such determinations and notifications are made on a situation-specific basis.

4. Employees who do not report to work during periods of severe weather when County departments and agencies are operating under a normal work schedule, must account for the absence by using accrued annual or holiday leave equal to the scheduled workday. In the absence of any formal department or agency guideline for notification of an unplanned leave event, the employee is required to provide notice of an absence from work no later than 30 minutes after reporting time.

5. Some County departments may allow employees to work a flexible schedule. However, when the County is operating on a delayed-opening schedule, all flexible scheduling is suspended unless specifically approved by the supervisor.

6. If an employee desires to leave work early due to inclement weather conditions, approval must first be obtained from the supervisor prior to leaving the assigned workstation. The employee must account for the absence by using accrued annual or holiday leave to equal the number of hours not worked in the scheduled workday. Employees who leave work on approved leave prior to an official early closing time, as well as employees who report for work late or do not report for work at all, will be required to use earned annual leave or holiday leave for the hours or days taken.

D. Compensation

Employees are categorized as exempt or non-exempt in the Lincoln County Classification Plan.

1. Essential Non-Exempt Employees: An essential non-exempt employee who is required to report to work during a period of severe weather or emergency conditions will receive their base rate of pay/ normal compensation for work performed.
   FLSA overtime rules apply. Overtime is to be compensated as direct pay and requires the approval of the employee's department director prior to overtime being worked.

2. Essential Exempt Employees: The County Manager may authorize the award of administrative leave for an essential exempt employee who responds to a severe weather or other emergency event, and works beyond the expected hours for the position,. The awarding of administrative leave in such case is intended to be compensation for working extended periods beyond the regular schedule, and not for trivial amounts of time (i.e. less than three or four hours). Such administrative leave must be used within six months or it is forfeited. In the event of a Disaster Declaration that authorizes FEMA reimbursement, the County Manager may authorize overtime compensation for essential exempt employees, provided such overtime is eligible for reimbursement.

3. Non-Essential Employees will not forfeit pay for regularly-scheduled work hours missed due to official closing, delay, or cancellation, nor will they be required to make up the work time or report such time as accrued leave. When Non-Essential Employees report for work to support the necessary operations of County Government during a period of severe weather or emergency conditions, they will receive their base rate of pay. FLSA overtime rules will apply. Overtime will be compensated as direct pay and requires the approval of the employee's department director prior to being worked.

Appendix 3 – D: If You Discover a Disaster

IF YOU ARE THE FIRST OR AMONG THE FIRST TO BE INFORMED OF/OR DISCOVER A DISASTER

1) Stay calm.

2) Notify Emergency Services via 911.

3) Confirm the nature and scale of the event with the dispatcher.

4) Locate Disaster Recovery Plan/Emergency Action Plan and inform the Plan Administrator. Have the Plan Administrator to begin completing the Business Recovery Plan Checklists.

5) Who else has been informed?

6) Do you require local help now from any other Lincoln County staff?

7) Attend the scene.

8) Establish contact with a senior person for emergency services on site – obtain his/her findings/opinion/advice.

9) Relay this additional information to the Department Head or designee with your immediate needs. Keep relaying information as the situation unfolds.

10) Make sure you can be contacted.

11) Refer all media enquiry's to the County Manager, or if the County Manager is unavailable, the Assistant County Manager. They may have the county PIO or IC to respond to any questions. If it is County related incident all media enquiries must be cleared through County Manager's Offcie.

12) Inform those employees who need to know by using the normal management chain i.e. Managers to notify their supervisors.

13) Keep a note of events especially if you are having to make immediate decisions or are forced by circumstances to deviate from the Disaster Recovery Plan/Emergency Action Plan.

14) Review security and try to minimize the loss.

Appendix 3 – E: BOMB THREAT INCIDENT REPORT

Who received the call? _____

Date call received: _____ Time: _____ ☐ AM ☐ PM

Location of call received: _____

Origin of Call Received: ☐ Local ☐ Long Distance ☐ Internal ☐ Phone Booth

Time caller hung up: _____ ☐ AM ☐ PM

THE CALLER: (TRY TO HOLD CALLER ON LINE, GET ALL INFORMATION POSSIBLE)

Time bomb will explode: _____

Kind of bomb: _____

How is it activated? _____

Where is it located (building or area) _____

Reason for placing bomb? _____

Exact words of caller: _____

Caller's name (if given) _____

Voice: ☐ Child ☐ Male ☐ Adult ☐ Female

Approximate age: _____

VOICE CHARACTERISTICS:

Accent or dialect: ☐ Local ☐ Not Local ☐ Foreign

Tone: ☐ Loud ☐ High Pitch ☐ Calm ☐ Soft ☐ Low Pitch ☐ Angry ☐ Raspy ☐ Pleasant ☐ Calm ☐ Irrational

Speech: ☐ Coherent ☐ Laughing ☐ Stutter ☐ Incoherent ☐ Fast ☐ Nasal ☐ Righteous ☐ Slow ☐ Emotional ☐ Distinct

Language: ☐ Excellent ☐ Good ☐ Poor ☐ Cursing

BACKGROUND NOISE:

☐ Music ☐ Office Machines ☐ Factory Machines ☐ Trains ☐ Airplanes

☐ Quiet ☐ Voices ☐ Mixed ☐ Animals ☐ Street Traffic

SPECIAL NOTE: *Did the caller appear familiar with the building by the description given of the bomb location? Write out the message in its entirety and any other comments on a separate sheet of paper and attach to this checklist.*

Report Prepared By: _____ Date: _____

Job Title: _____

THIS PAGE LEFT BLANK INTENTIONALLY

Chapter

4

Chapter 4: General Office Safety

Office work can be more hazardous than is commonly thought since many accidents occur during ordinary office routines. The following are some best practices that can help make your office areas safe.

- Every employee must see that their work area is clean and orderly. Pick up items such as pencils or paper clips and wipe up any spilled liquids in a timely manner. Good housekeeping is the key to a safe office environment.
- Slips, trips, and falls are some of the most common causes of injuries to office employees. Keep an eye open for loose or rough floor covering, loose tiles, or carpeting that can create a tripping hazard and report these to your supervisor. Clean up spills immediately, or put up wet floor signs until help can be summoned or any time a walking path surface is wet.
- Be extra cautious when you come up to a door that can be pushed toward you. Take it easy when pushing one open. Also slow down when coming to a blind corner.
- Haste when walking between desks can result in bruises and falls. Watch out for electrical cords and keep them out of aisle-ways. If a cord needs to be run through the walkways, ensure that a cord cover is used.
- Never run electrical cords through doorways as it creates a pinch point that can break the integrity of the cord.
- All file, desk, and table drawers should be kept closed when not in use. If you leave them, close them. Never open more than one file drawer at a time.
- Overloading the top drawers of unsecured file cabinets can cause injuries and damage to the file cabinet if they tip over. Cabinets should be loaded evenly and should be secured to adjacent cabinets or to walls so they cannot fall over. File cabinets should have an interlocking device that allows only one drawer to be opened at a time, and drawers should have stops so they cannot inadvertently be pulled all the way out of the cabinet. Never stack anything on top of filing cabinets.
- Furniture such as tables, desks, and chairs must be maintained in good condition and free from sharp corners, projecting edges, wobbly legs, etc.
- Tilted chairs can be a hazard when improperly used. Take care to assure that they are in good condition. Learn the limits.
- Never use chairs, desks or other office furniture as a makeshift ladder. Use a stepladder or step stool and don't over-reach.
- Keep the blades of a paper cutter closed when not in use. All paper cutters must be guarded.

- Scissors, paper cutters, glass, and razor blades can cause painful injuries. Report and treat such injuries at once to protect yourself from infection.
- Paper can cut and it hurts. Use a sponge or other wetting device for envelopes instead of your tongue. Use rubber finger guards when working with stacks of paper.
- Keep paper clips, thumb tacks, and pins in a place where they can't bite. Even a little scratch can get infected.
- Be sure all electric office equipment is grounded and that the cord is in good condition. If a machine gives you an electric shock or starts smoking, unplug it and report it. For computers, use surge protectors to protect your equipment from electrical power surges. Outlet strips may also allow more electrical equipment to be plugged in safely at one outlet/location, but look at the rating of the device and do not overload the circuit. **Do not use extension cords in conjunction with outlet strips.**
- Store heavy office supplies at a height between your knees and shoulders. Use proper lifting techniques for moving paper supplies to copy machines or printers.

Office Ergonomics:

KEEPING YOUR HANDS AND ARMS HEALTHY!

Before the invention of computers, office employees had to perform a wide range of movements to get their work done. Today a great deal of office work centers around computers and on a much narrower range of movements. This lack of variation in the movements you make can contribute to discomfort and injury.

Each of us will make thousands of movements every day and these movements will have a small wearing effect on our bodies. This is similar to the slow wearing effect that occurs to the tires on our cars through normal use. The tires on our cars are designed to last tens of thousands of miles, but we know that we'll eventually have to replace them once they wear out. We also know that the way we treat and drive our cars affects the life of our tires - the harder you are on your car the sooner the tires will wear out. The same can be said for our bodies, but unlike tires, you can't buy replacement body parts when the originals wear out! So, the key is to perform our tasks with as little unnecessary stress as possible because we have to make our bodies last a lifetime.

The goal is to help you make your work more user-friendly: safe, rewarding, and efficient. In order to improve the user-friendliness of your work we use a tool called ergonomics. The goal of ergonomics is to fit the job to the person, rather than making the person fit the job. To achieve this, ergonomics focuses on the tools, equipment, layouts, and overall organization of work and how they affect the people that do it. Ergonomics enhances your ability to perform your tasks safely and effectively.

KEEP IT IN NEUTRAL

One of the keys to minimizing the stress that any activity, including work, has on you is to use the neutral posture of your body. The following are some key points concerning your body positioning to keep in mind when you're doing any activity. However, keep in mind that the body requires movement and thus no single posture can or should be maintained for long periods. The goal is to find alternative postures that maintain as many of the following guidelines as possible.

1. Keep your neck straight, avoiding any long periods of rotation or side bending.
2. Keep your shoulders relaxed and down. It is very common for computer users to shrug their shoulders while keying. Adjusting the height of your chair or keyboard can allow you to maintain a relaxed position.

3. As a general rule your elbows should be at about 90 degrees and close to you're body, avoiding any "winging".
4. Try to keep your wrists in line with the forearm, avoiding bent positions, hard surfaces and sharp edges.

5. Neutral posture for the spine is with three curves: a backward curve at the neck, a forward curve at the ribs, and another backward curve at the low back. To maintain three curves try keeping your head over top of your shoulders (many computer users stick their head out while viewing the monitor) and avoiding forward bending at the waist. Make sure there is adequate space behind your knees, allowing proper circulation to your legs.

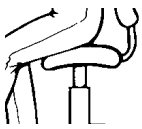
YOUR CHAIR

If you are a computer user, then there is probably no other piece of furniture in your life that you will spend more time in then your office chair. Although many employers have gone to great expense to supply chairs that have many adjustable features, very few people make adjustments to them. Sitting for long periods is a demanding task (think about your last long car trip). With this in mind consider the following:

Move - There is no one "right way" to sit. The key is to make frequent minor adjustments throughout the day.

Use Your Chair or Chairs Features - If you are not currently familiar with your chair features, acquaint yourself now. Lincoln County requires that you spend a great deal of time here and the five-minute investment in reading the user manual will be well worth time.

Stand - If you are going to stop for few seconds and think about something - try standing while you think. If you are going to make a phone call and do not need your work surface - stand and talk. Periodic standing improves circulation, decreases discomfort and reduces fatigue.



Low Back Support - When you sit, the pressure in the disks of your back doubles. You are not aware of this because you do not have nerves in your disks, but the long-term effects of the increased pressure can take a toll on your back's health. To minimize the pressure placed on your disks you need to maintain good low back support by using

the lumbar curve of your backrest. The lumbar curve of the backrest is the rounded portion near the bottom of your backrest. It should be at a height where it lines up with the lumbar region or the lower back. Once the height is properly adjusted you must push your butt to the back of the chair and wrap your spine around it in order to benefit from it. If your chair doesn't have an adjustable back rest, you can use a small pillow or rolled up towel to place behind you to achieve the same affect.

Your Keyboard and Wrist Rest

The positioning of your keyboard, more specifically the height of your keyboard, is quite important. If it's too high or low, you will bend your wrists placing more wear on the tendons that slide back and forth with each finger movement. The best position for your keyboard is at a level and angle where your elbows, wrists, and home row of keys are in a line and your shoulders are relaxed. To achieve this position, you can either lower your keyboard or raise your chair.

The best position for your wrists is known as the "neutral" position and this simply means your wrists are straight and in line with your arm. This position is the most desirable whether you're at rest or working and using your hands. Without wrist rests, many people use the keyboard either with bent wrists or with their wrists resting against a hard or sharp surface. Wrist rests allow you to rest the weight of your arms while maintaining neutral wrist posture.

Your Monitor and Copy Holder

Like your wrists, the best position for your neck is also straight or neutral, as opposed to bent to the side or bent forward/backward. Your primary visual task takes priority. Thus, in general, the best place for your monitors is directly in front of you, just like your keyboard. Placing the monitor off to the left or right causes you to place unnecessary stress on your neck. However, if you perform data entry tasks where the primary visual task is your data and not the monitor then your document holder should be in front of you with your monitor slightly to the side for periodic error checking. You also want the monitor to be at eye level or slightly below, so your neck is not held in an upward or downward position.

Another helpful device to help keep your neck straight is a document or copy holder. The less head/neck movement that's required looking at the document, the better off your body will be. So it's best to place the document holder next to the monitor at eye level. A common practice by many is to place the document off to the side on the desk, which requires the person to place their neck in a downward and rotated position.

APPENDICES

Appendix 4 – A: Checklist for Office Safety

Appendix 4 – B: Fire and Other Safety Requirements for County Facilities

Appendix 4 – A: Office Safety Checklist

Location _____ Department _____

Inspector _____ Date _____

Place a 'U' for Unsatisfactory or 'S' for Satisfactory in the space provided. Report findings on the safety inspection report and deliver to the department head.

Work Surfaces & Chairs

____ Materials on desks and work surfaces

____ Materials on desk not piled in a manner that would cause tipping

____ Items not left on edge of work surface (i.e.

____ Chairs clean and in good condition

____ Equipment electrical cords neatly bundled

Step-Stools & Stairways

____ Step-stools lock down, in good condition

____ Step-stools present in storage rooms and near tall file drawers/shelving

____ Stairways unobstructed, not used as storage

____ Stairways clean/dry and landing/stairs in good condition

____ Hand-rails in good condition.

Shelving, Cabinets, Cubicle Bins & Bookcases

____ Shelving on racks and bookcases able to safely sustain weight of materials.

____ Shelving does not 'bow' and is in and in good condition - metal shelving attached to wall.

____ Heavier items placed on bottom shelves, lighter materials on top shelves

____ No items on top of cabinets

____ Doors close properly and in good condition

____ Materials not over stuffed inside cabinets or on shelves

____ Drawers closed after use

Floors and Stairways

____ Floors and aisles clear of debris, liquids, grease, etc…

____ Materials properly stacked to avoid tipping

____ Garbage containers not overflowing

____ Mats & Rugs lay flat (no bunching, curled edges, etc.)

____ Flooring in good condition (No loose carpeting, broken/chipped tiles)

____ Doorway and tile/carpet thresholds present and in good condition.

____

Fire Safety

____ Flammables/Combustibles (i.e. cleaners, paper products) kept away from ignition sources.

____ Flammable/Combustible chemicals stored in approved containers or flammables cabinet with doors securely closed.

____ Fire extinguishers have a 3ft clearance

____ There is an 18" clearance below all sprinkler heads

____ Emergency lighting tested monthly and in good condition

Electrical Safety

____ Electrical panels closed, have 3ft clearance and circuit breakers properly identified

____ No overloaded outlets or permanent use of extension cords

____ 3-prong grounded plugs in good condition

____ No frayed wiring.

____ GFCI outlets present near water sources and tested

Misc. Safety Equipment/PPE

____ First Aid Kits clean, properly stocked, and ready for use

____ Personal protective equipment (gloves/CPR Shield) available and in good condition.

____ Fire extinguishers have been serviced within the last year are not blocked and are monthly inspected.

Hazard Communication / Chemical Safety

____ MSDS and chemical list up-to-date.

____ Containers properly labeled

____ Label reflects contents in container

Equipment Safety

____ Defective Equipment/Furniture properly tagged

____ Tools/Appliances/Equipment in good condition

____ No exposed pinch-points, wiring or moving machine parts (safety guards in place and operational)

Other:

____ Emergency Eye Wash/Shower Stations clear of obstacles and weekly inspected. Also, located within 20 feet of corrosive material storage

____

EMPLOYEE SAFE BEHAVIOR OBSERVATION TOUR

	Ergonomic Issues*	Employee Observed	Comments
____	Frequently used items (i.e. phone) within close reaching distance		
____	Keyboard/mouse drawer properly utilized (if available)		
____	Monitor positioned at or slightly below eye level and directly in front of employee		
____	Arms, hands and neck in a neutral position		
____	Exhibited proper posture when seated (no slouching)		
____	Seated back in the chair		
____	Lumbar support properly positioned.		
____	Legs not crossed, feet placed flat on floor or platform		

- **The ergonomic checklist items are not intended to be a complete ergonomic evaluation. Please contact Human Resources Department for further assistance in the area of workstation ergonomics.*

INSPECTION REPORT AND IMPLEMENTATION PLAN:

DEFICIENCY(S)/COMMENTS:

1. _____

2. _____

3. _____

4. _____

5. _____

6.

7. _____

#	4. **Corrective Action Plan**	**Responsible Party**	**Status**	☒
	5.			☐
	6.			☐
	7.			☐
	8.			☐
	9.			☐
	10.			☐
	11.			☐

Reviewed By: _____ Date: _____ Note: _____

Date Completed: _____ Signature of Mgr.: _____

Appendix 4 – B: Fire and Other Safety Requirements for County Facilities

Building Maintenance

Fire and Other Safety Requirements For County Facilities

Approved: October 15, 2012

POLICY:

Lincoln County facilities must be maintained in a manner to protect the safety of our employees and our investment in infrastructure.

PURPOSE:

This procedure outlines the requirements all employees must follow when working in County facilities to maintain a safe environment. It also includes the procedure for reporting a fire or other safety concern.

REQUIREMENTS:

1. Portable Electric Heaters
    a. Portable electric heaters must have a label that states they are "UL" or EDL listed.
    b. There must be a minimum of a 36 inch clearance from any combustible item (paper, wood, plastic and clothing).
    c. They shall be plugged directly into an outlet. The employee using the electric heater is responsible for unplugging (not just turning off) the electric heater when the heated room is unoccupied; Not doing so may result in disciplinary action and / or loss of privilege to use the heater.
    d. They shall sit directly on the floor and may not be placed on tables, desks, etc. e. All electric heaters must have 3 prong cords.
    f. From the date of adoption of this policy forward, any new electric heater which is purchased must have an automatic turn off feature if knocked over.
2. There can be nothing stored higher than 24 inches below the ceiling in a non-sprinkled building or 18 inches below the sprinkler head in a sprinkled building.
3. Combustible storage (example: file cabinets, paper, wood, plastic and clothing) is not allowed in the stairwells, corridors / hallways, electrical, mechanical or boiler room.
4. Combustible waste (example: paper, wood, plastic and clothing) shall not be allowed to accumulate in any county facility.
5. Drop Cords / Extension cords / Power strips

a. All drop cords (extension cords) must be UL listed and have a label that states their use, size and wattage rating.
b. Drop cords may be used for portable appliances only not for office equipment and other appliances not normally moved.
c. Drop cords may not be extended through walls, doors, ceilings or underground and may not be a substitute for permanent wiring.
d. Caution should be taken to make sure the drop cord is not a trip hazard.
e. All extension cords / drop cords shall be a three wire type with the ground prong intact.
f. Mutli-plugs / power strips / extension cords and drop cords cannot be piggybacked (one power strip plugged directly into another) and must plug directly into an outlet. Multi-power adapters must be plugged directly into the power source unless approved by the Fire Marshal.
g. Only UL listed mutli-plugs / power strips are permitted.
h. Extension cords / drop cords shall be maintained in good condition without splices, deterioration or damage. Extension cords / drop cords cannot be repaired in any way; they must be replaced.

6. Fire doors may not be wedged open
7. Fire extinguishers cannot be blocked; they must be accessible at all times. All fire extinguishers shall be serviced and tagged annually. Each department is responsible for assigning staff to check the fire extinguisher monthly for the following things:
   a. Pull pin is in place
   b. Break away plastic strap is in place c.
      Arrow is in the green on the
   d. Fire extinguisher is in proper place
   e. Tag is on fire extinguisher and has been signed for each month
8. The required width of corridors / hallways / stairwells shall be unobstructed. Combustible storage is not allowed in the means of egress, corridors / hallways / stairwells.
9. In mechanical and electrical rooms and any area where electrical panel boxes are located 36" clearance must be maintained around panel box.
10. Use of candles and open flames shall be approved prior to use and required permits obtain from Fire Marshal's Office. No electric candle warmers or incense burners are permitted in County Facilities
11. Christmas trees and other (live or artificial) decorations shall meet requirements allowed in the NC Fire Code for public buildings. No live trees are permitted in County facilities.
12. Material Safety Data Sheets shall be kept in readily available areas and update annually or as needed.

13. NO SMOKING allowed in any county building.
14. Employees will be advised annually about what they should do in an Emergency Evacuation Drills and any required emergency drills shall be held at the intervals specified in the fire code.

HOW TO REPORT A FIRE OR OTHER SAFTEY CONCERN

Any fire or immediate safety concern should be reported by calling 911.

We count on employees to be the eyes and ears of the buildings and to report any fire or other safety concerns. Employees should report any violations of the above requirements and any of the concerns listed below or any other fire / safety concerns:

- Any exit and emergency lights that are not illuminated
- Any fire extinguisher that is not tagged or has not been maintained on schedule.
- Any fire door that is not in proper working order or does not latch when closed.
- Any missing ceiling tiles.

The process for reporting concerns is as follows:

1. Report it to your supervisor
2. If your concern is not addressed report it to your Department Director
3. If your concern is still not addressed, report it to the Human Resources Department

FOR MORE INFORMATION CONTACT: Building Maintenance Supervisor

Chapter

5

Chapter 5: Housekeeping

Housekeeping is an important element of every safety and health program. Many painful and sometimes disabling injuries are caused when employees are struck by falling objects or by striking against or tripping over objects they did not see. Many injuries and property damage losses stem from fires caused by poor housekeeping practices and improper storage of flammable materials. The best protection against these hazards is good housekeeping

When materials are stored properly with adequate space to move through the storage area or with adequate clearance to work within the storage area, accidents can be avoided. With some pre-planning, tripping hazards can be avoided and many other sprains, fractures, and bruises that result from falls can be prevented.

Aside from the accident prevention benefits, good housekeeping means efficient performance. When materials, tools, and equipment all have a place, 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 are to be followed at all Lincoln County facilities:

- 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, 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 overhead on balconies or mezzanines, provide standard guardrails to prevent falls and provide toe boards to keep objects from rolling over the edge. All mezzanines shall be load rated to prevent collapse. Load rating should be posted.
- 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. If a spill cannot be cleaned up immediately, the area must be appropriately guarded, signed or roped off to warn of the hazard.
- 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-employees 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 labeled 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.
- Consumption of food and beverages is prohibited in areas where hazardous substances are stored or used. In laboratories such as at the Water and Wastewater facilities.
- Circuit breaker boxes and fuse boxes will 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) will not be stored in mechanical rooms or around electrical boxes.
- Extension cords will not be run across aisles or through oil or water. Extension cords cannot be the household type.
- Keep electrical equipment properly maintained and free of grease and dirt.

Chapter

6

Chapter 6: Drug, Alcohol, and Medical Evaluation Policy

THE USE OF ALCOHOL AND ILLEGAL DRUGS WILL NOT BE TOLERATED; LINCOLN COUNTY HAS A ZERO TOLERANCE POLICY.

Physical Evaluations

All employees shall undergo a physical evaluation by a physician of the County's selection in the following instances:

1. Upon hire for certain jobs of the County that require them.
2. Upon promotion or transfer into a job that requires a physical, to ensure that the employee can perform the essential duties of the job.
3. Upon the discretion of the department head for base-line evaluation for health concerns.
4. Upon direct order of the County Manager.

Use of Medication in the Work Place

- All employees should inform their department head or direct supervisor when they are taking prescription medication or over the counter medication that may affect their work performance.
- When the supervisor questions an employee's capability to perform his/her job safely due to the effects of medication, medical clearance from a physician must be obtained. Until medical clearance is obtained, the employee will not be permitted to operate County vehicles or potentially dangerous equipment. The employee's duties may be temporarily altered to accommodate any temporary disabilities due to the effects of medication.
- All employees are responsible for educating themselves about the effects of any medication. If an accident occurs in the workplace due to the effects of medication, the employee shall be held responsible if he/she did not seek guidance in the proper use of that medication.

Use of Alcohol in the Workplace

1. Consumption of alcohol on the job, during working hours, or before reporting to work is prohibited.
2. Anyone caught with the odor of alcohol on their breath will be required to submit to a breathalyzer test or be required to submit a blood analysis.
3. All employees who possess a commercial driver's license and in the duties of the position drive commercial vehicles owned by Lincoln County, NC have a 4 hour alcohol free provision on their position. Therefore the employee shall not consume alcohol 4 hours before reporting for their work period.

Drug Testing Policy

PURPOSE

The purpose of this policy is to provide all applicants and employees with notice of the provisions of the Lincoln County's drug testing program.

SCOPE

- Due to the critical mission of certain employees of Lincoln County and the reliance by the citizens of the community upon the County Government and its employees, it is the policy of Lincoln County to maintain a drug-free work environment through the use of an applicant, promoted employee, lateral transferee, and reasonable suspicion drug testing program.
- The implementation of a drug testing program by the Lincoln County is necessary for the public safety, for the integrity of Lincoln County and for the protection of confidential information. The public has a right to expect that employees are at all times both physically and mentally prepared to perform their duties.
- There is sufficient evidence to conclude that the use of controlled substances and other forms of drug abuse will seriously impair an employee's physical and mental health and, thus, their job performance. Public confidence in Lincoln County's credibility and integrity must be maintained.
- Lincoln County places trust and confidence in the integrity and loyalty of each of its employees. Illegal drug use by employees shows less than the complete reliability, stability, and good judgment that is consistent with the ability and willingness to perform one's job and creates the possibility of coercion, influence and irresponsible action under pressure. Additionally, employees who use illegal drugs, on or off duty, tend to be less productive; less reliable; and more prone to accidents, tardiness, and absenteeism than their fellow employees who do not use drugs.
- Therefore, in order to ensure the ability of Lincoln County employees to protect the citizens of this community, and to preserve public trust and confidence, Lincoln County has implemented a drug testing program. This program is designed to detect prohibited drug use by employees and to reduce the likelihood that drug-dependent applicants, promoted employees and lateral transferees will be employed by the County.
- All employees are reminded of Lincoln County's Employee Assistance Program (EAP) in which an employee can voluntarily seek help. In the event an employee, who is not a lateral transferee or promoted employee, who has not been involved in

a motor vehicle accident, and who has not been identified as someone about whom there is reasonable suspicion of drug usage, voluntarily seeks help from the EAP, that employee will not be given a drug test on the sole basis of his/her volunteering for help from the EAP.

Definitions

Applicant: A person, other than a lateral transferee or promoted employee, who applies for employment or appointment to a drug sensitive position with Lincoln County.

Lateral Transferee: An employee of Lincoln County who applies for lateral job transfer within Lincoln County.

Promoted Employee: A person who is otherwise eligible and preliminarily selected for promotion to a new job title at a higher pay scale or position

Drug Sensitive Position (DSP) Employee: A person employed full-time or part-time by Lincoln County as a public safety officer (certified, sworn police officers and firefighters), equipment operator, water plant operator, waste treatment plant operator, mechanic, shop worker, department head, assistant department head, day camp worker, lifeguard, special populations worker, recreation supervisor (programs, centers & pools, athletics), park maintenance technician, rescue technician or EMS worker, or any employee who is required to have a Class A or Class B driver's license.

Drug Test: The compulsory production and submission of urine by an applicant, lateral transferee, promoted employee, or employee in accordance with Lincoln County procedures, for chemical analysis to detect prohibited drug use

Reasonable Suspicion: A reasonable belief that an employee has used or is using illegal drugs or alcohol drawn from specific and particularized facts and reasonable inferences from those facts.

Procedures and Rules

Prohibited activity

- The following rules shall apply to all applicants and employees, while on and off duty, and violation of these rules shall render an employee subject to disciplinary action, up to and including dismissal:
- No employee illegally possesses any controlled substance.
- No employee shall ingest any controlled or other dangerous substance, unless as prescribed by a licensed medical doctor
- Employees shall notify their immediate supervisor when required to use prescription medicine that they have been informed has the potential to impair job performance.
- The employee shall advise the supervisor of any known side effects of such medication as well as the prescribed period of use.
- The employee may be temporarily reassigned to other duties, where appropriate.
- No employee shall ingest any prescribed or over the counter medication in amounts beyond the recommended dosage.

- Any employee who unintentionally ingests, or is made to ingest, a non-prescribed controlled substance shall immediately report the incident to his/her supervisor so that appropriate medical steps may be taken to ensure the employee's health and safety.
- Any employee having a reasonable basis to believe that another employee is illegally using, or is in possession of, any controlled substance shall immediately report the facts and circumstances to his/her supervisor.
- Alcohol consumption on the job, during working hours or before reporting to work is strictly prohibited.
- Any employee having the odor of alcohol on his/her breath will be required to submit to a breathalyzer test or a blood alcohol analysis test

Applicant Drug Testing

Applicants applying for Lincoln County DSP positions or any other position the department head deems necessary shall be required to take a drug test as a condition of employment during the application process (but not more than thirty (30) days prior to the date of employment). Applicants shall be disqualified from further employment under the following circumstances:

1. Refusal to submit to a required drug test.
2. A confirmed positive drug test indicating drug use prohibited by this policy.

Lateral Transferee and Promoted employee Drug Testing

- Lateral transferees and promoted employees into a DSP or any position the department head deems necessary may be required to take a drug test as a condition of their transfer or promotion.
- In the event of a confirmed positive drug test, the employee shall be subject to disciplinary action including up to and including dismissal; if the employee is retained, the County Manager and the department head shall establish a mandatory rehabilitation program for the employee taking into consideration the facts and circumstances of the particular situation and employee. In the rehabilitation program, or in the event there is a second confirmed positive drug test during the employee's employment with Lincoln County, the employee shall be dismissed.

Employee Drug Testing

- Any employee who is operating a County owned vehicle and is involved in a motor vehicle accident shall be required to submit to a drug test as a condition of continued employment.
- Any employee who is operating a private motor vehicle and is charged with "Driving While Impaired" or an alcohol or drug-related traffic offense may be required to submit to a drug/alcohol test as a condition of continued employment.
  The employee must report the "Driving While Impaired" or alcohol or drug-related traffic offense to his/her immediate supervisor on the immediately following said accident or traffic offense.
- Any employee injured while operating equipment or machinery shall be required to submit to a drug or alcohol test.

Chapter

7

Chapter 7: Motor Vehicle Policy

Employees will be responsible for ensuring safe operation, maintenance, and when required, inspection of the vehicle as detailed in this policy. Employees must not operate an unsafe vehicle or operate a vehicle in an unsafe manner.

Motor Vehicle Policy - Maintenance

All vehicles must be properly maintained in accordance with the vehicle manufacturer's suggested schedule. No employee is to operate a vehicle that is not in safe operating condition. For assigned automobiles, the assignee is responsible for proper maintenance. For other vehicles, the Lincoln County Manager will designate someone to be responsible for maintenance of each individual vehicle. The person(s) responsible will see that the maintenance schedule is followed, see that other needed repairs are made in a timely manner, and keep a file documenting all maintenance and repair records.

Motor Vehicle Policy – Driver Selection

Lincoln County vehicles are to be operated only by employees authorized by management to do so. Lincoln County vehicles ARE NOT TO BE OPERATED BY OTHER FAMILY MEMBERS OR NON-EMPLOYEES.

No employee is allowed to operate a Lincoln County vehicle unless properly licensed to do so. Operating a Lincoln County vehicle with an expired or revoked driver's license can result in disciplinary action up to and including termination.

Periodically the County will obtain state Motor Vehicle Record checks (MVR's) on all employees who are authorized to operate a Lincoln County vehicle. As a minimum, Department Heads who become aware of any of the following motor vehicle violations should advise the Human Resources Department:

- Suspension, revocation or expiration of license
- 2 or more moving violations, 2 or more chargeable accidents, or a combination of 2 or more moving violations and chargeable accidents over a 24 month period
- Driving while intoxicated (DWI), reckless driving, leaving the scene of an accident, hit and run, vehicular homicide or assault, participating in an unlawful speed contest, or eluding or attempting to elude a police officer violations
- Any other violation or accident indicating careless disregard for public or personal safety, or the abuse of a Lincoln County vehicle.

The County Manager or designee will review any record showing driving problems outlined above to decide whether or not to allow the employee to continue to operate a County vehicle. **Generally, records with 2 or more moving violation convictions in 24 months, 2 or more chargeable accidents in 24 months, a combination of 2 or more moving violation convictions and chargeable accidents in 24 months, or conviction for one of the serious violations or serious incidents listed in county policy disqualifies an employee from operating any County vehicle.**

Careful driver selection is the key to overall fleet safety. No new employee is to be allowed to drive a County vehicle until the employee has completed the normal application procedure, references have been checked, possession of a valid driver's license has been verified (photocopy in employees file), and a motor vehicle record (MVR) has been obtained and reviewed. No applicant is to be hired and allowed to operate a Lincoln County vehicle whose driving record shows, during the preceding 24 months:

- Two or more moving violation convictions
- Two or more chargeable accidents
- A combination of two or more moving violations and chargeable accidents
- Any Driving While Intoxicated (DWI), reckless driving, leaving the scene of an accident, hit and run, vehicular homicide or assault, participating in an unlawful speed contest, or eluding or attempting to elude police officer violations.

Motor Vehicle Policy – Vehicle Use

Careful driving habits will reduce the chances of an accident more than any other factor. Drivers are to abide by all traffic regulations, laws and ordinances while driving for Lincoln County.

Seat belts shall be worn when driving or riding in any vehicle on Lincoln County business. All occupants of a Lincoln County-owned vehicle shall wear seat belts while it is in operation. In the interest of safety, employees are encouraged to always use seat belts, whether or not they are on Lincoln County business. **(EMS and RESCE personnel) - Seat belts must be worn at all times unless actively involved in patient care while transporting a patient. Any rider or other responders riding in emergency vehicles MUST wear seat belts at all times UNLESS they are helping with providing direct patient care. All passengers and drivers riding TLC vehicles MUST wear seat belts at all times while riding in county owned vehicles.**

Each supervisor is responsible for maintaining the following information in the glove box of each County owned vehicle in their department:

1. Vehicle accident report form
2. Witness information request cards (3)
3. Insurance Policy Card
4. Vehicle registration information

Drivers will not drive after having consumed alcohol and/or drugs, including legal drugs that may impair their ability to operate a motor vehicle.

Passengers other than business associates on Lincoln County business are not to be carried in any County vehicle during business use of the vehicle.

Under no circumstances are drivers of Lincoln County vehicles to pick up hitch-hikers or give rides to strangers.

For those employees who operate County vehicles, fleet safety must be included in their performance appraisals. Fleet safety must also be addressed in the performance appraisals of all management employees who supervise employees who drive Lincoln County vehicles.

Motor Vehicle Policy – General Safety Rules

The following safety guidelines apply to operation of all Lincoln County vehicles. Employees are required to complete a safety check EACH DAY on any vehicle they are assigned to drive.

Daily Vehicle safety checks include:

- windshield washers and wipers
- directional signals
- power steering fluid reservoir
- brakes and brake fluid
- hydraulic systems
- clutch
- lights
- tires
- horn
- motor oil
- Department Heads and Supervisors are responsible for insuring that annual state DMV inspections are done
- Test brakes by putting the vehicle in gear and applying brakes to bring the vehicle to a stop.
- Adjust the seat, inside and outside mirrors, and steering wheel tilt for safe driving before putting the vehicle into gear.
- Never take strong medication before operating a vehicle. Employees must understand drugs, illness, or extreme fatigue may affect your ability to judge distance, speed, and driving conditions.
- All persons who drive or ride in County vehicles are to wear the installed seat belts at all times.
- Supervisors are responsible for insuring that all of their employees are utilizing the installed seat belts.
- Not more than three persons are permitted to ride in the front seat of any vehicle. Persons may not be transported in any vehicle unless safe and secure seating is provided for each person.
- Parking Vehicles:
- Except when working conditions require otherwise, parked vehicles must have the motor stopped, key removed and emergency brakes set, and be left in gear or in park - depending on the type of transmission.
- If parked on a downgrade, turn front wheels towards the curb. If parked on an upgrade, turn front wheels away from the curb.

- Vehicles are not to be parked on the wrong side of the street facing traffic except in case of emergency.
- When trucks or vehicles must be stopped on streets or highways, adequate warning signals must be used.
- Use a spotter if traffic warrants.
- Do not use turn signals as a parking warning.
- Before pulling away from the curb look to see that no vehicles are approaching from either direction, and signal your intention.

When backing a vehicle, be sure the way is clear. Get out of the vehicle when necessary and inspect the area you will be backing into. Back up slowly. Sound horn while backing when necessary. If there is another employee along, he or she should get out and direct the backing.

- Never leave the vehicle with the engine running. It is illegal, as well as an unsafe practice to leave any vehicle unattended with the motor running. Always remove the keys from the ignition.
- Drivers must be particularly alert while driving near children.
- Stay within posted speed limits. Slow down when conditions warrant.
- Do not assume the right-of-way. Use defensive driving, and yield when necessary, even if you legally have the right of way. "Don't Be Pushy - Yield or Stop".
- Keep a safe distance behind other vehicles and avoid tailgating. Do not allow others to tailgate. Slow down, pull over to the side, and let the tailgater pass.
- Signal intentions at least 100 feet in advance, including change in lanes, and turns. Avoid sudden braking.
- Turn on low beam headlights during dark periods of the day, such as rainstorms or fog. Turn headlights on $^{1}/_{2}$ hour before sunset until $^{1}/_{2}$ hour after sunrise when driving at night. Parking lights designate a vehicle is parked – do not drive with only parking lights.

Filling Tanks:

- Shut off the engine.
- Do not smoke near gasoline pumps.
- Keep the nozzle against the edge of the filler pipe.
- To avoid spilling gasoline, do not fill the tank too fast or too full.

CROSSING RAILROAD TRACKS: To insure that everyone arrives safely at their destination, consistently utilize the following procedures when approaching and crossing railroad tracks:

- Upon approaching the railroad crossing, proceed into the far right lane.
- Tum on the four-way flashers I00 feet before reaching the tracks the vehicle must stop behind the white line (if a line is present) and not in the path of the crossing barrier.

- Tum off heaters, fans, radios, etc. so that you can hear a train. If necessary, ask passengers to remain silent during the crossing.
- Open the door completely and listen for an approaching train or (if driving a van) open the window completely and listen.
- Look in both track directions as you listen for an approaching train.
- When you can conclude that no train is approaching, close the door (watching the door while it is closing) or window.
- Check your left mirror for traffic.
- Proceed slowly over the tracks to avoid damage to the vehicle.
- Tum off the four-way flashers after the vehicle is past the tracks.

Emergency vehicles: The fact that an employee is operating an emergency vehicle does not absolve them from civil or criminal liability for the consequences of reckless driving. The driver must be in the position to satisfy a jury that reasonable care and prudence were used in operating emergency vehicles. **When running emergency traffic and you come upon a stopped school bus letting children out or picking up you should NEVER passed a stopped school bus even if waved around by the bus driver. You must wait for the stop sign to be turn off and the bus doors closed to ensure no children cross in front of you.** Even though emergency equipment has warning devices, the drivers are expected to PROCEED WITH CAUTION.

Motor Vehicle Guidelines Incident Reporting

In the event of an incident involving County owned vehicles, the following guidelines apply:

- Drivers are to report any incident involving a County vehicle or any incident involving use of their personal vehicle for business to their supervisor immediately. Any incident involving the use of a car or other vehicle while working, whether or not it results in any injury to any person or damage to any vehicle or property, and regardless of who is at fault, must be reported immediately.

- Notify Law Enforcement Officials immediately. The vehicle should not be moved until authorized by the investigating officer.

- The driver of the County vehicle must report the accident to his or her supervisor as soon as possible. The supervisor is to report this accident to the proper authorities as soon as possible and to the Lincoln County workers' compensation coordinator.

All traffic violations, including towing, fines and court costs incurred by drivers are the exclusive responsibility of the driver.

The driver is responsible for notifying their supervisor if there is a cancellation or breaks in insurance the day cancellation or break in insurance occurs.

The driver is responsible for notifying their supervisor of any moving violation convictions within five (5) working days of conviction and driver is to notify supervisor of any at fault accidents not involving county vehicles within five (5) working days of accident. Driver is to notify their supervisor of any moving violation conviction or at fault accident whether it occurred on or off duty.

The driver shall respond to the Human Resources Director, upon request by letter, within ten (10) working days regarding accidents. If driver does not respond within designated time frame, the accident or accidents in question shall be conclusively presumed to be the fault of the driver.

Of all aspects of driving conditions, you have direct control over only two: yourself and your vehicle. It is your responsibility to make sure your vehicle is in proper working condition. Using the following checklist may be critical to your safety. U = Unsatisfactory S = Satisfactory

Vehicle ID **Odometer Reading**

General		U	S	NA	COMMENTS
Brakes (Pedal Pressure)					
Emergency Brake					
Windshield Wipers					
Windshield Defroster					
Safety Belt					
Horn					
Mirrors (adjust before driving)					
Lights & Signals		**U**	**S**	**NA**	**COMMENTS**
Hazard Lights					
Both Tail Lights Working					
Brake Lights					
Turn Signals					
Both Headlights (High & Low Beam) Working					
Tires		**U**	**S**	**NA**	**COMMENTS**
Tread					
Inflation					
Spare					
Fluid Levels	**Last Fluid Change**				
Oil	____/____/____				
Power Steering	____/____/____				
Power Brakes	____/____/____				
Coolant	____/____/____				
Transmission	____/____/____				
Gasoline					
Windshield washer Fluid					
Emergency Items / Information					
Vehicle Registration & Insurance					
First Aid Kit					
Tire Changing Equipment					
Motor Vehicle Accident Investigation Kit					
Vehicle Maintenance	**Date of Maintenance**				
Engine	____/____/____				
Tires Rotated	____/____/____				

Chapter

8

Chapter 8: Blood borne Pathogens Exposure Control Plan

PURPOSE: The intent of the Lincoln County Blood borne Pathogens Exposure Control Plan is to achieve the goal of providing a safe work environment for Lincoln County employees, volunteers, students, trainees, observers and bystanders whose activities may involve contact with patients, clients, and/or their blood and bodily fluids while complying to the applicable sections of the Occupational Safety and Health Standards (OSHA) for General Industries (29CFR1910).

OSHA CATEGORIES:

OSHA has developed three (3) categories to describe an employee's occupational exposure to communicable diseases.

Category 1 jobs that involve activities with direct contact with blood or other bodily fluids to which **Universal Precautions** apply

Category 2 jobs involve activities performed without blood exposure but exposure may occur in an emergency

Category 3 jobs involve activities which do not entail predictable or unpredictable exposure to blood

Departments who have employees that fall into Category 1 shall develop an exposure control plan similar to LCEMS SOG 125-02 and assure that all equipment/supplies (latex free, single use only, and at no cost to the employee) required to assure Universal Precautions (see Appendix A) are available to all employees at all times and provide training/review of the policy to all new employees and annually to incumbent employees.

Departments who have employees that fall into Category 2 shall assure that equipment/supplies (latex free, single use only, and at no cost to the employee) required to assure Universal Precautions (see Appendix A) available for use by their employees in emergency situations and provide training in Universal Precautions to all newly hired employees and annually to incumbent employees.

All provided personal protective equipment shall be practical and suitable for the tasks performed, be of safe design and workmanship and be used and maintained in a sanitary and reliable condition whenever there is a potential for exposure.

Latex free gloves shall be available in a variety of sizes to assure proper fit and are intended for single use only. They shall not be washed and or disinfected or worn if punctured, torn, cracked or discolored.

Gloves shall be worn in the following situations

1. If the emergency responder has cuts, non-intact skin, chapped hands, or dermatitis
2. During examination of the mouth, nose, gastrointestinal tract and genitourinary tract
3. When treating or examining patients with open wounds, non-intact skin or active bleeding
4. During all invasive procedures.
5. Cleaning blood and body fluids spills or decontaminating equipment.

Gloves shall be removed as soon as possible after patient/client contact. All personnel shall limit as much as possible contact with objects (door handles, steering wheel etc.) while wearing gloves that have come in contact with blood & bodily fluids.

The use of a fluid proof or fluid resistant garment that allows safe and uninhibited performance of tasks to be performed shall be worn whenever direct and or indirect splashes of bodily fluids are anticipated.

Mask and eye protection shall be worn whenever splashes, spray, spatter or aerosolization of blood and or bodily fluids may be reasonably anticipated.

Departments who have employees that fall into Category 3 shall adhere to all sections of the Lincoln County Occupational Safety Manual.

HAND WASHING

Hand washing is an extremely effective measure in preventing the spread of all communicable diseases.

All Departments shall provide hand-washing facilities that are readily accessible to each employee, volunteer, and visitor. Said facilities shall be located away from food preparation areas.

Each employee, volunteer, shall wash their hands before eating, drinking, smoking or applying make-up and before returning to work after using rest rooms.

Hands shall be washed with warm running water and soap. Work up a good lather and scrub hands vigorously for 15 seconds. Rinse well and dry thoroughly. Hands should preferably be dried with paper towels. Turn off the faucet with a paper towel. Discard the used paper towels in a waste receptacle.

All Departments shall also provide waterless hand cleaner for use by employees, volunteers, members, students, and observers for occasions when hand washing facilities are unavailable.

Waterless hand cleaners have an alcohol base. Apply the cleaner according to the manufacturer's recommendation. Friction is required to kill surface organisms. This is not a substitute for washing hands with soap and water. At the earliest opportunity the hands should be washed thoroughly with soap and water.

For More Information

Occupational Safety & Health Act (OSHA) - Regulations (Standards - 29 CFR) Part 1910.1030: Bloodborne Pathogens. 💻OSHA's Bloodborne Pathogens Standard

Chapter

9

Chapter 9: Chemical and Hazard Communication

The goal of this chapter is to provide hazard communication information. All chemicals produced or imported into the workplace must be evaluated and information concerning hazards must be transmitted to employees through hazard communication programs

Lincoln County's Hazard Communication Program includes the following components:

- Container labeling
- Chemical Inventory list
- Material Safety Data Sheets (referred hereinafter as MSDS)
- Employee Training
- Hazardous Substances
- Hazardous Non-Routine Tasks
- Hazardous Substances in Unlabeled Pipes
- Informing Contractors.

Each Department Head is responsible for tailoring the Hazard Communication Program to meet the specific needs of their departments operations.

Container Labeling

Lincoln County will rely on manufacturer applied labels whenever possible, and will ensure that these labels are maintained. Containers that are not labeled or on which the manufacturer's label has been removed must be relabeled immediately.

It is the policy of Lincoln County that no container of hazardous substances will be released for use until the following label information is verified:

- Containers are clearly labeled as to the contents
- Appropriate hazard warnings are noted and conveyed to employees
- The name and address of the manufacturer are listed
- To further ensure that employees are aware of the hazards of material used in their work areas, it is our policy to label all secondary containers.

Improper - No Label

Proper Labeling

The supervisor in each department must ensure that all secondary containers are labeled with either an extra copy of the original manufacturer's label or with generic labels which have a block for identity and blocks for the hazard warning. Stationary process containers may have a sign, placard, process sheet, batch ticket, operating procedure or other written material in place of labels as long as the chemical content is identified and appropriate hazard noted. In these cases, copies of the original label or MSDS must be immediately available to employees throughout the work shift, either by being posted or maintained by the department head.

Chemical Inventory List

Each department must maintain an inventory list of all known chemicals in use in the facility. A chemical inventory list must also be maintained by the department head for the specific department. Materials with the following physical characteristics should be listed:

- Flammable; Explosive; Compressed gas; Unstable or reactive chemical; or
- Poisonous; Corrosive; Irritants; Chemicals damaging the skin, eyes, or lungs; Cancer causing agents.

Whether a specific chemical is hazardous or not may be found by review of the Material Safety Data Sheets (MSDS). The list will be updated as soon as new chemicals enter your work place. The list gives product or chemical names or numbers which match their MSDS which will give the chemical name. . Departments with several work areas should maintain a list for each work area.

Hazardous chemicals brought into a facility by Contractors must be included on the hazardous chemical inventory list. It is often better to maintain a separate list for contractors as it will be easier to update in the event that your contractors change.

Material Safety Data Sheet (MSDS)

Copies of MSDS for all hazardous substances to which employees of Lincoln County may be exposed are kept in each department, as well as the Human Resources Office. The department head is responsible for obtaining and maintaining the data sheet system for each specific office and forwarding copies to the Human Resources Director.

The department head or supervisor must review incoming data sheets for new and significant health or safety information and will see that any new information is passed on to the affected employees.

MSDS will be reviewed for completeness by the department head. If an MSDS is missing or obviously incomplete, a new MSDS will be requested from the manufacturer.

MSDS should be made available to all employees in their work area for review during each work shift. If MSDS are not available or new hazardous substance(s) in use do not have MSDS, please contact your supervisor immediately. For detailed information about how to read MSDS Sheets see Appendix E.

Employee Information and Training

Prior to starting work, each new employee of Lincoln County will attend a health and safety orientation and will receive information and training on the following:

- An overview of the requirements contained in the Hazard Communication Standard;
- Chemicals present in their workplace operations;
- Location and availability of the written hazard program;
- Physical and health effects of the hazardous chemicals;
- Methods and observation techniques used to determine the presence or release of hazardous chemicals in the work area;
- How to lessen or prevent exposure to these hazardous chemicals through usage of control/work practices, personal protective equipment, and good personal hygiene practices;
- Steps the organization has taken to lessen or prevent exposure to these chemicals;
- Emergency guidelines to follow if they are exposed to these chemicals or if there is a chemical spill;
- How to read labels and review MSDS's to obtain appropriate hazard information; and
- Location of MSDS file and location of hazardous chemical list.

After attending the training class, each employee must sign a form to verify that they attended the training, received the written materials and understood the County's policies on hazard communication. All training records will be maintained on the county server utilizing firehouse or Starlife software; data entry is the responsibility of the department head or his designee.

Prior to a new chemical hazard being introduced into any department of the County, each effected employee of that department will be given information as outlined above. Department directors are responsible for ensuring that MSDS on the new chemical(s) are available.

Hazardous Substances

The United States Department of Labor has passed a law requiring manufacturers of hazardous materials or chemicals to label containers with appropriate information regarding physical and health hazards.

Employers or users (such as contractors) are in turn required to pass this information along to their employees because employees have a right to know what they are working with and how it can affect them.

Any substance which is determined to have a physical or a health hazard is covered by the OSHA standard. A chemical is automatically considered hazardous if it is:

- On the OSHA Z List, 39CFR 1910.1000.

- Listed in the "Threshold Limit Values for Chemical Substances and Physical Agents in the Work Environment," by the American Conference of Governmental Industrial Hygienists.
- Listed as a carcinogen in National Toxicology Program. Annual Report on Carcinogens.
- Listed as a carcinogen in International Agency for Research on Cancer, Monographs.
- There may be other hazardous chemicals in the work place in addition to those chemicals identified on the lists. Other hazardous chemicals not on the "automatic" lists are also covered and the OSHA Rule provides guidelines for determining other hazardous chemicals in your work place. So, do not rely only on the above lists. It is the employer's responsibility to determine if any chemical has hazardous PHYSICAL HAZARD CHARACTERISTICS such as:
- COMBUSTIBLE LIQUID Any liquid with a flash point at or above 100 degrees F (37.8 degrees C) but below 200 degrees F (933.3 degrees C).
- COMPRESSED GAS gasses stored at pressures exceeding 40 psi at 70 degrees F or 104 psi at 130 degrees F or a liquid vapor pressure above 40 psi at 100 degrees F.
- EXPLOSIVE a chemical capable of an almost instantaneous release of pressure, gas, and heat.
- FLAMMABLE aerosol, gas, liquid, or solid which will burn under specified conditions. Red labeled containers Liquids with a flash point below 100`F.
- ORGANIC PEROXIDE an organic compound considered a derivative of hydrogen peroxide.
- OXIDIZER a chemical other than an explosive that promotes combustion in other materials through oxygen or other gas releases.
- PYROPHORIC a chemical that will ignite spontaneously in air at temperatures at or below 130 degrees F (54.4 degrees C).
- UNSTABLE (reactive) a chemical that will itself react vigorously due to shock, pressure or temperature.
- WATER REACTIVE a chemical that will react with water to release a flammable or hazardous gas.
- . . . or a chemical may be a HEALTH HAZARD if exposure to the chemical can cause immediate or long term ill health effects, such as:
- SENSITIZERS chemicals that will cause allergic reactions after repeated exposures.
- IRRITANTS chemicals that will cause temporary reactions at the site of contact.
- CORROSIVES chemicals causing permanent damage or changes.
- TOXIC and highly toxic agents' chemicals which are deadly in small doses.

- CARCINOGENS chemicals causing or promoting cancer.
- TERATOGENS can cause birth defects.
- MUTAGENS can produce chromosomal (genetic) aberration
- REPRODUCTIVE TOXINS chemical affecting reproductive capabilities.
- HEPATOTOXINS chemicals which produce liver damage.
- NEPHROTOXINS chemicals which produce kidney damage.
- NEUROTOXINS chemicals mainly affecting the nervous system.
- Chemicals that act on the hematopoietic (blood) system.
- Chemicals that damage the skin, eyes, mucous membranes, lungs, or other body systems.

It is the employer's responsibility to comply with the regulations and stay up to date. We are particularly concerned about any chemical that may cause health effects such as burns or rashes; lung, liver, or kidney damage; heart problems; nerve disorders; sterility or birth defects; cancer.

Chemicals can also be involved in sudden accidents such as fires and explosions in addition to the occupational health effects.

Hazardous Non-Routine Tasks

Periodically, employees are required to perform hazardous non-routine tasks. Prior to starting work on such projects, supervisors must give each affected employee information about hazards to which they may be exposed during such an activity.

This information should include:

- Specific hazards.
- Protective/safety measures which must be utilized.
- Measures the organization has taken to lessen the hazards including ventilation, respirators, presence of another employee and emergency procedures.

Hazardous Substances in Unlabeled Pipes

To ensure that our employees who work on unlabeled pipes have been informed as to the hazardous substances contained within, the following policy has been established:

Prior to starting work on unlabeled pipes, our employees are to contact their supervisor for the following information:

- The hazardous substance in the pipe.
- Potential hazards.
- Safety precautions which shall be taken.

Informing Contractors

To ensure that outside contractors work safely on our property, it is the responsibility of the department head to provide contractors the following information:

- Hazardous substances to which they may be exposed while on the property.
- Precautions the employees may take to lessen the possibility of exposure by usage of appropriate protective measures.

Contractors bringing hazardous chemicals onto the property must inform the appropriate contracting department by providing a list of the hazardous materials they will be using and MSDSs for these chemicals prior to commencing work. The contractor must also provide information on the location of chemical use and storage to the contracting department head. Contractors are also responsible for the removal of all unused portions of the chemicals and waste products from the site.

APPENDICES

Appendix 9 – A: Sample Hazardous materials List

For More Information

Please visit the Occupational Safety and Health Administration's website: Hazard Communication Standard

Appendix 9 – A: Hazardous Materials List

HAZARDOUS MATERIALS LIST
(Per Department)

NO.	**CHEMICAL PRODUCT** NAME ON LABEL GENERIC NAME (If Known)	**MANUFACTURED BY**	**USAGE**		**HAZARD WARNINGS** (Provided on Labels, MSDS, etc.)
			QUANTITY (Gallons, Pounds, etc.)	**TIME PERIOD** (Per Month, etc.)	

Chapter

10

Chapter 10: EMS Lifting Safety

Many occupations demand harder, more prolonged physical exertion from their practitioners, but few fields of endeavor require the frequent, sudden bursts of maximal effort during uncontrollable circumstances which are so common to emergency medical service employees. And the back, being out of sight, is often out of the mind.

EMS employees will need to follow their lifting safety policy and guidelines, which are covered under EMS Policies & Protocols and are reviewed annually with each employee during their continuing education.

Chapter

11

Chapter 11 Back Safety/Proper Lifting Safety

Back disorders can develop gradually or can be the result of a single traumatic event. Sprains and strains are the most common causes of lower back pain. Improper lifting or lifting loads that are too heavy for the back to support, falling, or sports activities are a few examples of back injury causes. Of these, lifting improperly or lifting loads that are too heavy for the back to support is the largest single cause of back pain and injury. Instituting proper lifting techniques and other safety measures can significantly reduce back injuries at Lincoln County.

As part of Lincoln County's ongoing commitment to safety in the workplace and in compliance with OSHA standards, the county has developed a Back Safety/Proper Lifting Safety Program as another opportunity to enhance the safety and health of Lincoln County's employees.

Back safety awareness is extremely important due to the prevalence and potential severity of back injuries. This program is a key document for assisting in increasing employee awareness of the importance of back safety. Lincoln County is dedicated to protecting its employees from on-the-job injuries. All employees of Lincoln County have the responsibility to work safely on the job by following this and all company policies and guidelines when lifting or handling materials.

Policy

It is the policy of the county that all employees whose job duties involve lifting will receive proper training in lifting techniques. It is also the policy that employees will be provided with proper education regarding the mechanics of the back and measures that can be taken to protect the back from injury. The county requires the guidelines in this plan be followed to provide a safe work environment. These guidelines on safe lifting practices have been implemented to ensure that employees are trained to protect themselves from the hazards of improper lifting practices.

Department Heads and the supervisors for county employees are responsible for the implementation and management of the county's Back Safety/Proper Lifting Safety Program. The program will be maintained, reviewed, and updated at least annually and whenever necessary to reflect new or modified guidelines that affect issues related to back safety and lifting guidelines within each department.

The duties of the Program Administrator are as follows:

1. Conduct a hazard assessment. Identify affected employees/departments.
2. Review workers' compensation claims and OSHA 300 logs for back related loss trends.
3. Become familiar with the facility's Personal Protective Equipment (PPE) Program.
4. Identify need of Personal Protective Equipment (PPE).
5. Identify alternative materials handling equipment.
6. Conduct and/or organize training sessions.
7. Evaluate the written program.
8. Know the rules for record keeping.
9. Update the Accident Investigation & Reporting Program at least annually or as needed.
10. Supervisors and Management
11. Identify job duties that include heavy lifting.
12. Instill general safety awareness as it relates to back safety.
13. Identify and eliminate, when possible, job hazards.
14. Train new employees, whose job responsibilities include lifting, on proper lifting techniques. Periodically (at least annually) conduct refresher training.
15. Provide an overview on back safety to all employees (even if their job duties normally do not include heavy lifting) to assist in protecting employees from spur-of-the-moment unsafe lifting.
16. Ensure that all employees understand that if an item is too heavy, they should ask for help.
17. Provide appropriate Personal Protective Equipment (PPE), as needed.
18. Provide alternative materials handling equipment, as needed.
19. Initiate appropriate disciplinary action when an associate fails to follow the safety requirements of each department.

The duties of the employees are as follows:

1. Comply with the Back Safety/Proper Lifting Safety Program guidelines.
2. Ask for help in lifting or pushing heavy items.
3. Report any accident or injury to the supervisor.
4. Immediately report unsafe conditions, equipment, or observed practices to the supervisor.
5. Use Personal Protective Equipment (PPE), as required.
6. Use alternative materials handling equipment, as needed.
7. Keep the body healthy (e.g., stretching)

A hazard assessment will be conducted to determine the job duties that require lifting or material handling. Employees will be identified and documented (see **Appendix A**) and then trained on proper lifting techniques and alternative handling equipment (see **Appendix B**) that is available.

Back Safety Techniques

1. Sizing the Load – Do Not Manually Lift Heavy Objects
2. Before even attempting to lift an object, it is important to size up the load. Determine if the load is light enough to lift. If the load is too heavy, try to do the following:
3. Make objects smaller.
4. Use smaller containers.
5. Use lighter containers.
6. Lighten the loads in containers.
7. If the size and weight of the load cannot be reduced, it must be determined if a team lift or lifting device is necessary.
8. Reaching – Try to Not Reach Above Shoulders
9. Reaching for objects, especially in high places, can strain the back. Some back safety techniques to use are:
10. Reach only as high as your shoulders.
11. Use an approved stool or stepladder if needing to get closer to the load.
12. Test the weight of the load by pushing up on a corner before lifting. ***If it's too heavy, get help.***
13. Bending – Do Not Bend Over from the Waist
14. When bending down to reach or lift, move whole body to protect the back. Some back safety techniques to use are:
15. Bend the knees and hips, not the back.
16. Kneel down on one knee, if necessary.
17. Get as close to the object as possible so you will not have to reach with your arms.
18. Lifting – Do Not Use Back to Bend, Use your legs.
19. Lifting is one of the most common causes of back injuries. Some back safety techniques to use are:
20. Size up the load. If it seems like more than you can handle, get help.
21. Face the load squarely.
22. Get a firm footing.
23. Tighten your abdominal muscles to support your back when you lift.
24. Bend your knees and get a grip on the load.
25. Lift with your legs – not your back.
26. Lift gradually, not suddenly.
27. Keep the load close to your body.
28. Do not twist while lifting.

Push – Do Not Pull

Pulling large objects can be as hard on the back as lifting. Instead, push the load. Some back safety techniques to use are:

- Stay close to the load, without leaning forward.
- Tighten your stomach muscles as you push.
- Push with both arms, keeping your elbows bent.
- Turn – Do Not Twist the Back

For some tasks, such as turning a large valve, you may be tempted to twist. Some back safety techniques to use are:

- Get close to the object. Kneel down on one knee, if necessary.
- Position yourself so you are stable.
- Use arms and legs to do the work – not just the back.

Training

Department Heads and the supervisors are responsible for ensuring that training is conducted. Training may be conducted by Back Safety/Proper Lifting Safety Program Administrator or Designated Individual. Initial training at new employee orientation shall consist of:

1. An overview of the facility's Back Safety/Proper Lifting Safety Program.
2. Proper lifting techniques.
3. An opportunity to ask questions.

In addition, departmental training shall include the following:

1. Specific job related duties that involve lifting.
2. Proper lifting techniques to perform the assigned duties.
3. Any Personal Protective Equipment (PPE) that is available.
4. Alternative materials handling equipment that is available.
5. An opportunity to ask questions.

The training will establish employee proficiency in back and lifting safety duties and will introduce new or revised guidelines as necessary.

Back Safety/Proper Lifting Safety Program Administrator shall certify that the training has been accomplished. The certification will contain each employee's name, the signatures of the trainers, and the dates of the training. The certification will be available for inspections by employees or their authorized representatives.

Employees who experience back-related workers' compensation injuries shall receive re-training on proper lifting techniques and alternative materials handling equipment.

Record Keeping
Department Heads and the supervisors are responsible for maintaining the training records of the department. Training records will be filled out for each employee upon completion of training. These documents will be kept for at least 3 years and will include:

1. The date of the training session,
2. The contents or summary of the training session,
3. The names and qualifications of the person(s) conducting the training,
4. The names and job titles of all persons attending the training session.
5. Training records will be provided upon request to the employee or the employee's authorized representative within 15 working days of the request.

Appendices

Appendix 11 – A: Employee Acknowledgement Form

Appendix 11 – B: Hazard Assessment

Appendix 11 – A: Employee Acknowledgement Form

I acknowledge that I have been informed of Lincoln County's Back Safety/Proper Lifting Safety Program and have knowledge of where the written program is maintained. I have been provided initial training and understand that my supervisor will conduct additional job-related training. I understand my responsibilities as they relate to Back Safety/Proper Lifting Safety, and I accept this plan and guidelines as working documents that I will support and follow in my daily work at Lincoln County. I further understand that failure to follow these guidelines or instructions from management may result in disciplinary action.

Lincoln County

_____

_____ _____

Employee Name (print and sign) Date

_____ _____

Supervisor's Name (print and sign) Date

Appendix 11 – A: Hazard Assessment

Employees in the following departments have job duties that require lifting or materials handling. These employees are to be trained on proper lifting techniques and alternative materials handling equipment that is available.

[Sample]

Department	Job Title

Chapter

12

Chapter 12: Entry into Private Residence Safety

Home Health, DSS, and EMS workers face an array of safety risks entering private residences including overexertion, falls, agitated residents and hostile pets that make their jobs more treacherous than those of their office working counterparts. In fact, the injury rate in private home settings is about 50 percent higher than that of regular government employees, the US Bureau of Labor Statistics reports.

Back injuries from lifting or moving patients are one of the biggest risks to home health aides, nurses and other home health workers such as EMS. To help prevent such injuries, Lincoln County's Policy is to use a buddy system that allows two workers **if required** to team up to provide care for heavy or hard-to-transfer patients.

You should always, practice good body mechanics. Take full advantage of transfer systems and other assistive devices that are available or call your supervisor for assistance. Also, keep a reasonable pace and some flexibility in your daily schedule so you aren't tempted to take injury inducing shortcuts.

Follow basic personal-safety protocols, such as:

- Confirm with residents by phone before you visit if possible.
- Be aware of your surroundings
- Make sure you have detailed directions to a new resident's home.
- Keep your vehicle in good working order and the gas tank full.
- Pull onto the shoulder or into a parking lot rather than trying to simultaneously drive, talk on the phone and read directions.
- Keep your vehicle windows closed and your doors locked.
- Lock your bag in the trunk or other area
- Have an extra set of keys in case you lock yours in the vehicle.
- Most importantly, make sure someone knows where you are at all times.
- Wear proper personal protective equipment

Trust Internal Instincts

If you are driving into a high-crime area and see activity near a client's home that scares you, drive a few blocks away, and then call your client and/or supervisor to find out how to proceed. When on emergency responses ask for law enforcement to secure the area before proceeding into an unsafe scene.

Go with your gut. "Most of the time it's not imperative that you make the visit at that moment unless it is an emergency response. If you have a bad feeling about a situation, call your supervisor or law enforcement. Never go into a situation where you feel you'll be unsafe." If you feel threatened in a home, leave immediately and call 911.

Don't ever touch the Animals

Even the friendliest pets can turn on you. Lincoln County's policy is to never touch an animal. Besides the potential threat, animals can distract you and interfere with your work. When you call to confirm your appointment with a client, ask that animals be kept away during your visit. If on emergency responses ask that all pets be put in a safe location while at the residence and if you feel threatened contact Lincoln County Animal Control for assistance via 911 or emergency communications

Residence Analysis

A residence analysis involves a step-by-step, commonsense look at the workplace to find existing or potential hazards.

- Analyze prior incidents, including the characteristics of residences including assailants and patients, an account of what happened before and during those incidents, and the relevant details of the situation and its outcome. When possible, obtain police reports and recommendations. Identify jobs or locations with the greatest risk of violence as well as processes and procedures that put employees at risk of assault, including how often and when they occurred.
- Note high-risk factors such as types of clients or patients(for example, those with psychiatric conditions or who are disoriented by drugs, alcohol or stress); physical risk factors related to residence layout or design; isolated locations and job activities; lighting problems; lack of phones and other communication devices; areas of easy, unsecured access; and areas with previous security problems.
- Evaluate the overall stability of the residence and note any trip/fall hazards that may exist. Note cleanliness of the residence and overall first impression.
- Document those findings for future visits and advise supervisors/coworkers of all dangers involved.
- Examples of common household hazards:
    - **Electrical**: missing outlet covers, extension cords that are worn or missing insulation.
    - **Sharp objects**: syringes, knives, sharp edges on bed frames.
    - **Tripping**: oxygen hoses, telephone and extension cords, toys, pets, loose walking edges

- **Slipping**: ice, snow, spilled liquids.
- **Lifting**: oxygen tanks, furniture, people.
- **Layout of home**: path of travel, stairs, location of furniture.
- **Chemicals**: cleaning products, medications.
- **Fire**: smoking, smoke detectors, fire extinguishers, clutter

How do you control the known hazards?

(Recommend to Patient / Family – Need client permission)

- Eliminate or remove the hazard; for example, you might pick up pet toys to prevent tripping on them. Removing an area rug or repositioning an electrical cord also eliminates a hazard. Putting a pet in an animal crate or placing the pet in another room can also eliminate a hazard while working.
- Reduce the hazard. Maybe you cannot get rid of the hazard, but you could look for ways to make it less dangerous. For instance, if you cannot reposition a sharp-edged table in a home to prevent a bumping hazard, you could cover or pad the sharp edges.
- Use "Personal Protective Equipment" (PPE) to prevent injury or illness from a specific hazard. Examples of PPE include safety glasses, gloves, kneepads, waterproof aprons, and protective footwear.

Housekeeping

Good housekeeping is one of the most important factors in maintaining a safe work area. Many homecare workers are injured each year because they trip, stumble, or step on objects that are in their way. These accidents are often blamed on the worker's carelessness when actually these accidents are the direct result of poor housekeeping. When you see something lying around that may be a potential risk for a slip, trip, fall, or injury, ask the resident if you can put it away or move it to a safer location. Some ideas for reducing the risk include:

- Floors, landings, and stairs should be kept free of clutter and tripping hazards such as electrical cords, and miscellaneous household clutter.
- Keep drawers of dressers, desks, and filing cabinets closed when not in use.
- Do not use boxes, chairs, etc., in place of step stools/utility ladders.
- Store material on shelves in a manner to prevent falling; heavy objects should be placed • on lower shelves.

Walking surfaces

Be observant. Look for sidewalk and entryway defects as you enter the residence. Cracks, holes, slippery, uneven surfaces, and other surprises such as toys in the walkway may cause you to trip.

- Remove hazards, if appropriate. If it's a hazard going in, it will be a hazard coming out. If you clear a path into the residence, you will be helping to prevent an injury to yourself and others.
- Wear proper footwear. Leather soled shoes on wet or slick surfaces are an accident waiting to happen. In snow, ice, and/or rain, wear rubber-soled or other traction shoes to keep yourself upright and improve your balance. Open-toed sandals are not appropriate footwear for homecare workers.

- As you get familiar with your work area, be sure to look for slip, trip, and fall hazards as you did outside. Look for:
  - Walkway obstructions
  - Torn and wrinkled carpets, door mats
  - Rugs with curled-up edges and those without non-skid backs
  - With the resident's permission remove or fix the hazard, recommend it for repair, or if you can't do anything right away, at least make a mental note to watch out for it until it can be removed.

Proper lighting

Sufficient lighting must be available in order to do your work safely. If you need more lighting, you might be able to use a higher wattage bulb. A portable light may be useful. Make sure flashlights are available in case of a power outage.

Oxygen safety

If the resident uses oxygen, there are several things to be aware of for everyone's safety.
Oxygen is not flammable, but it can cause other materials that burn to ignite more easily and to burn far more rapidly. The result is that a fire involving oxygen can appear explosive-like.

Oxygen is of great benefit to those in need of oxygen therapy, but it should always be handled with caution and awareness of the potential hazards. There are three common ways of providing oxygen therapy. Oxygen can be delivered to the home in the form of a gas in various-sized cylinders or as a liquid in a vessel. The third way to provide oxygen therapy is by using an oxygen concentrator.
Safety Concerns are:

- Never smoke while using oxygen
- Warn visitors not to smoke near oxygen or anyone using oxygen.
- Have patient or someone in residence to post at least one NO SMOKING sign in a prominent place at the entry to the home where the oxygen is being used.
- Stay at least five feet from gas stoves, candles, lighted fireplaces, and other heat sources
- Oxygen cylinders and vessels must be kept in a well-ventilated area (not in closets, behind curtains, or other confined spaces). The small amount of oxygen gas that is continually vented from these units can accumulate in a confined space and become a fire hazard.
- Keep oxygen cylinders and vessels a minimum of eight feet from heaters, or heat producing appliances, and electrical appliances.
- Secure oxygen cylinders and vessels to a fixed object or place in a stand
- Oxygen cylinders and vessels must remain upright at all times. Never tip an oxygen cylinder or vessel on its side or try to roll it to a new location.
- Always operate oxygen cylinder or container valves slowly. Abrupt starting and stopping of oxygen flow may ignite any contaminant that might be in the system.
- Turn the cylinder valve off when not using oxygen
- Only use a properly grounded wall outlet for your oxygen concentrator
- Do not use extension cords for oxygen concentrator
- Do not place the electrical cord or oxygen tubing under rugs or furniture

- Do not use any flammable products like cleaning fluids, paint thinner, or aerosol sprays while using oxygen equipment. Some organic materials can react violently with oxygen if ignited by a hot spark.
- Use water-based lubricants on your lips and hands. Don't use oil-based products like petroleum jelly, petroleum based creams or lotions.
- Do not use bedding or cloths made of wool, nylon, or synthetic fabrics as these materials have the tendency to produce static electricity.
- Children or untrained individuals should not be handling or operating oxygen equipment.

Fire Safety

Careless smoking is the most frequent cause of fire deaths. Some in-home smoking fires are caused by unattended burning cigarettes, smoking in bed, smoking around flammable materials (gas, paints, aerosol cans, newspapers, and other flammable items), and improper disposal of cigarettes and matches. Please be aware of these issues if the resident smokes.

Smoke alarms/detectors

Places of residency may or may not have smoke alarms/detectors depending upon building code requirements at the time of construction. If there are none in the residence, ask the Fire Marshall to check for compliance and offer assistance. In addition, some fire departments will give out free smoke alarms.

Smoke alarms/detectors should be tested twice a year. A good time to check them is when daylight savings time begins and ends. If smoke detective is beeping – batteries need to be replaced.

Poison safety

A poison is anything someone eats, breaths, gets in their eyes or on their skin that can cause a rash, sickness, or potential death. Poisons can be solids, liquids, sprays, and gases.
Common poisonings include:

- Cleaning products
- Medicines
- Cigarettes and cigarette butts
- Beauty products, perfumes, and nail polish removers
- Carbon monoxide gas (CO) (usually from cars and heating devices)
- Insect sprays, weed killers, and plant food
- Liquids used in cars (such as antifreeze, wiper fluid, and motor oil)
- Paint and paint-removal products
- Plants in the house and yard
- Animal bites and stings
- Spoiled food

If you think that someone has been poisoned, call 911 for emergency response help
If you call 911, calmly tell the emergency dispatcher:

- Your name and phone number
- The name, age, and weight of the poisoned victim
- Any problems or symptoms the person is having
- The name of the poison
- The amount of the drug or poison missing

Remember these important rules when there is a poison emergency:

- When a person is not breathing or moving in response to being touched or shaken, call 911 immediately. This is a life-threatening event.
- When someone has swallowed a poison or has taken the wrong medicine, remove the poison/medicine from their reach. Call 911
- Do not try to make the person vomit unless instructed to do so by a medical professional. Any attempts to gag or vomit the poisoned victim can make matters worse. Contact poison control ASAP.

Firearms safety

The resident may have firearms in the home. If you are working with someone who **has a gun or keeps one too close for your comfort, discuss this with the resident.** Voice your concerns and try to negotiate something that will make you feel safe. Ask them to put the gun away in a secure location while you are present. If at any time you feel threatened by the presence of a firearm leave the residence and call your supervisor for instruction on how to proceed, **when no threat has be made other than the present of the weapon. If the individual threatens you or acts like they may use the weapon call 911.**

Outside hazards

Not all potential hazards to your safety are inside the residence. Be alert to outside hazards.
Slip, trip, and fall hazards can be anywhere, and you should be watching for them. Hazards include outside stairs or steps in poor condition or cluttered; ice, snow, or moisture on sidewalks or entryways; uneven or broken concrete walkways; and toys or other objects in your path of travel. If something is in need of repair, discuss it with the resident and document accordingly.

Weather can be unpredictable. If you are going to be outside, be sure to check the forecast ahead of time. Always carry wet or cold weather clothing, closed-toed shoes with good traction, and an umbrella in your car. Sunburn is easily prevented by applying sunscreen with a protection factor of 30 or higher. And don't forget your sunglasses and a hat.

Chapter

13

Chapter 13: Hearing Conservation Program

We have adopted a continuing effective hearing protection program for employees exposed to sound levels which exceed those listed in OSHA Safety and Health Standards, 29 CFR Part 1910.95. A copy of OSHA's hearing conservation standard has been posted in all workplaces where there are employees with exposures which exceed the action level per the requirements of the standard.

A continuing effective hearing conservation program for all employees exposed to an eight hour TWA (time weighted average) of 85 dB measured on the A scale, is in effect in the work area identified with posted signs, CAUTION, HEARING PROTECTION REQUIRED IN THIS AREA.

Noise surveys are conducted periodically to ensure that employee exposure is kept to a minimum. Audiometric testing of those employees exposed at or above a TWA of 85 dB for a duration of eight (8) hours per day, is performed on site to establish base line audiogram with annual follow-up audiograms and interpretations. New employees who are exposed to the stated noise levels are tested within four (4) months of employment in order to establish base line audiograms. Employees with significant threshold shift will be notified and referred for follow-up examination or treatment. Medical examinations are made available to employees. Audiometric testing and test interpretations are conducted by a certified audiologist with medical doctors who are consultants in erotology.

When employees are subjected to sound exceeding those listed in table, Permissible Noise Exposure, feasible administrative or engineering controls will be utilized. If such controls fail to reduce sound levels within the levels of the table, personal protective equipment shall be provided and used to reduce sound levels.

Ear protection is available from the supervisor. Ear plugs or earmuffs will be worn in an area where designated by signs reading CAUTION EAR PROTECTION REQUIRED IN THIS AREA or for work tasks requiring hearing protection. This safety rule will be enforced. Any employee not using ear protection in these areas will be subject to disciplinary action.

Additional Information

Table 5 shows when Lincoln County must provide hearing protection to employees exposed to occupational noise at specific levels for specific periods. Noises are considered continuous if the interval between occurrences of the maximum noise level is 1 second or less. Noises not meeting this definition are considered impact or impulse noises. Exposure to impact or impulse noises (loud momentary explosions of sound) must not exceed 140 dB. Examples of impact or impulse noises may include the noise from a powder-actuated nail gun, the noise from a punch press, or the noise from drop hammers.

TABLE 5: Permissible Noise Exposures

Duration per day, hours	Sound level dBA slow response
8	90
6	92
4	95
3	97
2	100
1 ½	102
1	105
½	110
¼ or less	115

Ensuring Proper Use

Employees will be trained annually on hearing protection and the requirements of the standard. The checklist below identifies the training that the employees need to know regarding use and care for the earplugs or earmuffs that are provided.

Checklist: Use and Care of Hearing Protection

Employees will be trained to know…

- Why hearing protection is necessary—i.e., the workplace hazards that threaten their hearing
- How the earplugs or earmuffs will protect them
- The limitations of the hearing protection
- When they must insert or wear the hearing protectors
- How to adjust earmuffs for a comfortable and effective fit, or form the earplugs to fit their ears
- How special earmuffs fit over an employee's corrective lenses
- How to clean and disinfect the hearing protection

For More Information

Occupational Safety & Health Act (OSHA) - Regulations (Standards - 29 CFR) Part 1910.95: Hearing Conservation. 💻OSHA's Hearing Conservation Standard

Chapter

14

Chapter 14 - Personal Protection Equipment (PPE)

We have implemented a PPE program that systematically assesses the hazards in the workplace thereby, allowing us to select the appropriate PPE that will protect the employees from the hazards identified in the assessments. As part of our PPE program, our policy is to do the following:

- Assess the workplace to identify equipment, operations, chemicals, and other workplace components that could harm our employees.
- Implement engineering and work practices to control or eliminate these hazards to the extent feasible.
- Select the appropriate types of PPE to protect our employees from hazards that cannot be eliminated or controlled through engineering controls and work practices.
- Inform employees why the PPE is necessary and when it must be worn.
- Train employees how to use and care for the selected PPE and how to recognize PPE deterioration and failure.
- Require employees to wear the selected PPE in the workplace.
- Lincoln County is Latex Free (any gloves or other items used must be latex free)

Assessment of the work-place operations for PPE needs

We will use the checklist below to assess the work environment and guidelines. If a specific task is not on the checklist:

- Look for similarities between your workplace operations and those listed here
- Try to anticipate whether such operations also might create similar hazards, and
- An operation need only have the potential to cause injury to require PPE.

SUGGESTED QUESTIONS	TYPICAL OPERATIONS OF CONCERN	YES	NO
 **Eyes**			
Do employees perform tasks, or work near employees who perform tasks, that might produce	Sawing, cutting, drilling, sanding, grinding, hammering, chopping, abrasive blasting, and punch press	☐	☐

SUGGESTED QUESTIONS	TYPICAL OPERATIONS OF CONCERN	YES	NO
airborne dust or flying particles?	operations. Pouring, mixing, painting, cleaning, siphoning, dip tank operations, and dental and health care services.		
Do your employees handle, or work near employees who handle, hazardous liquid chemicals or encounter blood splashes?	Battery charging, installing fiberglass insulation, and compressed air or gas operations.	☐	☐
Are your employees' eyes exposed to other potential physical or chemical irritants? Are your employees exposed to intense light or lasers?	Welding, cutting, and laser operations.	☐	☐
 **Face**			
Do your employees handle, or work near employees who handle, hazardous liquid chemicals?	Pouring, mixing, painting, cleaning, siphoning, and dip tank operations.	☐	☐
Are your employees' faces exposed to extreme heat?	Welding, pouring molten metal, smithing, baking, cooking, and drying.	☐	☐
Are your employees' faces exposed to other potential irritants?	Cutting, sanding, grinding, hammering, chopping, pouring, mixing, painting, cleaning, and siphoning.	☐	☐
 **Head**			
Might tools or other objects fall from above and strike your employees on the head?	Workstations or traffic routes located under catwalks or conveyor belts, construction, trenching, and utility work.	☐	☐
When your employees stand or bend, are their heads near exposed beams, machine parts, or pipes?	Construction, confined space operations, and building maintenance.	☐	☐
Do your employees work with or near exposed electrical wiring or components?	Building maintenance; utility work; construction; wiring; work on or near communications, computer, or other high-tech equipment; and arc or resistance welding.	☐	☐
 **Feet**			
Could tools, heavy equipment, or other objects roll, fall onto, or strike your employees' feet?	Construction, plumbing, smiting, building maintenance, trenching, utility work, and grass cutting.	☐	☐
Do your employees work with or near exposed electrical wiring or components?	Building maintenance; utility work; construction; wiring; work on or near communications, computer, or other high-tech equipment; and arc or resistance welding.	☐	☐
Do your employees work with explosives or in explosive atmospheres?	Demolition, explosives manufacturing, grain milling, spray painting, abrasive blasting, and work with highly flammable materials	☐	☐
 **Hands**			
Do your employees' hands come into contact with tools or materials that might scrape, bruise, or cut?	Grinding, sanding, sawing, hammering, and material handling.	☐	☐
Do your employees handle chemicals that might irritate skin, or encounter blood?	Pouring, mixing, painting, cleaning, siphoning, dip tank operations, and health care and dental services.	☐	☐

SUGGESTED QUESTIONS	TYPICAL OPERATIONS OF CONCERN	YES	NO
Do work guidelines require your employees to place their hands and arms near extreme heat?	Welding, pouring molten metal, smiting, baking, cooking, and drying.	☐	☐
Are your employees' hands and arms placed near exposed electrical wiring or components?	Building maintenance; utility work; construction; wiring; work on or near communications, computer, or other high-tech equipment; and arc or resistance welding.	☐	☐
 **Body**			
Are your employees' bodies exposed to irritating dust or chemical splashes?	Pouring, mixing, painting, cleaning, siphoning, dip tank operations, machining, sawing, battery charging, installing fiberglass insulation, and compressed air or gas operations.	☐	☐
Are your employees' bodies exposed to sharp or rough surfaces?	Cutting, grinding, sanding, sawing, glazing, and material handling.	☐	☐
Are your employees' bodies exposed to extreme heat?	Welding, pouring molten metal, smiting, baking, cooking, and drying.	☐	☐
Are your employees' bodies exposed to acids or other hazardous substances?	Pouring, mixing, painting, cleaning, siphoning, and dip tank operations.	☐	☐
 **Ears/Hearing**			
Are your employees exposed to loud noise from machines, tools, or music systems?	Machining, grinding, sanding, work near conveyors, pneumatic equipment, generators, ventilation fans, motors, and punch and brake presses.	☐	☐

Engineering and Work Practice Controls

For every "Yes" answer on the checklist, it is necessary to determine controls for the hazards identified. The first (and best) control is to eliminate or minimize the hazard through engineering or work practice controls. PPE is specified where hazards cannot be eliminated through engineering (i.e.; chemical piping, local exhaust) or work practice controls.

Work practice controls are modifications in technique that reduce or eliminate the likelihood of exposure by altering the manner in which a task is performed. Work practice controls must be used regardless of the type of hazardous material handled (i.e.; limiting the amount of chemicals used, keeping containers closed when not in use, confining loose hair, substitution of non-toxic cleaner to replace caustic cleaner).

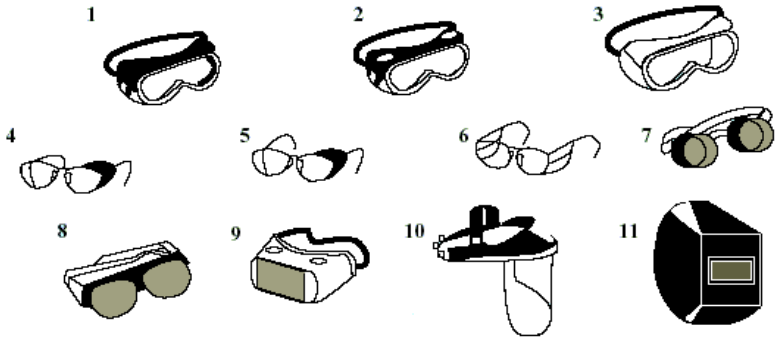
Selecting Appropriate Types of PPE

When exposure to hazards cannot be engineered completely out of normal operations or maintenance work, and when safe work practices and other forms of administrative controls cannot provide sufficient additional protection, a supplementary method of control is the use of protective equipment, or PPE. PPE may also be appropriate for controlling hazards while engineering and work practice controls are being installed.

Eye and Face Protection

Each kind of protective eyewear is designed to protect against specific hazards. The hazard assessment identifies (see section "Assessing Work-Place Operations For PPE Needs") the specific workplace hazards that pose a threat to employees' eyes and faces. Figure 1 shows some of the types of protective eye and face protection available.

FIGURE 1: Recommended Eye and Face Protectors. Source: 29 CFR 1926.102 (a)(5) Table E-1. *These are also available without side shields for limited use requiring only frontal protection. ** See Table 2, Filter Lenses for Protection against Radiant Energy.



Eye and face protectors are identified below by number and type. Refer to Table 1 for recommended usage applications.

1. **Goggles**, flexible fitting, regular ventilation

2. **Goggles**, flexible fitting, hooded ventilation

3. **Goggles**, cushioned fitting, rigid body

4. **Spectacles**, metal frame, with side shields*

5. **Spectacles**, plastic frame, with side shields*

6. **Spectacles**, metal-plastic frame, with flat-fold side shields*

7. **Welding Goggles**, eyecup type, tinted lenses**

7A. **Chipping Goggles**, eyecup type, clear safety lenses (not illustrated)

8. **Welding Goggles**, coverspec type, tinted lens**

8A.**Chipping Goggles**, coverspec type, clear safety lenses (not illustrated)

9. **Welding Goggles**, coverspec type, tinted plate lens**

10. **Face Shield** (available with plastic or mesh window, tinted/transparent)

11. **Welding Helmets****

Foot and Leg Protection

Protector	Description
Leggings	Use these to protect the lower legs and feet from heat hazards, like molten metal or welding sparks. Safety snaps allow leggings to be removed quickly.
Metatarsal guards	Made of aluminum, steel, fiber, or plastic, these guards may be strapped to the outside of shoes to protect the instep area from impact and compression.
Toe guards	Toe guards may be made of steel, aluminum, or plastic. They fit over the toes of regular shoes. These guards protect only the toes from impact and compression hazards.
Combination foot and	These guards may be used in combination with toe guards when greater protection is needed.

Protector	Description
shin guards	
Safety shoes	These sturdy shoes have impact resistant toes and heat-resistant soles that protect against hot work surfaces common in roofing, paving, and hot metal industries. The metal insoles of some safety shoes protect against puncture wounds. Safety shoes may also be designed to be electrically conductive to prevent the buildup of static electricity in areas with the potential for explosive atmospheres, or nonconductive to protect employees from workplace electrical hazards.

Hand Protection

Glove Category	Protector	Description
Metal Mesh, Leather, or Canvas Gloves	Leather gloves	Leather gloves protect against sparks, moderate heat, blows, chips, and rough objects. Welders in particular need the durability of higher-quality leather gloves.
	Aluminized gloves	These gloves usually are used for welding, furnace, and foundry work because they provide reflective and insulating protection against heat. Aluminized gloves require an insert made of synthetic materials that protect against heat and cold.
	Aramid gloves	Aramid is a synthetic material that protects against heat and cold. Many glove manufacturers use aramid fiber to make gloves that are cut- and abrasive-resistant and wear well.
	Other synthetic materials	Several manufacturers make gloves with other synthetic fabrics that offer protection against heat and cold. In addition to protection against temperature extremes, gloves made with other synthetic materials are cut- and abrasive-resistant and may withstand some diluted acids. These materials do not stand up against alkalis and solvents.
Fabric and Coated Fabric Gloves	Fabric gloves	These gloves can protect against dirt, slivers, chafing, and abrasion. These gloves do not provide sufficient protection, however, to be used with rough, sharp, or heavy materials. Adding a plastic coating to some fabric gloves strengthens them and makes them effective protection for a variety of tasks.
	Coated fabric gloves	Manufacturers normally make these gloves from cotton flannel with napping on one side. By coating the unnapped side with plastic, fabric gloves are transformed into general-purpose hand protection offering slip-resistant qualities. These gloves are used for tasks ranging from handling bricks and wire rope to handling chemical containers in laboratory operations. When selecting gloves to protect against chemical exposure hazards, always check with the manufacturer (or review the manufacturer's product literature) to determine the gloves' effectiveness against the specific chemicals and conditions in the workplace.
Chemical and Liquid Resistant Gloves	Butyle rubber gloves	These gloves protect against nitric acid, sulfuric acid, hydrofluoric acid, red fuming nitric acid, rocket fuels, and peroxide. Highly impermeable to gases, chemicals, and water vapor, butyl rubber gloves also resist oxidation and ozone corrosion. In addition, they resist abrasion and remain flexible at low temperatures.
	Non latex or rubber gloves	The comfortable wear and pliability of non latex gloves as well as their protective qualities make them a popular general-purpose glove. In addition to resisting

Glove Category	Protector	Description
		abrasions caused by sandblasting, grinding, and polishing, these gloves protect employees' hands from most water solutions of acids, alkalis, salts, and ketones. When selecting hand protection, you will be aware that latex gloves have caused allergic reactions in some individuals and thus may not be appropriate for all of your employees. Hypoallergenic gloves, glove liners, and powerless gloves are possible alternatives for individuals who are allergic to latex gloves.
	Neoprene gloves	These gloves have good pliability, finger dexterity, high density, and tear resistance that protect against hydraulic fluids, gasoline, alcohol, organic acids, and alkalis.
	Nitrile rubber gloves	These sturdy gloves provide protection from chlorinated solvents such as trichloroethylene and perchloroethylene. Although intended for jobs requiring dexterity and sensitivity, nitrile gloves stand up to heavy use even after prolonged exposure to substances that cause other gloves to deteriorate. In addition, nitrile gloves resist abrasions, punctures, snags, and tears.

Body Protection

Material	Description
Paper-like fiber	Disposable suits made of this material provide protection against dust and splashes.
Treated wool and cotton	Protective clothing made from treated wool and cotton adapts well to changing workplace temperatures and is comfortable as well as fire resistant. Treated cotton and wool clothing protects against dust, abrasions, and rough and irritating surfaces.
Duck	This closely woven cotton fabric protects employees against cuts and bruises while they handle heavy, sharp, or rough materials.
Leather	Leather protective clothing is often used against dry heat and flame.
Rubber, rubberized fabrics, neoprene, and plastics	Protective clothing made from these materials protects against certain acids and other chemicals.

Types of Hearing Protection

Material	Description
Single-use earplugs	Made of waxed cotton, foam, or fiberglass wool, these earplugs are self-forming and, when properly inserted, work as well as most molded earplugs.
Preformed or molded earplugs	Sometimes single-use and disposable, these plugs must be individually fitted by a professional. Non-disposable plugs will be cleaned after each use.
Earmuffs	Earmuffs require a perfect seal around the ear. Glasses, long sideburns, long hair, and facial movements such as chewing may reduce the protective value of earmuffs. You may purchase special earmuffs designed for use with eyeglasses or beards.

We are aware that different materials will protect against different chemical and physical hazards. When chemical or physical hazards are present, we must always check with the clothing manufacturer to make sure that the material selected will provide protection from the specific chemical or physical hazards in the workplace.

We recognize that it is extremely important to have the employees involved in the selection of specific models. This assistance in selection will be achieved by introducing approved models into the workplace for trials in which employees have the opportunity to evaluate various models. In this way, much information regarding fit, comfort, and employee acceptability will be gained. When choosing PPE, employees will be offered to select among two or three models, allowing for personal preferences. PPE will be individually assigned.

- Lincoln County policy is to provide all required personal protective equipment (PPE), at no cost to employees.

Employee Information and Training

No program can be complete without training to ensure the optimum use of PPE. **All new employees will be trained upon hiring and all other employees will have annual training and updates as equipment or policies change.** Training will cover how to fit and wear PPE, how to adjust it for maximum protection, and how to care for it. Each employee who must use PPE will be trained in its use. Employees will be trained to know at least the following:

- When PPE is necessary.
- What PPE is necessary.
- How to properly put on, take off, adjust, and wear the PPE.
- The limitations of the PPE.
- Proper care, maintenance, useful life and disposal of PPE.

Each employee must demonstrate an understanding of the PPE training as well as the ability to properly wear and use PPE before they are allowed to perform work requiring the use of the PPE. If a previously trained employee is not demonstrating the proper understanding and skill level in the use of PPE, that employee will receive retraining. Additionally, retraining of employees will occur when changes in the workplace or in the type of required PPE make prior training obsolete.

We will also document the training of each employee required to wear or use PPE by preparing a certification containing the name of each employee trained, the date of training and a clear identification of the subject of the certification. The checklist below is our guide to ensure employees are instructed in proper use and care.

Supervisor Checklist:

Train your employees to know…
☐ Why PPE is necessary—i.e., the workplace hazards that exist
☐ How the PPE provided will protect them
☐ The limitations of the PPE
☐ When they must wear the PPE
☐ How to wear the PPE properly
☐ How to adjust the PPE for a comfortable and effective fit
☐ How to identify signs of wear and tear that can effect the performance of the PPE
☐ How to clean and disinfect the PPE

For PPE to be effective, it must be used. Managers are responsible for enforcing the use of PPE. Managers must lead by example, give positive re-enforcement, and provide the leadership that encourages safe behaviors. Where employees still do not use the equipment provided, disciplinary action will be taken following the Lincoln County disciplinary policy.

For More Information

Occupational Safety & Health Act (OSHA) - Regulations (Standards - 29 CFR) Part 1910.132: Personal Protective Equipment 💻OSHA's PPE Standard

Appendix

Appendix 14 – A: PPE Hazard Assessment

Appendix 14 – B: PPE Selection guidelines

Appendix 14 – A: PPE Hazard Assessment

COMPLETION AND CERTIFICATION OF A PPE HAZARD ASSESSMENT IS REQUIRED PER OSHA REGUALTIONS.

This hazard assessment form has been designed for completing and certifying a personal protective equipment hazard assessment when hazards cannot be eliminated or controlled with administrative options. By using this checklist, you understand and agree that, it is the sole and exclusive responsibility as an employer to maintain the safety of your premises, and to comply fully with the requirements of OSHA (state and federal). These checklists may not be complete with applicable OSHA standards, especially in those states with their own programs. Furthermore, this document is not a substitute for a detailed hazard analysis of your operations or your review of applicable government regulations. Readers with specific questions should refer to the OSHA standards or contact the Human Resources Department.

How to use this form:

- Review accident statistics, determine if there is a trend in a particular job, department, etc. that will assist in establishing action steps to eliminate the hazard resulting in accidents / injuries. If the hazard cannot be eliminated, next consider administrative options, such as, job rotation, noise reduction, etc. If administrative options are not feasible, as a last resort, select appropriate personal protective equipment.
- Complete a walk through survey. When walking through, be sure to complete the hazard assessment by answering the questions in *each* section, *per job* (unless there is one department, particular area, or the entire facility completing the *same* task). Many times, machinery or equipment can be guarded to eliminate the hazard. If this is the case, please make a note on the assessment that the machine is being guarded.
- Review equipment guidelines and Material Safety Data Sheets to assist with selecting the proper personal protective equipment. Please review the PPE selection guidelines at the end of this assessment.
- When completing this form, in the last column, you must list specific PPE for the employee who will be required to perform the job being assessed.
- This assessment must be signed by the person conducting the assessment. At a minimum, this form should be reviewed annually to determine if it is still applicable.

Lincoln County PPE Hazard Assessment

Eye and Face

Is there danger from:

	No	*Yes*	*E, G (Eliminated, Guarded, PPE)*	*List Specific PPE*
1. Flying Particles	☐	☐		
2. Molten Metal	☐	☐		
3. Liquid Chemicals	☐	☐		
4. Acids	☐	☐		
5. Caustic Liquids	☐	☐		
6. Chemical gases or vapors	☐	☐		
7. Light Radiation	☐	☐		
8. Other	☐	☐		

Head

Is there danger from:

	No	*Yes*	*E, G (Eliminated, Guarded, PPE)*	*List Specific PPE*
1. Falling or flying objects	☐	☐		
2. Work being performed overhead	☐	☐		
3. Elevated conveyors	☐	☐		
4. Striking against a fixed object	☐	☐		
5. Forklift hazards	☐	☐		
6. Exposed electrical conductors	☐	☐		
7. Other	☐	☐		

Miscellaneous

Is there danger from:

	No	*Yes*	*E, G (Eliminated, Guarded, PPE)*	*List Specific PPE*
1. Lifting	☐	☐		
2. Bloodborne Pathogens	☐	☐		

Foot

Is there danger from:

	No	*Yes*	*E, G (Eliminated, Guarded, PPE)*	*List Specific PPE*
1. Falling and rolling objects	☐	☐		
2. Objects piercing the sole	☐	☐		
3. Electrical hazards	☐	☐		
4. Wet or slippery surfaces	☐	☐		
5. Chemical exposure	☐	☐		
6. Environmental	☐	☐		
7. Other	☐	☐		

Hand

Is there danger from:

	No	*Yes*	*E, G (Eliminated, Guarded, PPE)*	*List Specific PPE*
1. Skin absorption	☐	☐		
2. Cuts or lacerations	☐	☐		
3. Abrasions	☐	☐		
4. Punctures	☐	☐		
5. Chemical burns	☐	☐		
6. Thermal burns	☐	☐		
7. Harmful temperature extremes	☐	☐		
8. Other	☐	☐		

Respiratory

Has the workplace area been evaluated for:

	No	*Yes*	*E, G (Eliminated, Guarded, PPE)*	*List Specific PPE*
1. Harmful dusts	☐	☐		
2. Fogs	☐	☐		
3. Fumes	☐	☐		
4. Mists	☐	☐		
5. Smokes	☐	☐		
6. Sprays	☐	☐		
7. Vapors	☐	☐		
8. Respiratory Protection	☐	☐		

Torso

Are employees bodies protected from:

	No	*Yes*	*E, G (Eliminated, Guarded, PPE)*	*List Specific PPE*
1. Hot Metals	☐	☐		
2. Cuts	☐	☐		
3. Acids	☐	☐		
4. Radiation	☐	☐		

Comments: _____

CERTIFICATION:

This hazard assessment has been conducted to determine the required type of personal protective equipment (PPE) for each affected employee. The assessment includes:

- Walk-through survey
- Specific job analysis
- Review of accident statistics
- Review of safety equipment selection guideline materials
- Selection of appropriate required PPE

Assessment Certified by (Supervisor):_____ Date:_____

Appendix 14 – B: PPE Selection guidelines

The general guideline for selection of protective equipment is to:

- Become familiar with the potential hazards and the type of protective equipment that is available, and what it can do; i.e., splash protection, impact protection, etc.;
- Compare the hazards associated with the environment; i.e., impact velocities, masses, projectile shape, radiation intensities, with the capabilities of the available protective equipment;
- Select the protective equipment which ensures a level of protection greater than the minimum required to protect employees from the hazards
- Fit the user with the protective device and give instructions on care and use of the PPE. It is very important that users be made aware of all warning labels for and limitations of their PPE.

Fitting the Device

Careful consideration must be given to comfort and fit. PPE that fits poorly will not afford the necessary protection. Continued wearing of the device is more likely if it fits the wearer comfortably. Protective devices are generally available in a variety of sizes. Care should be taken to ensure that the right size is selected.

Devices with adjustable features

Adjustments should be made on an individual basis for a comfortable fit that will maintain the protective device in the proper position. Particular care should be taken in fitting devices for eye protection against dust and chemical splash to ensure that the devices are sealed to the face. In addition, proper fitting of helmets is important to ensure that it will not fall off during work operations. In some cases a chin strap may be necessary to keep the helmet on an employee's head. (Chin straps should break at a reasonably low force, however, so as to prevent a strangulation hazard). Where manufacturer's instructions are available, they should be followed carefully.

Eye and Face Protection

- Each affected employee shall use appropriate eye or face protection when exposed to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation.
- Each affected employee shall use eye protection that provides side protection when there is a hazard from flying objects. Detachable side protectors are acceptable.
- Each affected employee who wears prescription lenses while engaged in operations that involve eye hazards shall wear eye protection that incorporates the prescription in its design, or shall wear eye protection that can be worn over the prescription lenses without disturbing the proper position of the prescription lenses or the protective lenses.
- Eye and face PPE shall be distinctly marked to facilitate identification of the manufacturer.
- Each affected employee shall use equipment with filter lenses that have a shade number appropriate for the work being performed for protection from injurious light radiation. The following is a listing of appropriate shade numbers for various operations.
-

Filter Lenses for Protection Against Radiant Energy			
Operations	**Electrode Size 1/32 in**	**Arc Current**	**Protective Shade**
Shielded metal arc welding	Less than 3	Less than 60	7
	3-5	60-160	8
	5-8	160-250	10
	More than 8	250-550	11
Torch brazing			3
Torch soldering			2
Note: as a rule of thumb, start with a shade that is too dark to see the weld zone. Then go to a lighter shade which gives sufficient view of the weld zone without going below the minimum. In oxyfuel gas welding or cutting where the torch produces a high yellow light, it is desirable to use a filter lens that absorbs the yellow or sodium line in the visible light of the spectrum.			

Selection chart guidelines for eye and face protection		
The following chart provides general guidance for the proper selection of eye and face protection to protect against hazards associated with the listed hazard "source" operations.		
Source	*Hazard*	*Protection*
IMPACT - Chipping, grinding machining, masonry work, woodworking, sawing, drilling, chiseling, powered fastening, riveting, and sanding	Flying fragments, objects, large chips, particles, sand, dirt, etc.	Spectacles with side protection, goggles, face shield For severe exposure, use face shield
HEAT-Furnace operation and arc welding	Hot sparks	Faceshields,, spectacles with side. For severe exposure use faceshield.
CHEMICALS-Acid and chemical handling, degreasing, plating	Splash	Goggles, eyecup and cover types. For severe exposure, use face shield.
DUST - Woodworking, buffing, general dusty conditions.	Nuisance dust	Goggles, eye cup and cover type

Selection guidelines for head protection

All head protection is designed to provide protection from impact and penetration hazards caused by falling objects. Head protection is also available which provides protection from electric shock and burn. When selecting head protection, knowledge of potential electrical hazards is important. Class A helmets, in addition to impact and penetration resistance, provide electrical protection from low-voltage conductors (they are proof tested to 2,200 volts). Class B helmets, in addition to impact and penetration resistance, provide electrical protection from high-voltage conductors (they are proof tested to 20,000 volts). Class C helmets provide impact and penetration resistance (they are usually made of aluminum which conducts electricity), and should not be used around electrical hazards.

Where falling object hazards are present, helmets must be worn. Some examples include: working below other employees who are using tools and materials which could fall; working around or under conveyor belts which are carrying parts or materials; working below machinery or processes which might cause material or objects to fall; and working on exposed energized conductors.

Foot Protection

General requirements:

Each affected employee shall wear protective footwear when working in areas where there is a danger of foot injuries due to falling or rolling objects, or objects piercing the sole, and where employee's feet are exposed to electrical hazards.

Selection guidelines for foot protection

Safety shoes and boots provide both impact and compression protection. Where necessary, safety shoes can be obtained which provide puncture protection. In some work situations, metatarsal protection should be provided, and in other special situations electrical conductive or insulating safety shoes would be appropriate. Safety shoes or boots with impact protection would be required for carrying or handling materials such as packages, objects, parts or heavy tools, which could be dropped; and, for other activities where objects might fall onto the feet. Safety shoes or boots with compression protection would be required for work activities involving skid trucks (manual material handling carts) around bulk rolls (such as paper rolls) and around heavy pipes, all of which could potentially roll over an employee's feet. Safety shoes or boots with puncture protection would be required where sharp objects such as nails, wire, tacks, screws, large staples, scrap metal etc., could be stepped on by employees causing a foot injury.

Hand Protection

General requirements

Hand protection is required when employees' hands are exposed to hazards such as those from skin absorption of harmful substances; severe cuts or lacerations; severe abrasions; punctures; chemical burns; thermal burns; and harmful temperature extremes.

Selection guidelines for hand protection

Selection of hand PPE shall be based on an evaluation of the performance characteristics of the hand protection relative to the task(s) to be performed, conditions present, duration of use, and the hazards and potential hazards identified. Gloves are often relied upon to prevent cuts, abrasions, burns, and skin contact with chemicals that are capable of causing local or systemic effects. There is no glove that provides protection against all potential hand hazards, and commonly available glove materials provide only limited protection against many chemicals. Therefore, it is important to select the most appropriate glove for a particular application and to determine how long it can be worn, and whether it can be reused. It is also important to know the performance characteristics of gloves relative to the specific hazard anticipated; e.g., chemical hazards, cut hazards, flame hazards, etc. Before purchasing gloves, request documentation from the manufacturer that the gloves meet the appropriate test standard(s) for the hazard(s) anticipated. Other factors to be considered for glove selection in general include:

- As long as the performance characteristics are acceptable, in certain circumstances, it may be more cost effective to regularly change cheaper gloves than to reuse more expensive types.
- The work activities of the employee should be studied to determine the degree of dexterity required, the duration, frequency, and degree of exposure of the hazard, and the physical stresses that will be applied.
- Selection of gloves for protection against chemical hazards:

- The toxic properties of the chemical(s) must be determined; in particular, the ability of the chemical to cause local effects on the skin and/or to pass through the skin and cause systemic effects.
- Generally, any "chemical resistant" glove can be used for dry powders;
- For mixtures and formulated products (unless specific test data is available), a glove should be selected on the basis of the chemical component with the shortest breakthrough time, since it is possible for solvents to carry active ingredients through polymeric materials.
- Employees must be able to remove the gloves in such a manner as to prevent skin contamination.
- Selection of Hand Protection

Type of Glove	Potential Hazards Designed to Reduce	Limitations of PPE	Care, Maintenance, Useful Life and Disposal
Natural rubber, synthetic, non-latex or surgical gloves.	Bloodborne pathogens, blood, human body fluids or other potentially contaminated fluids or tissue.	Provides limited protection against cuts and abrasions. Chemicals will eventually break through.	Discard immediately if gloves become torn or punctured. Discard immediately if breaththrough is detected. Discard immediately to Bio-Hazard container after use.
Chemical resistant gloves.	Local or systemic health effects from dermal exposure to hazardous chemicals.	Chemicals will eventually break through (Choose material per chemical compatibility) No single glove material is an absolute barrier against all chemicals. Provides limited protection against cuts and abrasions.	Discard immediately if gloves become torn or punctured. Discard immediately if chemical breakthrough is detected. Discard when gloves become stiff or cracked, if they swell, or if they change colors. Some gloves can be decontaminated.
Cut or Abrasion Resistant Gloves	Lacerations from hand contact with sharp object. Abrasion hazards from manual handling of materials or equipment.	Provides no protection against liquid chemicals.	Reasonable care should be taken to protect gloves from abuse. Discard if gloves become punctured or torn, of if they become soiled with liquid chemicals.
Heat or Cold Resistant Gloves	Thermal burns or frostbite resulting from work in extremely hot or cold environments or direct contact with hot or cold surfaces.	Provides no protection against liquid chemicals.	Reasonable care should be taken to protect gloves from abuse. Discard if gloves become punctured or torn or if they become soiled with liquid chemicals.
Finger Cuts or Stalls	Heat, cold, rough or sharp edges, or hazardous chemicals.	Offers only partial coverage/protection of hands.	Discard immediately if cots become torn or punctured. Discard immediately if chemical breakthrough is detected.

Chapter

15

Chapter 15: Ladder Safety and Fall Protection

The major 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.

General Information About Ladder Safety

CAUSES OF LADDER ACCIDENTS

- Ladders touching live electrical conductors
- Ladders slipping at the top
- Ladders slipping at the base
- Ladder resting against movable object
- Falling Material
- Poor balance, dizziness
- Fatigue
- Ladder defects, lack of inspection/maintenance
- Improper ladder selection: too short, too low a weight rating

VARIOUS TYPES OF PORTABLE LADDERS

Stepladder – A self-supporting portable ladder, non-adjustable 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.

OSHA'S REQUIREMENTS FOR PORTABLE LADDERS

- Portable stepladders longer than 20 feet shall not be used.
- Stepladders shall 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 shall not be used.
- Extension ladders longer than 60 feet shall not be used.
- Ladders shall be maintained in good condition at all times.

- Ladders shall be inspected frequently and those which have developed defects shall be tagged or marked (Dangerous, Do Not Use) and removed from service for destruction.
- Proper use of ladders is essential in preventing accidents. Even a good ladder can be a serious safety hazard when used by employees in a dangerous way.

OSHA STANDARDS REQUIRE THE FOLLOWING SAFETY PRECAUTIONS FOR LADDER USE:

- Ladders shall be placed with a secure footing on even surface when possible, or they shall be tied off at the top, middle, and bottom to prevent slipping.
- Ladders used to gain access to the roof or other area shall extend at least three feet above the roof. This provides a point of support when stepping on the roof.
- The foot of a ladder shall have a horizontal distance from the top support to the foot of the ladder one-quarter of the working length of the ladder. Divide the length of the building from the ground to the top support by four. The base of the ladder should be placed so that it is one foot away from the building for every four feet of height to where the ladder rests against the building. This is known as the **4 to 1 rule**.

LADDER SAFETY RULES

- The worker shall always face the ladder when climbing up or down.
- Short ladders shall not be spliced together to make long ladders.
- Ladders shall never be used in the horizontal position as scaffolds or work platforms.
- The top of a regular stepladder shall not be used as a step.
- Use both hands when climbing and descending ladders.
- Metal ladders shall never be used near electrical equipment.

LADDER SAFETY TIP BASICS

- Carefully read the manufacturer's instructions. They will contain guidelines that help you use ladders safely and effectively in addition to providing weight and height limits of the ladder. Choose the proper ladder for the intended task. For example, if the ladder will be used near electrical sources, use a wooden or fiberglass ladder to reduce the possibility of electrical shock.
- Setting up the ladder correctly. When planting the base of any ladder, place all feet on a firm, level surface, not on rocks or boards. Spreaders, the devices that hold the front and back sections of a stepladder in an open position should be completely open and locked before any weight is placed on the ladder. Always use a ladder that is tall enough for the job at hand. A great number of ladder accidents are the result of using a ladder that is too short.
- Don't carry equipment while climbing a ladder. Invest in a tool belt or have someone hand the equipment to you.
- Face the ladder when climbing up and down; keep your body centered between both side rails.
- While up on the ladder, don't overextend your reach. Make sure you keep your weight evenly distributed.

Scaffolding Safety

- The footing or anchorage for scaffolds shall be sound, rigid and capable of carrying the maximum intended load without settling or displacement.
- Unstable objects, such as barrels, boxes, loose brick, or concrete blocks shall not be used to support scaffolds or planks.
- Scaffolds and their components shall be capable of supporting at least four times the maximum intended load.
- Scaffolds shall be maintained in a safe condition and shall not be altered or moved horizontally while they are in use or occupied.
- Damaged or weakened scaffolds shall be immediately repaired and shall not be used until repairs have been completed.
- A safe means must be provided to gain access to the working platform level through the use of a ladder, ramp, etc.
- Overhead protection must be provided for personnel on a scaffold exposed to overhead hazards.
- Guardrails, mid rails, and toe boards must be installed on all open sides and ends of platforms more than 10 feet above the ground or floor. Wire mesh must be installed between the toe board and the guardrail along the entire opening, where persons are required to work or pass under the scaffolds.
- Employees shall not work on scaffolds during storms or high winds or when covered with ice or snow.
- As noted earlier, there are a number of scaffold types, and 1910.28 should be reviewed carefully for special requirements that apply to each type.

Self-Propelled Man Lift Safety

- All exposed surfaces of mobile ladder stands and scaffolds shall be free from sharp edges, burrs, or other safety hazards.
- The maximum work height shall not exceed four times the minimum base dimension unless outriggers, guides or braces are added to provide stability.
- This standard requires guardrails and toe-boards for work levels 10 feet or more above the ground or floor.

Ladder Safety - General Housekeeping

- All work areas, passageways, storerooms, and service rooms shall be kept clean and orderly and in a sanitary condition.
- The floor of every area shall be maintained in a clean and, so far as possible, a dry condition. Where wet processes are used, drainage shall be maintained and gratings, mats, or raised platforms shall be provided.
- Every floor, work area and passageway shall be kept free from protruding nails, splinters, holes, or loose boards.

Aisles and Passageways

- Aisles and passageways shall be kept clear and in good repair with no obstruction across or in aisles that could create a hazard.
- Permanent aisles and passageways shall be appropriately marked.
- Where mechanical handling equipment is used, aisles shall 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 shall be marked on plates and conspicuously posted. It shall be unlawful to place, or cause, or permit to be placed, on any floor or roof of a building or other structure, a load greater than that for which such floor or roof is approved.

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 shall 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 shall 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 top rail, mid rail, and posts, and shall have a vertical height of 42 inches nominal from the upper surface of top rail to floor, platform, runway, or ramp level. Nominal height of mid rail is 21 inches.
- A "standard toe board" 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 shall be in place, or an attendant shall be stationed at the opening to warn personnel. Every floor hole into which persons can accidentally walk shall be guarded by either:
    1. A standard railing with toe board, or
    2. A floor hole covers of standard strength and construction.
    3. While the cover is not in place, the floor hole shall be constantly attended by someone or shall 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 shall 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 shall be provided with a toe board wherever, beneath the open sides:

- Persons can pass
- There is moving machinery
- There is equipment with which falling materials could create a hazard.
- Every runway shall 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 toe board shall also be provided on each exposed side.

Stairway Railings and Guards

- Every flight of stairs with four or more risers shall 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 shall be affixed, preferably on the right side descending.
- On stairways less than 44 inches wide with one open side, at least one stair rail shall be affixed on the open side.
- On stairways less than 44 inches wide having both sides open, two stair rails shall be provided, one for each side.
- On stairways more than 44 inches wide, but less than 88 inches, one handrail shall be provided on each enclosed side and one stair rail on each open side.
- On stairways 88 inches or more in width, one handrail shall 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) shall be of construction similar to a standard railing, but the vertical height shall 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 shall be provided for access to and from places of work where operations necessitate regular travel between levels. Requirements include:
- Fixed industrial stairs shall be strong enough to carry five times the normal anticipated live load.
- At the very minimum, any fixed stairway shall be able to carry safely a moving concentrated load of 1000 pounds.
- All fixed stairways shall have a minimum width of 22 inches.
- Fixed stairs shall be installed at angles to the horizontal of between 30 degrees and 50 degrees.

- Vertical clearance above any stair tread to an overhead obstruction shall be at least 7 feet measured from the leading edge of the tread.

Appendix

Appendix 15 – A: Ladder Safety Checklist

Appendix 15 – A: Ladder Safety Checklist

Ladder Type _____ Inspected By _____ Date _____

Item to be checked	OK	Needs Repair	N/A
General	☐	☐	☐
Loose steps or rungs (considered loose if they can be moved by hand)	☐	☐	☐
Paint, tar or materials on ladder rungs or climbing surfaces.	☐	☐	☐
Loose nails, screws, bolts, or other metal parts	☐	☐	☐
Cracked, split or broken uprights, braces, steps or rungs	☐	☐	☐
Slivers on uprights, rungs or steps	☐	☐	☐
Damaged or worn non-slip bases	☐	☐	☐
Stepladders	☐	☐	☐
Wobbly (from side strain)	☐	☐	☐
Loose or bent hinge spreaders	☐	☐	☐
Broken Stop on hinge spreaders	☐	☐	☐
Extension Ladders	☐	☐	☐
Loose, broken, or missing extension locks	☐	☐	☐
Defective locks that do not seat properly when the ladder is extended	☐	☐	☐
Deterioration of rope	☐	☐	☐
Trolley Ladders	☐	☐	☐
Worn or missing tires	☐	☐	☐
Wheels that bind	☐	☐	☐
Floor wheel brackets broken, loose or missing	☐	☐	☐
Floor wheels and brackets missing	☐	☐	☐
Ladders binding in guides	☐	☐	☐
Ladder and rail stops broken, loose or missing	☐	☐	☐
Rail supports broken or section of rail missing	☐	☐	☐
Trestle Ladders	☐	☐	☐
Stop on hinge spreader broken	☐	☐	☐
Center section guide for extension out of alignment	☐	☐	☐
Defective locks for extension	☐	☐	☐
Loose hinges	☐	☐	☐
Wobbly	☐	☐	☐
Loose or bent hinge spreaders	☐	☐	☐

Chapter

16

Chapter 16: Storing and Handling Gas Cylinders

Cylinders may look hardy, but they are pressurized to thousands of pounds per square inch, which makes them extremely hazardous when exposed to motion or vibration. You wouldn't want your co-employees to get in the path of a runaway cylinder. The best way to prevent such an incident from occurring is to follow prescribed safe handling guidelines when using compressed gas cylinders.

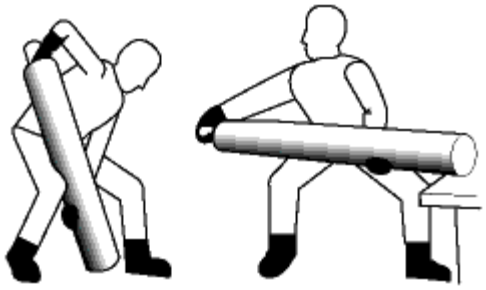
General Information about working with Gas Cylinders

How do I know what type of hazardous gas is stored in the cylinder?

While each type of compressed gas has its own hazards, most are flammable, explosive, toxic, or a combination of these types. Some common kinds of compressed gas include acetylene, ammonia, carbon dioxide, chlorine, fluorine, hydrogen and oxygen. Read the label on the cylinder and the material safety data sheet (MSDS) for safety information. The following pages contain information on some general safe practices when handling most compressed gas cylinders.

What should I know before lifting cylinders manually?

- Find out the weight of an object before attempting to lift it. Do a few warm up stretches before lifting.
- Use a lifting aid if the object is heavy.
- Get help with heavy or awkward loads if a lifting aid is not available.
- Protect hands and feet in case the load falls.
- DO NOT lift a cylinder by the valve cap. Never sling with ropes or chains or lift with electromagnets.

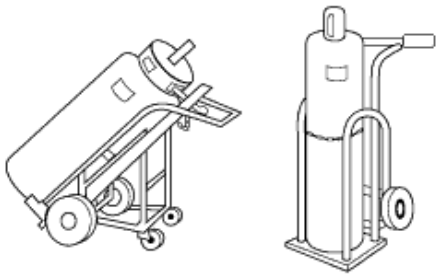


Lifting a Cylinder Manually

- Place forward foot around the cylinder if it must be lifted manually.
- Lower the cylinder across thigh by pressing down with rear hand while holding cylinder underneath and slightly beyond center point.
- Raise end to desired height.
- Push cylinder forward by rear hand.

What should I know when moving cylinders?

- Remove the regulator and replace the valve protection cap before moving.
- Cylinders can be 'rolled' for short distances ONLY. Tilt the cylinder slightly on its edge and roll it slowly in the direction desired.

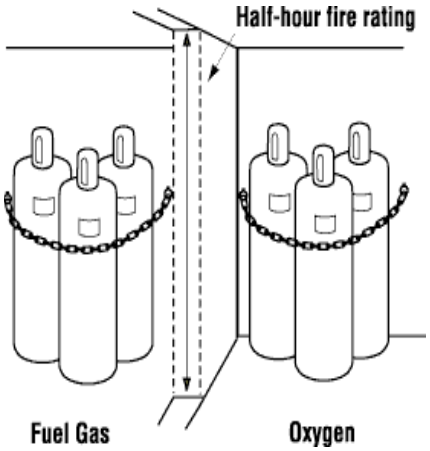


Cylinder Trolleys

- Use a cylinder trolley to move compressed gas cylinders for longer distances.
- Always chain the cylinder to the trolley.
- Call the supplier to remove leaky cylinders immediately.

What should I DO when storing compressed gas cylinders?

- Check your local fire code for guidelines regarding the storage of flammable gas cylinders.
- Store cylinders in a clearly identified, dry, well-ventilated storage area away from doorways, aisles, elevators, and stairs.
- Post "no smoking" signs in the area.
- Store cylinders in the upright position. If a tank has accidentally been left on its side, set it upright for at least one (1) hour before it is used.
- Secure the cylinder with an insulated chain or non-conductive belt.
- Secure the protective caps.
- Cylinders should be stored in a dry, well-ventilated area at least 20 feet from combustible materials. With outside storage, place on a fireproof surface and enclose in a tamper-proof enclosure.
- Protect cylinders from contact with ground, ice, snow, water, salt, corrosion, and high temperatures.
- Store oxygen and fuel gases separately. Indoors, separate oxygen from fuel gas cylinders by at least 6 meters (20 feet), by a wall at least 1.5 m (5 ft) high, or rated for 1.5 hour fire resistance.



What should I do with empty or out of service cylinders?

- Mark or label them as "Empty cylinder" and store empty cylinders away from full cylinders.
- Return empties to the supplier.
- Remove regulators when not in use and store these away from grease and oil. Put protective caps on the fittings when in storage.
- Keep cylinders and fittings from becoming contaminated with oil, grease or dust.
- Do not use a cylinder that is not identified or if the label is not legible. The colors of industrial gas cylinders are not standardized.

When should I "crack" the cylinder?

- Before attaching the regulator, "crack" a secured cylinder by opening the valve slightly then closing it immediately to blow out dust or dirt from the valve outlet. Use two hands on the valve and stand at the side of the valve - never stand directly in front of or behind the valve outlet.
- Do not crack fuel gases near ignition sources. Never crack hydrogen cylinders since the release of compressed hydrogen may ignite by itself.
- Open valves by hand, rather than with a tool (unless a specific tool is recommended by the supplier).
- Release the valves slowly.
- If a special wrench is required to open the valve, leave it in position while in use so that the flow of gas can be stopped quickly in an emergency.

What should I avoid doing?

- Do not use a cylinder as an electrical ground connection.
- Do not fasten cylinders to a work table or to structures where they could become part of an electrical circuit.
- Do not strike an arc on a cylinder.
- Do not use a flame or boiling water to thaw a frozen valve. Valves or cylinders may contain fusible plugs which can melt at temperatures below the boiling point of water.
- Don't tamper with safety devices.
- Keep cylinders upright and away from heat, sparks, fire, or electrical circuits.
- Avoid getting any oil or grease on the cylinders, particularly those containing oxygen.

How to maintain them:

- All cylinders should be properly marked to identify the contents.
- Make sure valve protection caps are in place.
- Make sure to mark all empty cylinders (some companies use "MT").
- Put a warning tag on cylinders that were leaking and notify the supplier.

Other precautions:

- Never mix gases in a cylinder or try to refill a cylinder (contact the supplier).
- If a cylinder leaks or a valve is broken, tag the cylinder and contact a trained maintenance person or the supplier.
- NEVER smoke around a compressed gas cylinder.
- Don't use the recessed top of the cylinder as a storage area for tools or material.

Work Practices and Guidelines

1. Hazard Review - A hazard assessment is required for the following processes involving the use of hazardous gases:
    a. New or relocated equipment using a toxic, corrosive, or Pyrophoric gas.
    b. New or relocated equipment using a flammable gas in a nonstandard application Analytical equipment fuel gases, welding, cutting, brazing, and small scale use in fume hoods are considered standard applications.
2. Existing gas installations should be self-inspected by the work area supervisor against the requirements listed in this section.
3. Existing installations using hazardous gases which are considered to present a significant risk or show design deficiencies will have a hazard review conducted.
4. Training - All persons handling or using cylinders must have basic training. Review of the information contained in this section, review of any additional information in the written safety plan for all work areas, and hands-on assistance by an experienced gas user will meet this minimum requirement. Additional compressed gas safety training can be obtained through the Safety Officer.
5. Hazard Information - The gas user must be thoroughly familiar with the properties of each gas they are using. A review of a good quality MSDS is necessary.

6. Ordering - All gas cylinders used may only be ordered and received through a licensed company. This allows for leak testing of highly toxic gases during the receipt process building.
7. Receiving - Be sure the cylinder tag (don't rely on cylinder stenciling or color coding) indicates the gas you have ordered. Hazardous gases (flammable, Pyrophoric, toxic, corrosive) must be transported directly from the shipper to the end use location. No staging of hazardous gases is permitted. Low hazard gases (e.g. inert gases, oxygen, Freon) may be stored temporarily in designated locations which provide means for securing cylinders with chains or straps.
8. Leak Testing - Toxic, corrosive, and Pyrophoric gases must be leak tested at the following intervals; receiving, installation, disconnect/shipping. Highly toxic gases are leak tested by the Safety Department prior to delivery to the user. The end user is responsible for other leak test intervals. It is key that toxic gases be leak tested prior to removal from their exhausted enclosures and subsequent transport.
9. Storage -- For short term use of hazardous gases, always select the smallest returnable cylinder available. Non-returnable cylinders are strongly discouraged. If non-returnable cylinders must be used, you must have a way to treat the remaining contents of the cylinder so that the cylinder valve can be removed prior to disposal. In cases where the gas will be used over an extended period of time (several months to more than one year), you should order a gas quantity that will last for three to six months. Corrosive gases should be returned to the gas supplier within one year to avoid regulator and cylinder valve problems due to corrosion. In storage, restrain cylinders of all sizes by straps, chains, or a suitable stand to prevent them from falling. Segregate full cylinders of low hazard gases from "empty" cylinders awaiting return to the vendor. Assure hazardous gas cylinders are constantly stored in a suitable exhausted enclosure as described in Engineering Controls. Do not expose cylinders to temperatures higher than about 50 C. Some small cylinders, such as lecture bottles and cylinders of highly toxic gases are not fitted with rupture devices and may explode if exposed to high temperatures. Never place cylinders where they may become part of an electric circuit. Avoid areas that are damp or subject to other corrosive materials. Do not store flammables and oxidizers together. Keeps cylinders in storage upright, secure, and interlocked into a compact group. Protect cylinders stored outside from standing water by providing proper drainage. Where outdoors storage is necessary, an overhead cover is necessary to avoid sunlight and rain.
10. Transporting Cylinders - Hazardous gas cylinders must be transported directly from the gas supplier to the end user storage location, unless an exhausted and approved "staging" area has been constructed. Cylinders must never be transported without valve protection caps in place. Never move a cylinder with a regulator attached! Cylinders larger than lecture bottle size should be chained or strapped to a wheeled cart during transport to ensure stability. Transportation of cylinders must be done only by trained personnel using approved trucks. Handle cylinders of compressed gases with the respect that high-energy sources deserve. All transportation of cylinders must be accomplished by a driver with a NC HAZMAT endorsement.
11. Shipping - Promptly remove the regulators from empty cylinders, leak test hazardous gases, and replace the protective caps at once. Mark the cylinder "MT". Never bleed a cylinder completely empty. Leave a slight pressure to keep contaminants out. Toxic, corrosive, and Pyrophoric gases must remain in their exhausted enclosures until shipped back to the supplier.

12. Changing Cylinders - Special guidelines are required for changing toxic, corrosive, and pyrophoric gases and liquids. A proper cylinder purge panel is needed for high hazard gases, along with an adequate purge guidelines. Persons changing gas cylinders requiring SCBA must work with a partner who is identically equipped.
13. Changing Pump Oil - Hazardous gases may be absorbed into vacuum pump oils. Personnel performing vacuum pump oil changes on pumps used with highly toxic gases must use SCBA for pump oil change. Hot pump oil should be allowed to cool prior to c hanging.
14. Other Equipment Maintenance Considerations - Consider equipment maintenance needs in advance. Consider reaction byproducts (e.g. use proper skin and eye protection when cleaning process chambers or vacuum pumps). "Low hazard" gases such as Freon will generate chlorine and fluorine decomposition products. Be sure to LOCK OUT upstream gas lines leading to equipment prepared for maintenance. Compressed gases are a hazardous energy source requiring lockout guidelines. Be sure to adequately purge lines following lockout guidelines and before beginning maintenance.
15. General Work Practices - Never use a cylinder that cannot be identified positively. Do not use compressed gas or compressed air to blow away dust or dirt (unless specifically equipped with a 30 PSI or less diffuser for this application as used in machine shops). Flying dust and debris, as well as high pressure air itself, can cause significant injury. When not in use, close cylinder valves. The main cylinder valve should be tightly closed, but needle valves should only be finger tight to avoid ruining the valve and/or valve stem.
16. Emergency Guidelines - Leaking cylinders should not be removed from their exhausted enclosures. Actuate remote emergency gas shutoff valve/button, if present. (Highly toxic gases, if properly installed, will have flow limiting devices and/or automatic cylinder shutoff valves in place to limit and shutoff the gas supply.) Close the main cylinder valve if a leak is stopped or slow, hazardous gases are contained in their enclosure, and it is clearly safe to approach. Do not extinguish a flame involving a highly combustible gas until the source of gas has been shut off, otherwise, it can reignite, causing an explosion. Cylinders leaking at the cylinder valve should be reported to Public Safety (this should be reported as a "non-emergency" if the cylinder and gas are contained in an exhausted enclosure). If a hazardous gas is released into an unexhausted enclosure and the gas supply cannot be promptly cutoff, actuate the emergency evacuation guidelines in your area and contact Public Safety. This guideline will also be initiated automatically if gas monitors trigger the building evacuation alarm. The Superfund Amendments and Reauthorization Act of 1986 (SARA Title III) states that releases of extremely hazardous substances must be reported to EPA. Accidental discharge of cylinder contents is to be promptly reported to the Safety Department and area supervisor. Cylinders found to be leaking upon gas delivery should not be accepted from the gas supplier.
17. **All gas cylinders must be check and serviced as needed by the hydrostatic test date.**

Compressed Air Systems & Usage

1. Use compressed air as a cleaning method only when absolutely necessary. It involves a large number of hazards not present with other methods. Authorized uses include:
    a. paint spraying pneumatic controls
    b. pneumatic tools
    c. siphons
    d. Compressed Air Usage

2. Only machinery that cannot be cleaned in any other way should be cleaned by compressed air. Never use compressed air to clean equipment or parts which are contaminated by toxic materials.
3. Compressed air used for cleaning machinery or shop areas and/or operated from a hand-held nozzle or similar device must have a nozzle pressure of less than 30 psig, if the nozzle is deadened. This may be accomplished by the use of a pressure-reducing valve in the air line or by the use of air guns designed to reduce or relieve nozzle airline pressure to less than 30 psig.
4. Wear eye protection when you must use compressed air for cleaning.
5. Ensure people working around you are shielded from the air blast and flying chips.
6. Air Receivers and Compressors - All air receivers or tanks (this does not include compressed gas cylinders, which must not be employed as air receivers) used for the storage of l cubic foot or more of compressed air at a pressure in excess of 50 psig. must be constructed in accordance with the American Society of Mechanical Engineers (ASME) Boilers and Pressure Code.
7. All safety valves must be installed and maintained in accordance with the ASME code.
8. Air receivers and tanks are to be installed so that all drains handholds, and personnel access openings are easily accessible, and should be supported so as to allow sufficient clearance for complete external inspection.
9. Each air compressor system must be provided with a connection of the appropriate size for attaching an inspector's test gauge when the system is in service.
10. Nothing must obstruct the connection of the inspector's test gauge.
11. Provisions must be made for the removal of oil and water from the tanks. Drain valves must be located at the lowest point possible and a draining schedule established to prevent the accumulation of excessive amounts of liquid in the receiver.
12. Readily visible pressure gauges must be installed. Spring loaded safety devices with a total relieving capacity sufficient to prevent a rise in pressure of more than l0 percent above the maximum allowable working pressure of the receiver must also be installed.
13. At least one safety valve in each system must be set to operate at or below the maximum allowable working pressure.
14. Valves must not be installed between the air receiver and any of its safety valves. Daily testing of controlling and safety valves is required.
15. All safety appliances such as safety valves, indicating devices, and controlling devices must be constructed, located, and installed so that they cannot readily be made inoperative by any means, including weathering.
16. Hoses and lines used in any compressed air system must be rated to meet the maximum operating pressure (both static and transient) of the equipment or apparatus.
17. Hoses and lines should be properly assembled; incorrect fittings should be avoided.
18. A system should be designed with the least number of bends and the largest diameter feasible.
19. Additionally, hoses and lines should be protected from external damage, e.g., heat, abrasion and corrosion. To this end, they should not be placed where they can be trod on, tripped over, or driven over by personnel or equipment.
20. Vent pressure relief valves and rupture discs to a safe area, where personnel will not be affected, e.g. toward a wall.

Chapter

17

Chapter 17: Excavating and Trenching

This program outlines guidelines for the protection of employees/members working in and around excavations and trenches. This program requires compliance with OSHA Standards described in Subpart P (CFR 1926.650) for the construction industry. Compliance is mandatory to ensure employee/member protection when working in or around excavations. The programs in this manual on confined space, hazard communication, lock-out/tag-out, respiratory protection, and any other safety programs or procedures deemed essential for employee guidelines, are to be used in conjunction with this program.

It is the responsibility of each department that utilizes trenching methods to implement and maintain the guidelines and steps set forth in this program. Each employee/member involved with excavation and trenching work is responsible to comply with all applicable safety guidelines and requirements of this program.

Definitions

BENCHING - A method of protecting employees from cave-ins by excavating the sides of an excavation to form one or a series of horizontal levels or steps, usually with vertical or near vertical surfaces between levels.
CAVE-IN - The separation of a mass of soil or rock material from the side of an excavation, or the loss of soil from under a trench shield or support system, and its sudden movement into the excavation, either by falling or sliding, in sufficient quantity so that it could entrap, bury, or otherwise injure and immobilize a person.
COMPETENT PERSON - One who is capable of identifying existing predictable hazards in the surroundings or working conditions, which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.
DURATION OF EXPOSURE - The longer an excavation is open, the longer the other factors have to work on causing it to collapse.
EXCAVATION - Any man-made cut, trench, or depression in an earth surface, formed by earth removal.
HAZARDOUS ATMOSPHERE - An atmosphere which by reason of being explosive, flammable, poisonous, corrosive, oxidizing, irritating, oxygen deficient, toxic, or otherwise harmful, may cause death, illness, or injury.

PROTECTIVE SYSTEM: A method of protecting employees from cave-ins, from material that could fall or roll from an excavation, or from the collapse of adjacent structures by providing a barrier between the debris and the employee. Protective systems include support systems, sloping and benching systems, shield systems, and other systems that provide necessary protection.
SHIELD: A structure that is capable of withstanding the forces imposed on it by a cave-in and thereby protects employees within the structure. Shields can be permanent structures or can be designed to be portable and moved along as work progresses. All shields must be in accordance with 29 CFR 1926.652(c)3 or (c)4.
SLOPING - A method of protecting workers from cave-ins by excavating to form sides of an excavation that are inclined away from the excavation to prevent cave-ins. The angle of incline required to prevent a cave-in varies with differences such as soil type, length of exposure, and application of surcharge loads.
SURCHARGE LOADS - Generated by the weight of anything in proximity to the excavation, push starts for a cave-in (anything up top pushing down). Common surcharge loads:

1. weight of soil pile
2. weight of nearby buildings, poles, pavement, or other structural objects.
3. weight of material and equipment

TRENCH - A narrow excavation below the surface of the ground, less than 15 feet wide, with a depth no greater than the width.
UNDERMINING - Undermining can be caused by such things as leaking, leaching, caving or over-digging. Undermined walls can be very dangerous.
VIBRATION - A force that is present on construction sites and must be considered. The vibrations caused by backhoes, dump trucks, compactors and traffic on job sites can be substantial.

Hazards and Hazard Controls:

The following are potential hazards that may be encountered:

1. Electrocution
2. Gas Explosion
3. Entrapment
4. Struck by equipment
5. Suffocation

The following are some potential Hazard Controls:

1. Before any work is performed and before any employees enter the excavation, a number of items must be checked and insured:
2. Before any excavation, underground installations must be determined. This can be accomplished by either contacting the local utility companies or the local "one-call' center for the area. All underground utility locations must be documented on the proper forms. All overhead hazards (surface encumbrances) that create a hazard to employees must be removed or supported to eliminate the hazard.
3. If the excavation is to be over 20 feet deep, it must be designed by a registered professional engineer who is registered in the state where work will be performed.
4. Adequate protective systems will be utilized to protect employees. This can be accomplished through sloping, shoring, or shielding.
5. The worksite must be analyzed in order to design adequate protection systems and prevent cave-ins. There must also be an excavation safety plan developed to protect employees.

6. Workers must be supplied with and wear any personal protective equipment deemed necessary to assure their protection.
7. All soil piles will be stored a minimum of four (4) feet from the sides of the excavation. The soil pile must not block the safe means of egress.
8. If a trench or excavation is 4 feet or deeper, stairways, ramps, or ladders will be used as a safe means of access and egress. For trenches, the employee must not have to travel any more than 25 feet of lateral travel to reach the stairway, ramp, or ladder.
9. No employee will work in an excavation where water is accumulating unless adequate measures are used to protect the employees.
10. A competent person will inspect all excavations and trenches daily, prior to employee exposure or entry, and after any rainfall, soil change, or any other time needed during the shift. The competent person must take prompt measures to eliminate any and all hazards.
11. Excavations and trenches 4 feet or deeper that have the potential for toxic substances or hazardous atmospheres will be tested at least daily. If the atmosphere is inadequate, protective systems will be utilized.
12. If work is in or around traffic, employees must be supplied with and wear orange reflective vests. Signs and barricades must be utilized to ensure the safety of employees, vehicular traffic, and pedestrians.

Competent Person Responsibilities

The OSHA Standards require that the competent person must be capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous, or dangerous to employees, and have authorization to take prompt corrective measures to eliminate them and, if necessary, to stop the work.

A competent person is required to:

1. Have a complete understanding of the applicable safety standards and other data provided.
2. Assure the proper locations of underground installations or utilities, and that the proper utility companies have been contacted.
3. Conduct soil classification tests and reclassify soil after any condition changes.
4. Determine adequate protective systems (sloping, shoring, or shielding systems) for employee protection.
5. Conduct all air monitoring for potential hazardous atmospheres.
6. Conduct daily and periodic inspections of excavations and trenches.
7. Approve design of structural ramps, if used.

Excavation Safety Plan

An excavation safety plan is required in written form. This plan is to be developed to the level necessary to insure complete compliance with the OSHA Excavation Safety Standard and state and local safety standards.

Excavation safety plan factors:

1. Utilization of the local one-call system
2. Determination of locations of all underground utilities
3. Consideration of confined space atmosphere potential
4. Proper soil protection systems and personal protective equipment and clothing

5. Determination of soil composition and classification
6. Determination of surface and subsurface water
7. Depth of excavation and length of time it will remain open
8. Proper adherence to all OSHA Standards, this excavation and trenching safety program, and any other coinciding safety programs.

Soil Classification and Identification

The OSHA Standards define soil classifications within the Simplified Soil Classification Systems, which consist of four categories: Stable rock, Type A, Type B, and Type C. Stability is greatest in stable rock and decreases through Type A and B to Type C, which is the least stable.

Stable rock is defined as natural solid mineral matter that can be excavated with vertical sides and remain intact while exposed.

Type A soil is defined as:
Cohesive soils with an unconfined compressive strength of 1.5 tons per square foot (TSF) or greater. Cemented soils like caliche and hardpan are considered Type A.

Soil is NOT Type A if:

- It is fissured.
- The soil is subject to vibration from heavy traffic, pile driving or similar effects.
- The soil has been previously disturbed.
- The material is subject to other factors that would require it to be classified as a less stable material.
- The exclusions for Type A most generally eliminate it from most construction situations.

Type B soil is defined as:

- Cohesive soil with an unconfined compressive strength greater than .5 TSF, but less than 1.5 TSF.
- Granular cohesion less soil including angular gravel, silt, silt loam, and sandy loam.
- The soil has been previously disturbed except that soil classified as Type C soil.
- Soil that meets the unconfined compressive strength requirements of Type A soil, but is fissured or subject to vibration.
- Dry rock that is unstable.

Type C soil is defined as:

- Cohesive soil with an unconfined compressive strength of .5 TSF or less.
- Granular soils including gravel, sand and loamy sand.
- Submerged soil or soil from which water is freely seeping.
- Submerged rock that is not stable.

Soil Test & Identification
The competent person will classify the soil type in accordance with the definitions in Appendix A on the basis of at least one visual and one manual analysis. These tests should be run on freshly excavated samples from the excavation and are designed to determine stability based on a number of criteria: the cohesiveness, the presence of fissures, the presence and amount of water, the unconfined compressive strength, and the duration of exposure, undermining, and the presence of layering, prior excavation and vibration.

The cohesion tests are based on methods to determine the presence of clay. Clay, silt, and sand are size classifications, with clay being the smallest sized particles, silt intermediate and sand the largest. Clay minerals exhibit good cohesion and plasticity (can be molded). Sand exhibits no elasticity and virtually no cohesion unless surface wetting is present. The degree of cohesiveness and plasticity depend on the amounts of all three types and water.

When examining the soil, three questions must be asked: Is the sample granular or cohesive? Fissured or non-fissured? What is the unconfined compressive strength measured in TSF?

Methods of testing soils:

- Visual test: If the excavated soil is in clumps, it is cohesive. If it breaks up easily, not staying in clumps, it is granular.
- Wet manual test: Wet your fingers and work the soil between them. Clay is a slick paste when wet, meaning it is cohesive. If the clump falls apart in grains, it is granular.
- Dry strength test: Try to crumble the sample in your hands with your fingers. If it crumbles into grains, it is granular. Clay will not crumble into grains, only into smaller chunks.
- Pocket penetrometer test: This instrument is most accurate when soil is nearly saturated. This instrument will give unconfined compressive strength in tons per square foot. The spring-operated device uses a piston that is pushed into a coil up to a calibration groove. An indicator sleeve marks and retains the reading until it is read. The reading is calibrated in tons per square foot (TSF) or kilograms per cubic centimeter.
- Thumb penetration teal: The competent person attempts to penetrate a fresh sample with thumb pressure. If the sample can be dented, but penetrated only with great effort, it is Type A. If it can be penetrated several inches and molded by light pressure, it is Type C. Type B can be penetrated with effort and molded
- Shear-vane: Measures the approximate shear strength of saturated cohesive soils. The blades of the vane are pressed into a flat section of undisturbed soil, and the knob is turned slowly until soil failure. The dial is read directly when using the standard vane. The results will be in tons per square foot or kilograms per cubic centimeter.

The competent person will perform several tests of the excavation to obtain consistent, supporting data along its depth and length. The soil is subject to change several times within the scope of an excavation and the moisture content will vary with weather and job conditions.
The competent person must also determine the level of protection based on what conditions exist at the time of the test, and allow for changing conditions.

Excavation Protection Systems

The three basic protective systems for excavations and trenches are sloping and benching systems, shoring, and shields. The protective systems shall have the capacity to resist without failure all loads that are intended or could reasonably be expected to be applied to or transmitted to the system. Every employee in an excavation shall be protected from cave-ins by an adequate protective system.

Exceptions to using protective system:

- Excavations are made entirely in stable rock
- Excavations are less than 5 feet deep and declared safe by a competent person

SLOPING AND BENCHING SYSTEMS

There are four options for sloping:

1. Slope to the angle required by the Standard for Type C, which is the most unstable soil type.
2. The table provided in Appendix B of the Standard may be used to determine the maximum allowable angle (after determining the soil type).
3. Tabulated data prepared by a registered professional engineer can be utilized.
4. A registered professional engineer can design a sloping plan for a specific job.
    - Sloping and benching systems for excavations five (5) to twenty (20) feet in depth must be constructed under the instruction of a designated competent person.
    - Sloping and benching systems for excavations greater than twenty (20) feet must be designed and stamped by a registered professional engineer.
    - Sloping and benching specifications can be found in Appendix B of the OSHA Standard (Subpart P).

SHORING SYSTEMS

Shoring is another protective system or support system. Shoring utilizes a framework of vertical members (uprights), horizontal members (whales), and cross braces to support the sides of the excavation to prevent a cave-in. Metal hydraulic, mechanical or timber shoring are common examples.
The different examples of shoring are found in the OSHA Standard under these appendices:

1. APPENDIX C - Timber Shoring for Trenches
2. APPENDIX D - Aluminum Hydraulic Shoring for Trenches
3. APPENDIX E - Alternatives to Timber Shoring
4. SHIELD SYSTEMS (Trench Boxes)

Shielding is the third method of providing a safe workplace. Unlike sloping and shoring, shielding does not prevent a cave-in. Shields are designed to withstand the soil forces caused by a cave-in and protect the employees inside the structure. Most shields consist of two flat, parallel metal walls that are held apart by metal cross braces. Shielding design and construction is not covered in the OSHA Standards. Shields must be certified in design by a registered professional engineer and must have either a registration plate on the shield or registration papers from the manufacturer on file at the jobsite office.

ANY REPAIRS OR MODIFICATIONS MUST BE APPROVED BY THE MANUFACTURER.
SAFETY PRECAUTIONS FOR SHIELD SYSTEMS

- Shields must not have any lateral movement when installed.
- Employees will be protected from cave-ins when entering and exiting the shield (examples - ladder within the shield or a properly sloped ramp at the end).

- Employees are not allowed in the shield during installation, removal, or during any vertical movement.
- Shields can be 2 ft. above the bottom of an excavation if they are designed to resist loads at the full depth and if there are no indications of caving under or behind the shield.
- The shield must extend at least 18 inches above the point where proper sloping begins (the height of the shield must be greater than the depth of the excavation).
- The open end of the shield must be protected from the exposed excavation wall. The wall must be sloped, shored, or shielded. Engineer designed end plates can be mounted on the ends of the shield to prevent cave-ins.

Inspections

1. Daily inspection of excavations, the adjacent areas and protective systems shall be made by the competent person for evidence of a situation that could result in a cave-in, indications of failure of protective systems, hazardous atmospheres or other hazardous conditions.
2. All inspections shall be conducted by the competent person prior to the start of work and as needed throughout the shift.
3. Inspections will be made after every rainstorm or any other increasing hazard.
4. All documented inspections will be kept on file in the jobsite safety files and forwarded to the Safety Director weekly.
5. A copy of the Daily Excavation Inspection form is located at the end of this program.

FOR MORE INFORMATION

Reference 29 CFR 1926.650, Subpart P – Excavations and Excavation Equipment Manufacturer Safety Procedures

Chapter

18

Chapter 18: Permit Required Confined Space

Using the criteria to determine confined spaces, each Lincoln County Department will need to evaluate areas within their organization to determine if you have permit required confined spaces and if you need this program.

This policy is established to provide a means by which employees can be protected from the hazards associated with entry into permit required confined spaces, and to develop guidelines by which employees shall enter such spaces.

All spaces owned or operated by Lincoln County that meet the definition of permit required confined spaces shall be identified and appropriately marked, and access to such spaces shall be controlled.

Employees are prohibited from entering any space meeting the definition of permit required confined space, unless the following conditions are met:

- The Supervisor determines that employees must enter permit required confined spaces to perform the duties that are require by of the employee.
- The employees are trained in the duties under this policy which they are to perform.
- The space is rendered safe for entry by:
- Issuance and compliance with the conditions of a permit;
- The space is reclassified as a non-permit space; or
- Alternate Entry Guidelines are performed.
- Permits issued under the guidelines in this policy shall be limited in duration to no longer than eight hours.

Definitions

Confined Space Definitions

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

- Large enough for a person to bodily enter and perform work;
- The only means of entry/egress that requires a person to enter by a means other than normal walking**,** such as crawling, squatting, climbing, bending, or use of devices; and
- Is not designed for people to continually occupy the space.

Non-Permit Space - a confined space that does not contain any actual or potential hazards capable of causing death or serious physical harm.

Permit Required Confined Space, Permit Space - a confined space which 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 that could trap or asphyxiate an entrant, such as inwardly converging walls or a floor that slopes downward and tapers to a smaller cross-section; and/or
- Contains any other recognized serious safety and/or health hazard.

Person Definitions

- Attendant - the trained individual stationed outside the permit space who monitors the authorized entrants and who performs all attendant duties.
- Entrant - the trained individual who enters the permit space.
- Entry Supervisor - the trained individual with the responsibility to:
    - Assure that acceptable entry conditions are present within a permit space under his/her jurisdiction;
    - Issue a permit authorizing entry;
    - Overseeing entry operations; and
    - Terminating the entry and permit.

Hazard Definitions

- Engulfment - the surrounding and effective capture of a person by a liquid or finely divided (flowable) solid substance that can cause death by filling or plugging the respiratory system, or that can exert enough force on the body to cause death by strangulation, constriction, or crushing.

- Hazardous atmosphere - an atmosphere that may expose employees to the risk of death, incapacitation, impairment of the ability to escape unaided from a permit space, injury, or acute illness. Hazardous atmospheres may be created by conditions such as, but not limited to:

- Flammable gas, vapors, or mists in excess of ten percent of the lower flammable limit (LFL).
- Airborne combustible dusts at a concentration that:
    - Meets or exceeds its LFL; and/or
    - Obscures vision at a distance of five feet or less.
- Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent.
- Atmospheric concentrations at or above the Permissible Exposure Limit (PEL) of substances identified in Subpart Z of 29 CFR 1910.
- Any other atmospheric conditions which are immediately dangerous to life and health.

Immediately Dangerous to Life and Health (IDLH) - any condition that:

- Poses an immediate or delayed threat to life;
- Would cause irreversible adverse health effects; and/or
- Would interfere with an individual's ability to escape unaided from a permit space.

Hazard Control Definitions

- Conditions of Entry - the conditions that must exist in a permit space to allow employees to safely enter and perform duties within the space.
- Blanking, Binding - absolute closure of a pipe, line, or duct by fastening a solid plate that completely covers the bore and that is capable of withstanding the maximum pressure of the pipe, line, or duct with no leakage beyond the plate.
- Double Block and Bleed - the closure of a line, duct, or pipe by closing and locking/tagging out two in-line valves, and opening and locking/tagging out a drain or vent in the line between the two closed valves.
- Inerting - the displacement of the atmosphere in a permit space by a noncombustible gas to such an extent that the resulting atmosphere is noncombustible, producing an IDLH oxygen-deficient atmosphere.
- Isolation - the complete removal of a permit space from service and the complete protection of that space from the release of energy or material.
- Line Breaking - the intentional opening of a pipe, line, or duct that is or has been carrying flammable, corrosive, or toxic material, an inert gas, or any fluid at a volume, pressure, or temperature capable of causing injury.

Permit Definitions

- Alternate Entry Guidelines - the use of continuous forced air ventilation and atmosphere monitoring in lieu of a permit to enter a permit required confined space that:
- Has an actual or potential hazardous atmosphere that can be demonstrably controlled by continuous forced air ventilation alone; and
- Has no other hazards of any kind.
- Emergency - any occurrence (including the failure of hazard control or monitoring equipment) or event, internal or external to the permit space, which could endanger entrants.

- Entry - the action of breaking the plane of an opening of a permit space with any part of the body.
- Permit - the written or printed document authorizing entry into a permit space and designating the requirements for entry.
- Prohibited Condition - any condition in a permit space that is not allowed by the permit during the period when entry is authorized.
- Testing - the process by which the hazards that may confront entrants are identified and evaluated. This term includes the specification of tests that are to be performed in the permit space.

Guidelines

Lincoln County Controlled Confined Spaces

Identification of Confined Spaces

The Supervisor shall identify each space under their jurisdiction which meets the definition of confined space, if any exist, and shall maintain a list of such spaces. The Supervisor shall determine if the confined space meets the definition of permit required confined space.

- Each confined space on the list shall be designated as a non-permit or permit space.
- The hazards of each permit space shall be catalogued.
- The list shall be distributed to all affected managers and employees.
- Lincoln County shall provide for a Danger sign to be posted at the means of ingress to each identified confined space.
- Signs shall meet the requirements of Danger signs.
- The legend on the signs for permit spaces shall state: "PERMIT REQUIRED CONFINED SPACE. DO NOT ENTER WITHOUT AUTHORIZATION AND PERMIT".

Employees whose job duties require entry into identified confined spaces shall create specific guidelines to enter confined spaces, if all elements of 29 CFR 1910.146 are met.

The supervisor with jurisdiction over employees who are required to enter an identified confined space shall:

- Receive training as an Entry Supervisor.
- Determine whether employees who enter permit spaces, or perform work within non-permit spaces that may cause the space to meet the definition for permit required confined space during the work activities. If so, the supervisor shall:
    - Select an Entry Supervisor(s) to oversee entry activities, and provide for training of the employee(s);
    - Ensure that affected employees receive training as entrants;
    - Procure the necessary equipment to perform the tests required for entry;
    - Ensure that an adequate number of employees have received training as attendants;
    - Contact the local emergency rescue agency and establish assurance that they will perform rescue coverage during entry operations;

- The supervisor, with the assistance of the county management as necessary, shall ensure that the rescue services are adequately trained and equipped to perform rescue operations from the space in compliance with safety regulations;
- The supervisor shall procure this assurance in writing;
- The supervisor should invite rescue employees to the site to pre-plan rescue operations; and
- If the rescue services cannot or will not perform such services, the supervisor or employee shall develop and implement a means to perform rescue for the space.

For each entry into a non-permit space, the designated Entry Supervisor shall review the work to be performed.

If the work will introduce a hazard into the space that will cause it to meet the definition for permit required confined space, the supervisor shall:

- Temporarily reclassify the space as a permit space;
- Follow the guidelines for entry into a permit space;
- Upon termination of the permit, re-inspect the space and take whatever actions necessary to remove the created hazards; and
- Reclassify the space as a non-permit space.
- If the work does not introduce a hazard, the Entry Supervisor may authorize entry into the space.

For each entry into a permit space, the designated Entry Supervisor shall:

- 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 guidelines;
- 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; and
- Maintain the permit or documentation for the required retention period.

For the duration of each entry into a permit space, the entrants and attendants shall perform the duties outlined in these guidelines, and shall return the permit or documentation to the Entry Supervisor upon termination of entry.

Contractors

Lincoln County shall ensure that every contract for work within an identified permit space, or work within a non-permit space that will introduce a reclassifying hazard, shall:

- Apprise the contractor that the space is a permit-required confined space and of the hazards within the space;
- Require the contractor to control entry into the space by a permit system meeting the requirements of 29 CFR 1910.146; and
- Require the contractor to eliminate any temporary hazards created by the work, or notify the supervisor responsible for the space of any permanent hazards created by the work.
- The Contractor or its designee shall notify the responsible supervisor prior to entry.
- The supervisor shall notify any employees near or affected by entry; and

- If employees shall enter the space with contracted employees, the supervisor shall ensure that entry operations are coordinated with the contractor or designee to assure that:
- All entrants of both organizations can be accounted for during the entry;
- The work of one organization does not endanger the employees of the second organization;
- There is a properly trained attendant in place whenever employees of either organization have entered the space; and
- Temporary hazards are eliminated, and the supervisor is apprised of new permanent hazards.
- The Contractor or designee shall meet with the supervisor after completion of the entry to provide notification of:
- Any new permanent hazards created by the work; and/or
- Any unidentified hazards encountered during the entry.

Re-Evaluation

The supervisor shall re-evaluate identified confined spaces within their jurisdiction to determine if such spaces should be added, deleted, or reclassified. Re-Evaluation shall be performed:

- After notification by the responsible supervisor of a change in the hazards of a confined space;
- After review by Lincoln County Representative during the annual inspection; and
- After notification of changes in hazards in a confined space by employees, managers, or any other source.

Field Staff (e.g. service/repair employees)

Each manager shall determine by job title any field staff that may enter permit required confined spaces, and shall document the determination. Managers of employees authorized to enter permit spaces shall:

- Procure the equipment necessary for entry testing and develop guidelines to provide entry supervisors with the equipment as necessary;
- Designate and train Entry Supervisors, Attendants, and Entrants.
- Field employees entering a permit space may be both the Entry Supervisor and the Entrant, or the Entry Supervisor and the Attendant.
- Field employees serving as an Attendant for a permit space entry shall not be an Entrant during that entry unless relieved by another authorized attendant.
- Designate and train a Program Coordinator responsible for maintaining the required canceled permits and documentation.
- Establish guidelines to provide for rescue operations.

The county manager or his designate shall contact emergency rescue employees in each location where employees are likely to encounter permit spaces, and procure in writing assurance that the emergency service:

- is trained in rescue guidelines for the type of space employees enter;
- is equipped to perform rescue from the type of space; and

- if contacted prior to entry by the entry supervisor, will indicate whether they will or will not provide rescue coverage during that entry.

The county manager may elect to develop guidelines requiring Entry Supervisors to contact emergency services prior to each entry to procure coverage. Such guidelines shall ensure that the entry supervisor determines that the contacted rescue services are properly trained and equipped to perform rescue in the specified space, are aware of the entry and exit times, agree to provide rescue coverage for that time, and will notify the attendant should rescue coverage end for any reason. The manager may elect to establish other means of guaranteeing and certifying rescue coverage. Such guidelines shall address training, practice, equipment, and other relevant issues.

Authorized employees encountering a permit space which they need to enter to carry out their job duties shall have a trained Entry Supervisor to coordinate with the entity controlling the space prior to entry.

- The Entry Supervisor shall perform the pre-entry duties for the permit space in concert with the controlling entity. If the controlling entity has a permit required confined space program:
- The Entry Supervisor shall conform to the requirements of that program where they do not conflict or provide less protection than our guidelines;
- The Entry Supervisor may authorize the use of an adequately trained attendant provided by the controlling entity, upon provision or verification of training. The attendant's name, position, and Lincoln County shall be recorded on the permit;
- The Entry Supervisor may accept actions taken by the controlling entity to authorize Alternate Entry Guidelines or to reclassify the space as non-permit, after verifying and documenting the effectiveness of such actions. The Entry Supervisor may accept a copy of the controlling entity's documentation to meet the documentation requirement;
- The Entry Supervisor may accept the controlling entity's rescue guidelines if the entity agrees, but must verify that rescue employees are notified prior to entry;
- Upon request by the controlling entity, the Entry Supervisor shall obtain and provide the following documents as proof of program and entrant training:
    - A copy of this policy;
    - A copy of our training guidelines for Entrants;
    - A copy of the entrant's training documentation; and
    - The name and telephone number of the Lincoln County contact.
- If the controlling entity does not have a permit required confined space program or has not identified the space as permit required:
- If the controlling entity agrees to take the actions necessary for reclassifying a space to non-permit, the Entry Supervisor may oversee such actions, test their effectiveness, and reclassify the space;
- If conditions for Alternate Entry Guidelines can be met, the Entry Supervisor may verify the achievement of the conditions and authorize Alternate Entry Guidelines;

- If the controlling entity agrees to supply and require an individual to perform the functions of an Attendant, and if the this Attendant can meet the conditions outlined in this policy for Special Attendants, the Entry Supervisor may authorize the individual as the attendant for the entry and prepare the required documentation.
- The Entry Supervisor shall prepare and issue the permit, or prepare the required documentation for Alternate Entry Guidelines or reclassification.
- The Entrant and Attendant shall follow the duties for their classification for the duration of the entry, and return the permit or documentation to the Entry Supervisor at completion of the entry.
- The Entry Supervisor shall perform post-entry duties in concert with the controlling entity.
- If the controlling entity has a permit required confined space program, the Entry Supervisor shall allow the controlling entity to perform the post-entry activities required by that program;
- If the controlling entity does not have a permit required confined space program, the Entry Supervisor shall oversee the return of the space to the condition prior to entry.
- The Entry Supervisor shall immediately meet with the controlling entity to provide information on:
    - Hazards within the space of which the controlling entity was unaware, and/or
    - Any unexpected problems occurring during entry guidelines.

- The Entry Supervisor shall submit the canceled permit and/or any documentation prepared as a result of entry to the Program Coordinator, who shall retain the document for the required retention period. The Entry Supervisor shall also report any emergencies, evacuations, or other unexpected events related to the entry, which shall be recorded in writing by the Program Coordinator (designated by the Lincoln County).

Entry Guidelines for Permit Spaces

Pre-Permit Duties of the Entry Supervisor

- The Entry Supervisor shall record on the permit a descriptive identification of the permit space and its location.
- The Entry Supervisor shall record on the permit the date of entry, the time of issuance, and the time of expiration. No permit shall be issued for a period longer than eight hours.
- The Entry Supervisor shall record on the permit the reason for the entry.
- The Entry Supervisor shall survey the permit space without entry and review the work to be performed, to identify the existing or potential hazards. Such hazards shall be recorded on the permit.
- Gases or vapors which could displace the oxygen or processes which could consume oxygen;
- Flammable gases;
- Any other chemicals, gases, fumes, or mists which could be present or released by entry activities;
- A potential for low levels of oxygen from a lack of adequate ventilation;

- A potential for high levels of oxygen;
- Liquids or flowable solids which could engulf an entrant;
- Inwardly converging walls, sloped floors that taper to a smaller cross-section, pits or holes in the floor into which an entrant could stumble into and become wedged, and/or other characteristics of the configuration of the space which could trap or asphyxiate an entrant;
- Radiation;
- Bare, exposed, or ungrounded conductive parts of electrical equipment, machinery, wiring, fixtures, or installations;
- Unguarded points of operation or moving parts of machinery; and
- Any other recognized hazard that could result in accidental injury or occupational illness requiring treatment greater than first aid.
- The entry supervisor shall determine the actions necessary prior to entry to eliminate or control the hazards, and shall record them on the permit.
- Notification of the selected rescue employees shall be required for each entry.

Atmospheric Hazards.

If a potential or actual atmospheric hazard exists, testing shall be required. Oxygen, flammable gas, and carbon monoxide tests shall be conducted. The Entry Supervisor shall obtain and list the Permissible Exposure Limits (PEL) for each identified air contaminant.

1. The Entry Supervisor shall test for each identified air contaminant.
2. The Entry Supervisor shall determine if the atmospheric hazard can be eliminated or controlled by purging, venting, inerting, continuous forced air ventilation, or combination.
3. If the only hazard in a space is a hazardous atmosphere and Alternate Entry Procedures are the desired means of entry, forced air ventilation is required.
4. Engulfment Hazard elimination or control by blanking, binding, double block and bleed, line braking, or other methods.

Configuration Control means. Configuration hazards usually cannot be eliminated. Other Serious Hazards elimination or control by lock-out/tag-out or other means. The need for traffic control devices to isolate the permit space from vehicular and pedestrian traffic.

1. The Entry Supervisor shall determine and record the required equipment for entry.
    a. Equipment for the Attendant to summon rescue and the Entry Supervisor is required for all permit entries.
    b. Equipment designed to test oxygen, flammable gases, and carbon monoxide shall be required for all permit spaces with hazardous atmospheres.
    c. Equipment designed to test levels of identified airborne contaminants shall be required where such have been identified.
    d. A forced air ventilation system is required for Alternate Entry Procedures, and shall be required if determined by the Entry Supervisor.
    e. Personal protective equipment is required where hazards cannot be effectively eliminated or controlled.
    f. Traffic control equipment is required if the permit space is not effectively isolated from vehicle or pedestrian traffic.

2. Mechanical rescue equipment is required unless its use creates a greater hazard or would not effectively contribute to rescue.
    a. Body Harness with retrieval line attached at the upper back should be used whenever feasible.
    b. Wristlets may be used where body harnesses are not feasible.
    c. Mechanical retrieval devices shall be used for vertical entries into spaces deeper than five feet. Mechanical devices or fixed point connection may be used otherwise.
3. Communication equipment is required where entrants will be out of voice range with the Attendant. Other equipment shall be selected as need requires.
4. The Entry Supervisor shall identify the authorized entrants and at least one attendant, and shall record their names on the permit.
5. The Entry Supervisor shall determine the type of entry that is allowed.
6. If the pre-entry survey proves that the only hazard existing in the space is atmospheric and continuous forced air ventilation is provided, the Entry Supervisor may authorize Alternate Entry Procedures under stipulation that:
    a. The initial atmospheric tests indicate the atmosphere meets the entry requirements;
    b. Forced Air Ventilation continues for the duration of the entry; and
    c. The Attendant performs atmospheric tests once per hour and records them on the Air Monitoring Log on the permit.
7. If the pre-entry survey proves that there are no atmospheric or configuration hazards in the permit space, and that all other identified hazards can be eliminated (as opposed to controlled) from outside the space prior to entry, the Entry Supervisor may reclassify the space as Non-Permit contingent upon the completion of all hazard elimination activities.
8. If a non-permit entry is approved, the employee designated as Attendant on the permit shall serve as Lead Entrant. The permit shall serve as the required documentation.
9. If no other type of entry is obtainable or selected, entry shall be by the permit process.
10. The Entry Supervisor shall indicate any other permits issued for simultaneous work within the space, and shall indicate the means to contact rescue employees.
11. The Entry Supervisor shall sign and issue the permit, effective upon the date issued and contingent upon completion of all pre-entry activities, and expiring on the date indicated on the permit.

Pre Entry Procedures

1. The Entry Supervisor shall ensure that required equipment is procured and available, and that pre-entry actions are completed prior to entry. The Entry Supervisor may perform these duties or may delegate them to the Attendant and/or other authorized Entrants.

2. Each pre-entry requirement successfully met shall be checked off in the block provided on the permit. When all requirements are completed, the responsible employee shall verify the actions by signing the permit.

3. Required atmospheric testing shall be performed in the order indicated below after the pre-entry actions to address atmospheric hazards have been performed. Entry may proceed only if the tests indicate:

    a. The percentage of oxygen in the permit space is between 19.5% and 23.5%.

b. The percentage of flammable gases is at or lower than 10 percent of the Lower Flammable Limit.

c. The parts per million parts (ppm) of carbon monoxide is at or lower than 17.

d. The amount of other identified air contaminants is/are less than one-half the PEL. Where more than one air contaminant is observed, those contaminants will be reviewed for additive effects.

4. The permit shall be posted at the point of entry into the space, and each authorized employee shall review it to become familiar with the hazards of the space and the acceptable entry conditions.

Entry

1. Entrants shall:
    a. Enter the space and perform the assigned work as expediently as possible.
    b. Wear and use all equipment required by the permit.
    c. Notify the Attendant or Lead Entrant periodically or upon request that all is well.
    d. Immediately evacuate the space and alert the Attendant or Lead Entrant whenever any of the following occurs:
        i. The development of a condition not in compliance with the permit;
        ii. The development of a sign or symptom of exposure to a dangerous situation;
        iii. Failure of any required equipment; and/or
        iv. The Attendant or Lead Entrant orders an evacuation.
2. Lead Entrants shall:
    a. Maintain awareness of the location of the entrants, either inside or outside of the permit space;
    b. If entry is by Alternate Entry Procedures, perform hourly atmospheric monitoring of the space and record on the Gas Monitoring Log of the permit;
    c. Order an immediate evacuation upon becoming aware of:
        i. Any sign or symptom of exposure to a dangerous situation;
        ii. Any development of a condition not in compliance with the permit; and/or
        iii. Failure of any required equipment.
3. Attendants shall:
    a. Station themselves outside the permit space at the opening to the space, and remain in place throughout the duration of the entry or until relieved by another authorized Attendant;
    b. Perform no other duties beyond those stated for Attendants;
    c. Maintain an accurate count of entrants within and without the space, by use of the Entry Log on the permit;

d. Perform hourly atmospheric monitoring of spaces containing hazardous atmospheres, and record on the Gas Monitoring Log on the permit;

e. Communicate with entrants by voice or communication equipment periodically to assure that all is well;

f. Order an immediate evacuation of the space:

   i. Upon becoming aware of the development of a sign or symptom of an exposure to a dangerous situation;

   ii. Upon becoming aware of the development of a condition out of compliance with the permit;

   iii. Upon failure of an entrant to answer an attempt at communication; and/or

g. If unable to continue the performance of functions as an Attendant.

h. Summon rescue services if needed;

i. Warn unauthorized persons away from the permit space; and

j. Summon the Entry Supervisor if unauthorized persons refuse to leave the space.

4. The Entry Supervisor shall remove unauthorized persons from the permit space, as needed.

Completion of Entry

1. The Attendant or Lead Entrant shall assure that all entrants have exited the space.
2. If the space was evacuated prior to completion of work:

   a. The Attendant or Lead Entrant shall immediately terminate the permit by checking the appropriate box and describing the reasons for evacuation on the permit, then contacting the Entry Supervisor;

   b. The Entry Supervisor shall:

      i. Immediately notify the employee's supervisor of any injured or overexposed employee;

      ii. Determine if reentry is required to complete work, eliminate a created hazard, or return the space to normal operation.

         1. If reentry must be performed:

            a. Resurvey the space to determine the cause of the evacuation; and

            b. Issue another permit which includes the elimination or control of the hazard causing the evacuation. Alternate Entry Procedures and Reclassification to Non-Permit Space shall not be approved.

2. If reentry is unnecessary:
    a. Oversee the completion of the post-entry activities indicated on the permit; and
    b. End the entry activities.
3. If the entry was successfully completed, the Attendant or Lead Entrant shall:
    a. Indicate such by checking the appropriate block on the permit;
    b. Oversee the completion of post-entry actions indicated on the permit, and verify by signing in the appropriate location;
    c. Add any pertinent information concerning the entry on the permit; and
    d. Return the permit to the Entry Supervisor.

Training

1. The supervisor shall ensure that each employee receives awareness training on:
    a. The identifying characteristics of a confined space;
    b. The identifying characteristics of a permit space;
    c. The authorization or prohibition of their job classification to enter permit spaces;
    d. Required actions when working around or near a permit space entry; and
    e. The authority of authorized Attendants and Entry Supervisors.
2. Training shall be required:
    a. During orientation;
    b. Within two months of the determination of the employee's entry authorization, but prior to entry; and
    c. Whenever the supervisor becomes aware that the employee has failed to follow the instructions provided in the training.
3. The Supervisor shall provide the Program Coordinator with notification that training has been received.

Program Coordinators

1. The Department Head shall ensure that the designated Program Coordinator receives training in:
    a. The requirements of this policy and procedures; and
    b. The duties the Coordinator shall perform.
2. Training shall be provided:
    a. Within two months after designation as Program Coordinator; and
    b. Within one month of revisions to this policy and / or procedures.

Entry Supervisors, Attendants, and Entrants

1. The Supervisor shall ensure that employees designated as Entry Supervisors, Attendants, and/or Entrants receive training in:
    a. The requirements of this policy and any Procedures;
    b. The duties, authority, and responsibilities of Entry Supervisors, Attendants, Lead Entrants, and Entrants;
    c. The types of hazards expected to be encountered in permit spaces;
    d. The calibration, use, care and cleaning of equipment expected to be used during entry operations; and
    e. The performance of pre-entry actions expected to be required in permit spaces.

2. Training shall be provided:
    a. Prior to assignment or authorization of duties within permit spaces;
    b. Within one month after revisions of this policy or procedures. Assignment or authorization for permit space entry shall be suspended until training is completed;
    c. Whenever the supervisor becomes aware that an employee is deviating from the procedures of this policy. Assignment or authorization for permit space entry shall be suspended until training is completed; and
    d. Annually.
3. The supervisor shall develop written certification that each affected employee has successfully completed training.
    a. Certification shall include:
        i. Employee Name;
        ii. Authorized Duty (Entry Supervisor, Attendant, and/or Entrant);
        iii. Name of the Trainer; and
        iv. Synopsis of topics covered.
    b. A copy of the certification shall be provided to the employee and Program Coordinator.

Program Review

1. The Program Coordinator/Entry Supervisor shall review the effectiveness of the Program upon the annual inspection, using the canceled permits and other documentation from the preceding twelve months, Entry Supervisor comments, and other available information.
2. The Program Coordinator/Entry Supervisor may make recommendations to management at any time to make changes in procedures to address and correct weaknesses in the procedures.
3. The Program Coordinator/Entry Supervisor and/or Unit Manager may notify the Lincoln County at any time of potential weaknesses in policy and/or procedures. The Lincoln County shall view and initiate whatever changes necessary to address confirmed weaknesses.

Retention of Records

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

Employee training certification shall be retained by the Program Coordinator for the length of employment.

For More Information

Occupational Safety & Health Act (OSHA) - Regulations (Standards - 29 CFR) Part 1910.146: Confined Spaces 💻OSHA's Permit Required Confined Space Standard

Chapter

19

Chapter 19: Electrical Safety Program

Electricity has long been recognized as a serious workplace hazard, exposing employees to such dangers as electric shock, electrocution, fires and explosions.. The Electrical Safety Program outlined in this chapter sets forth the safety-related work practices to prevent electric shock or other injuries resulting from either direct or indirect electrical contacts,
.

The Electrical Safety Program includes:

- Scope and Application of the Electric Safety Program
- General Safety Practices for Electrical Work
- Engineering Controls for Electrical Safety
- Administrative Controls for Electrical Safety
- Design or Operational Limitations
- Standard Operating Guidelines for Energized Electrical Components
- Standard Operating Guidelines for Working on or Near Energized Electrical Circuits
- Standard Operating Guidelines for Re-energizing Electrical Components
- Use of Portable Electrical equipment
- Electric Lighting and Power Circuits
- Test Instruments and Equipment
- Use of Flammable or ignitable Materials
- Personal Protection Safeguards
- Training for Electrical Safety

Scope and Application of the Electrical Safety Program

This program covers electrical safety-related work practices for both QUALIFIED PERSONS and UNQUALIFIED PERSONS (see the definitions below) who are working on, near, or with the following installations:

- Premises Wiring. Installations of electrical conductors and equipment within or on buildings or other structures, and on other premises such as yards, carnival, parking and other lots and industrial substations;
- Wiring For Connection 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 electrical conductors; and
- Exposed Energized Parts. Installations that involve work performed by unqualified person on or near exposed energized parts. See section VI of this program below.
- This program does not apply to work performed by qualified persons on or directly associated with the following installations:
- Communications Installations. Installations of communication equipment to the extent that the work is covered under the OSHA standard in 29 CFR 1910.268 (telecommunications).
- Installations in Vehicles. Installations in ships, watercraft, railway rolling stock, aircraft, or automotive vehicles other than mobile home and recreational vehicles.
- Railway Installations. Installations of railways for generation, transformation, transmission, or distribution of power used exclusively for operation of rolling stock or installations of railways used exclusively for signaling and communication purposes.
- Generation, Transmission and Distribution Installations. Installations for the generation, control, transformation, transmission, and distribution of electrical energy (including communication and metering) located in buildings used for such purposes or located outdoors, including:
    - Work performed directly on such installations, such as repairing overhead or underground distribution lines or repairing a feed-water pump for the boiler in a generating plant.
    - Work directly associated with such installations, such as line-clearance tree trimming and replacing utility poles.
    - Work on electric utilization circuits in generating plants provided that a) such circuits are commingled with installations of power generation equipment or circuits, and b) the generation equipment or circuits present grater electrical hazards than those posed by the utilization equipment or circuit (such as exposures to higher voltages or lack of over-current protection).

It should be noted that work on or directly associated with installations of utilization equipment used for purposes other than generating, transmitting, or distributing electrical energy (such as installations which are in office buildings, warehouses, garages, machine shops, or recreational buildings or other utilization installations which are not an integral part of a generating installation, substation, or control center) is covered under paragraph above (premise wiring).

UNQUALIFIED PERSON- A person with little or no training in avoiding the electrical hazards of working on or near exposed energized parts.

QUALIFIED PERSON- One who has received training in and has demonstrated skills and knowledge in the construction and operation of electric equipment and installation and the hazards involved.

NOTE 1 to the definition: Whether an employee is considered to be a "qualified person" will depend upon various circumstances in the workplace. For example, it is possible and , in fact, likely for an individual to be considered "qualified" with regard to certain equipment in the workplace, but "unqualified" as to other equipment (See 1910.332(b)(3) for training requirements).

NOTE 2 to the definition: An employee who is undergoing on-the-job training and who, in the course of such training, has demonstrated an ability to perform duties safety at his or her level or training and who is under the direct supervision of a qualified person is considered to be a qualified person for the performance of those duties.

Basic requirements for Qualified Persons that are required by OSHA and NFPA 70E include:

- Persons must have knowledge of construction and operation of equipment and specific work methods to recognize and avoid electrical hazards while performing work.
- Must be familiar with the precautionary techniques, PPE, insulating, and shielding materials, insulated tools and test equipment.
- Able to distinguish exposed energized parts from other parts.
- Able to determine nominal voltage of exposed live parts.
- Approach distances and corresponding voltages of the Standard.

Responsibilities

- Management (department head)
  - Provide training for qualified and unqualified employees/members.
  - Ensure all new electrical installations meet codes and regulations.
- Supervisors (Direct Line)
  - Conduct inspections to identify electrical safety deficiencies.
  - Guard and correct all electrical deficiencies promptly.
- Employees
  - Report electrical deficiencies immediately to supervisors
  - Not work on electrical equipment unless authorized and trained
  - Properly inspect all electrical equipment prior to use

General Safety Practices for Electrical Work

Appropriate safety-related work practices should be employed 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. Those specific work practices should be consistent with nature and extent of the associated electrical hazards. Contained with the NFPA 70E requirements are the need to perform a Hazard/Risk Analysis. For a Hazard/Risk Analysis:

- Evaluate equipment and circuit information to determine the degree and extent of hazards
- Plan the job in order to safely perform the task
- Determine "Shock Approach Boundaries"
- Determine "Flash Protection Boundaries"
- Determine "Incident Energy Exposure"
- Perform a Shock and Flash Hazard Analysis if the employee is working "on or near" energized parts (within Limited Approach Boundary)
- Determine the appropriate Personals Protective Equipment (PPE).

Shock Hazard Analyses. A shock hazard analysis should be used to determine the approach boundaries to use to guard against contact with energized parts. When determining these distances always use the highest voltage level of possible exposure and the boundary distance should be solely based on voltage. This distance can be determined by using the calculations contained in 70E or using the boundaries drawn from the table in the standard – no calculations necessary. These boundaries are defined as:

- Limited – a safe approach boundary. Only qualified employees and escorted unqualified employees may cross.
- Restricted – Only qualified employees may cross. When working at this boundary, must use special precautionary techniques and PPE.
- Prohibited – Only qualified employees protected by insulting materials.

Approach Boundaries Specified in NFPA – 70E

		Limited Approach Boundary		Restricted Approach Boundary	
Condition	Nominal System Voltage Range, Phase to Phase	Exposed Movable Conductor	Exposed Fixed Circuit Part	Includes Inadvertent Movement Adder	Prohibited Approach Boundary
1	0 to 50	Not Specified	Not Specified	Not Specified	Not Specified
2	51 to 300	10 ft. 0 in.	3 ft. 6 in.	Avoid Contact	Avoid Contact
3	301 to 750	10 ft. 0 in.	3 ft. 6 in.	2 ft. 2in.	0 ft. 1 in.
4	751 to 15kV	10 ft. 0 in.	5 ft. 0 in.	2 ft. 7 in.	0 ft. 7 in.
5	15.1kV to 36 kV	10 ft. 0 in.	6 ft. 0 in.	2 ft. 9 in	0 ft. 10 in.

Flash Hazard Analysis: A flash hazard analysis shall determine a flash boundary, which is an approach boundary from exposed energized parts where a person without proper PPE could receive the onset of 2nd degree burns from a flash or arc. The incident heat energy of possible arc flash is based on the available fault current, fault clearing time, distance from exposed equipment and directional dissipation of energy (arc-in-the-box scenarios). Personal Protective Requirements within the flash boundary should be evaluated. Again these calculations are contained within the 70E standard or the boundaries drawn from the table in the standard – no calculations necessary.

SOURCE: NFPA 70E Default Tables

Risk Category	Minimum Arc Rating of PPE	PPE Requirements - NFPA 70E 2004
0	0-2 cal/cm^2	Untreated Cotton; leather gloves; safety glasses
1	2-4 cal/cm^2	FR shirt and pants (or jeans); rubber gloves; safety glasses; hard hat
2	4-8 cal/cm^2	FR shirt and pants (or jeans); rubber gloves; safety glasses; hard hat; arc face shield
3	8-25 cal/cm^2	FR shirt and pants (or jeans); rubber gloves; safety glasses; hard hat; arc hood; arc jacket
4	25-40 cal/cm^2	FR shirt and pants (or jeans); rubber gloves; safety glasses; hard hat; arc hood; multi-layer flash suit

Trouble shooting a 480 V panel is listed in default tables as Hazard Category 2 work.

Engineering Controls for Electrical Safety

- All electrical distribution panels, breakers, disconnects, switches, junction boxes shall be completely enclosed
- Water tight enclosure shall be used where there is possibility of moisture entry either from operations or weather exposure
- Electrical distribution areas will be guarded against accidental damage by locating in specifically designed rooms, use of substantial guard posts and rails and other structural means or engineered controls.
- Electrical Rooms shall be brightly lit to prevent accidental contact with energized parts.
- A clear approach and 3 foot side clearance shall be maintained for all distribution panels.
- All conduit shall be fully supported throughout its length Non-electrical attachments to conduit is prohibited
- All non-rigid cords shall be provided strain relief where necessary.

Administrative Controls for Electrical Safety

- Only trained and authorized employees/members may conduct repairs to electrical equipment
- Contractors performing electrical work must be hold a license for the rated work
- Areas under new installation or repair will be sufficiently guarded with physical barriers and warning signs to prevent unauthorized entry
- Access to electrical distribution rooms is limited to those employees who have a need to enter
- All electrical control devices shall be properly labeled
- Work on energized circuits is prohibited unless specifically authorized by senior facility management
- All qualified employees/members will follow established electrical safety procedures and precautions

Design or Operational Limitations

Whenever any employee is exposed to contact with parts of fixed electric equipment or circuits that have been de-energized, the circuits energizing the parts should be locked out, or tagged out, or both in accordance with the requirements of our Lockout/Tag-out (Energy Control) Program as supplemented by the requirements of this Program.

Safe procedures for de-energizing circuits and equipment should be determined before circuits or equipment is de-energized.

The circuits and equipment to be worked on should be disconnected from all electric energy sources. Control circuit devices, such as push buttons, selector switches, and interlocks, should not be used as the sole means for de-energizing circuits or equipment. Interlocks for electric equipment should not be used as a substitute for lockout and tagging procedures.

Stored electric energy that might endanger personnel should be released. Capacitors should be discharged and high capacitance elements should be short-circuited and grounded, if the stored electric energy might endanger personnel.

If the capacitors or associated equipment are handled in meeting the foregoing rule, they should be treated as energized.

Stored non-electrical energy in devices that could reenergize electric circuit parts should be blocked or relieved to the extent that the circuit parts could not be accidentally energized by the device.

A lock and tag should be placed on each disconnecting means used to de-energize circuits and equipment, on which work is to be performed, except:

- If a lock cannot be applied, or if the 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 lock without a tag is permissible if all three of the following exist: (i) only one circuit or piece of equipment is energized, (ii) the lockout period does not extend beyond the workshift, and (iii) employees exposed to the hazards associated with reenergizing the circuit or equipment are familiar with the procedure.

Whenever a tag is used without a lock as permitted by Rule 8a above, it should 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 of additional safety measures include the removal of an isolating circuit element, blocking of a controlling switch, or opening of an extra disconnecting device.

Each lock should be attached so as to prevent persons from operating the disconnecting means unless they resort to undue force or the use of tools.

Each tag should contain a statement prohibiting unauthorized operation of the disconnection means and removal of the tag.

No work should be performed on or near de-energized live parts, circuit or equipment until their de-energized condition has been verified.

Verification of the de-energized condition should be made as follows:

- A qualified person should operate the equipment operating controls or otherwise verify that the equipment cannot be restarted.
- A qualified person should use test equipment to test the circuit elements and electrical parts of equipment to which employees will be exposed and should verify that the circuit elements and equipment part are de-energized.
- The test should also determine if any energized condition exists as a result of inadvertently induced voltage or unrelated voltage backfield even though specific parts of the circuit have been de-energized and presumed to be safe.
- Before any circuit or equipment is reenergized - even temporarily - the following requirements should be met in the order listed below:
- A qualified person should 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 reenergizing the circuit or equipment should be warned to stay clear of circuits and equipment.
- Each lock and tag should be removed by the employee who applied it or under his or her direct supervision.
- If that employee is absent from the workplace, then the lock or tag may be removed by a qualified person designated to perform such task provided that:
- It is certain that the employee who applied the lock or tag is not available at the workplace, and
- That employee is made aware that the lock or tag has been removed before he or she resumes work.
- There should be a visual determination that all employees are clear of the circuits and equipment.

Conductors and parts of electric equipment that have been de-energized but have not been locked out or tagged in accordance with the foregoing rules should be treated as energized parts, and the requirements listed in the next section of this Program (Section VI) apply to work on or near them.

SOG for Energized Electrical Components

1. Electrical Pre-Work Guideline
    a. Except in extreme cases, work on electrical equipment should be done with all electrical circuits in the work area de-energized by following the Lockout/Tag-out procedure. When working on or near energized electrical circuits with less than 30 volts to ground, the equipment need not be de-energized if there will be no increased exposure to electrical burns or to explosion from electric arcs.
2. To prepare for work on electrical systems or components, the following guideline applies:
    - Caution: Treat all electrical circuits as "Live" until they have been Tagged and Locked Out and tested by the following procedure.
    - Obtain permission from supervisor to conduct work
    - Lockout and Tag-out all sources of electrical power
    - Verify de-energized condition before any circuits or equipment are considered and worked as de-energized.

- A qualified person should operate the equipment operating controls or otherwise verify that the equipment cannot be restarted.
- Verify proper operation of the Voltmeter at a live electrical source of the same rated voltage as the circuit to be worked.
- Using the Voltmeter, check all exposed circuits phase to phase and phase to ground for evidence of voltage/current in the circuit.
- Conduct work on the circuit only after determining that there is no voltage in any of the exposed circuits.
- If voltage is detected in any exposed circuit, STOP, inform supervisor and determine source and procedure to eliminate voltage.
- Conduct work
- Close up all exposed circuits, boxes, controls, equipment.
- Remove Lockout/Tag-out
- Obtain supervisor permission to energize circuits

SOG for working on or Near Exposed Energized Circuits

1. In the rare situation when energized equipment (or working in near proximity to energized equipment) cannot be de-energized, the following work practices must be used to provide protection:
    - Caution: Unqualified Employees are prohibited from working on or near exposed energized circuits.
    - Obtain permission from Manager to work on or near energized electrical circuits
    - Lockout and Tag-out all circuits possible
    - Treat all circuits as energized.
    - Remove all conductive clothing and jewelry (rings, watches, wrist/neck chains, metal buttons, metal writing instruments, etc.).
    - Use proper personal protective equipment, shields and/or barriers to provide effective electrical insulation from energized circuits. This may include electrically rated insulated gloves, aprons, rubber soled shoes, insulated shields, insulated tools, etc.
    - Provide adequate lighting. Do not enter areas with exposed energized parts unless illumination (lighting) is provided so that Employee may work safely. Do not reach around obstructions of view or lighting (blindly) into areas where exposed energized parts are located.
    - Employees entering a Confined Space with exposed energized parts must use protective barriers, shields, or equipment or insulated materials rated at or above the present voltage to avoid contact.
    - Doors or other hinged panels shall be constructed and secured to prevent them from swinging into an Employee and causing contact with exposed energized parts.
    - Housekeeping in areas of exposed energized parts may not be completed in areas with close contact unless adequate safeguards (insulation equipment or barriers) are present. Conductive cleaning material (Steel Wool, Silicon Carbide, etc.) or liquids may not be used unless procedures (Lock and Tag Out),are in place and followed.

- Station a safety observer outside work area. The sole function of this person is to quickly de-energize all sources of power or pull worker free from electrical work area with a non-conductive safety rope if contact is made with an energized electrical circuit.
- A person qualified in CPR must be readily available to the scene.

SOG for Re-energizing Electrical Circuits after Work Completed

These requirements must be met, in the order given, before circuits or equipment is reenergized, even temporarily.

- A qualified person shall 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.
- Warn employees exposed to the hazards associated with reenergizing the circuit or equipment to stay clear of circuits and equipment.
- Remove each lock and tag. They shall be removed by the employee who applied it or under his or her direct supervision. However, if this employee is absent from the workplace, then the lock or tag may be removed by a qualified supervisor designated to perform this task provided that:
- The supervisor ensures that the employee who applied the lock or tag is not available at the workplace, and
- The supervisor ensures that the employee is aware that the lock or tag has been removed before he or she resumes work at that workplace.
- Conduct a visual determination that all employees are clear of the circuits and equipment and the re-energize.

Use of Portable Electrical Equipment

All cord- and plug- connected electric equipment, flexible cord sets (extension cords), and portable electric equipment should be handled in a manner that will not cause damage.

Flexible electric cords connected to equipment should not be used for raising or lowering the equipment.

Flexible cords should not be fastened with staples or otherwise hung in such a fashion as could damage the outer jacket or insulation.

Portable cord- and plug- connected equipment and flexible cord sets (extension cords) should be visually inspected before use on any shift for external defects (such as loose parts, deformed and missing pins, or damage to outer jacket or insulation) and for evidence of possible internal damage (such as pinched or crushed outer jackets). However, cord- and plug- connected equipment and flexible cord sets (extension cords) which remain connected once they are put in place and are not exposed to damage need not be visually inspected until they are relocated.

If there is a defect or evidence of damage that might expose an employee to injury, the defective or damaged item should be removed from service, and no employee should use it until necessary repair and tests have been made to render the equipment safe.

Whenever an attachment plug is to be connected to a receptacle (including any on a cord set), the relationship of the plug and receptacle contacts should first be checked to ensure that they are proper mating configurations and are properly labeled.

A flexible cord used with grounding-type equipment should contain an equipment grounding conductor.

Attachment plugs and receptacles should 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, those devices should 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 that interrupt the continuity of the equipment grounding connection should be used.

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, should be approved for those locations.

Employees' hands should 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 should be handled only with insulating protective equipment if the condition of the connection could provide a conducting path to the employee's hand (if, for example, a cord connector is wet from being immersed in water).

Locking-type connectors should be properly secured after connection.

Electric Lighting and Power Circuits

Load rated switches, circuit breakers, or other devices specifically designed as disconnecting means should be used for the routine opening, reversing, or closing of circuits under load conditions.

Cable connectors not of the load-break type, fuses, terminal lugs, and cable splice connections should not be used for such purposes, except in an emergency.

After a circuit is de-energized by a circuit protective device, the circuit should not be manually reenergized until it has been determined that the equipment and circuit can be safely energized. However, when it can be determined from the design of the circuit and the overcurrent devices involved that the automatic operating of a device was caused by an overload rather than a fault condition, no examination of the circuit or connected equipment is needed before the circuit is reenergized.

Circuit breakers or fuses should not be repetitively reclosed or replaced to reenergize circuits.

Over-current protection of circuits and conductors should not be modified, even on a temporary basis, beyond that allowed by the OSHA standard regulating installation safety requirements for over-current protection: 29 CFR 1910.304(e).

Test Instruments and Equipment

Only qualified persons should perform testing work on electric circuits or equipment.

Test instruments and equipment and all associated test leads, cables, power cords, probes, and connectors should 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 should be removed from service, and no employee may use it until necessary repairs and tests to render the equipment safe have been made.

Test instruments and equipment and their accessories should be rated for the circuits and equipment to which they will be connected and should be designed for the environment in which they will be used.

Use of Flammable or Ignitable Materials

The existing 1910.307 contains OSHA electrical safety requirements for locations that can be hazardous because of the presence of flammable or combustible substances. Hazardous locations are classified according to the properties of flammable vapors, liquids or gases, or combustible dusts or fibers that may be present. These locations are designed in the National Electric Code (NEC) and 29 CFR 1910.037. The 2000 edition of NFPA 70E incorporates an alternative system (in addition to the division classification system) for installing electric equipment in Class I locations (Class II locations continue under the division system). This system is called the "zone classification system. Although the zone and division classification systems differ in concept, individual equipment can be approved for use under both systems when the equipment incorporates protection techniques for both systems. OSHA is requiring employers to document the designation of hazardous locations within their facilities in the final rule. The documentation must denote the boundaries of each division or zone so that employees, who install, inspect, maintain, or operate equipment in these areas will be able to determine whether the equipment is safe for the location. In those situations where flammable materials are present only occasionally, electric equipment capable of igniting them should not be used, unless measures are taken to prevent hazardous conditions from developing.

Personal Protection Safeguards

Employees working in areas where there are potential electrical hazards should be provided with, and should use, electrical personal protective equipment that is appropriated for the specific parts of the body to be protected and for the work to be performed. Such equipment includes but is not limited to rubber protective equipment such as insulating gloves, blankets, hoods, line hoses, sleeves, and matting for use around electric apparatus.

Protective equipment should be maintained in a safe, reliable condition and should be periodically inspected or tested, as required by 1910.137.

Employees should wear nonconductive head protection wherever there is a danger of head injury from electric shock or burns due to contact with exposed energized parts.

Employees should wear protective equipment for the eyes or face wherever there is danger or injury to the eyes or face from electric arcs or flashes or from flying objects resulting from electrical explosion.

PPE Selection from 70E Table

Voltage	Clothing	Gloves	Other PPE
Up to 240 Volts	100% long sleeve cotton shirt and pants	Leather Gloves	Safety Glasses Hard Hat
240 - 600 Volts	100% long sleeve cotton shirt and pants	Class 00 or 0 insulted rubber loves with Leather Protectors	Safety Glasses Class E Hard Hat with 8 Cal ATPV Face Shield
2330-4160 Volts	FR Coveralls - 9.4 ounce Indura Ultra Soft 100% long sleeve cotton shirt and pants	Class 1 Insulated Rubber Gloves with Leather Protectors	Safety Glasses, Class E Hard Hat with 8 Cal ATPV Face Shield

This information should be used for most Service and Maintenance Work.

**Synthetic fibers, such as polyester, nylon, acetate, rayon, either alone or in blends are not permitted – they melt at low temperatures, adhere to the skin and increase the extent of the injury.

When working near exposed energized conductors or circuit parts, each employee should 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 shall be protected.

If the insulating capability of protective equipment may be subject to damage during use, the insulating material should be protected.

Fuse handling equipment, insulated for the circuit voltage, should be used to remove or install fuses when the fuse terminals are energized.

Ropes and hand lines used near exposed energized parts should be nonconductive.

Protective shields, protective barriers, or insulating materials should be used to protect each employee from shock, burns, or other electrically related injuries while that employee is working near exposed energized parts which 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 should be guarded to protect unqualified persons from contact with the live parts.

Alerting techniques should be used to warn and protect employees from hazards which could cause injury due to electric shock, burns, or failure of electric equipment parts as follows:

- Safety Signs and Tags. Safety signs, safety symbols, or accident prevention tags should be used where necessary to warn employees about electrical hazards which may endanger them, as required by the OSHA standard on accident prevention signs and tags, 29 CFR 1910.145.

- Barricades. Barricades should 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 cannot be used where they might cause an electrical contact hazard.
- Attendants. If signs and barricades do not provide sufficient warning and protection from electrical hazards, an attendant should be stationed to warn and protect employees.

Training for Electrical Safety

Safety training is indicated in NFPA 70E includes but is not limited to the following criteria:

- Classroom or on-the-job or combination training depending on the risk to the employee.
- Emergency procedures for employees working on or near exposed energized electrical conductors or circuit parts which includes methods of release of victims from contact with exposed energized conductors or circuit parts and first aid/CPR procedures.

Appropriate training will be provided for those employees who face a risk of electric shock that is not reduced to a safe level by the OSHA electrical installation requirements specified in 29 CFR 1910.303 through 1910.308.

Electricians and welders always face such a risk and must be provided with appropriate training. That is also true for blue collar supervisors, electrical and electronic engineers, electrical and electronic equipment assemblers, electrical and electronic technicians, industrial machine operators, material handling equipment operators, mechanics and repairers, painters, riggers and roustabouts, and stationary engineers unless their work or the work of those they supervise does not bring them or the employees they supervise close enough to exposed parts of electric circuits operating at 50 volts or more to ground for a hazard to exist.

Each employee required to be trained will be trained in, and will become familiar with the safety-related work practices required by this Program or by the OSHA standards in 29 CFR 1910.331 through 1910.335, that pertain to their respective job assignments.

Employees who are covered by this program but who are not qualified persons will also be trained in and familiar with any electrically related safety practices not specifically addressed by the 1910.331 through 1910.335 OSHA standards but which are necessary for their safety.

For More Information

Occupational Safety & Health Act (OSHA) - Regulations (Standards - 29 CFR) Part 1910.331: Electrical  OSHA Electrical Safety

NFPA 70E, Electrical Safety Requirements for Employee Workplaces, National Electrical Code (NEC) and OSHA Standard (Electrical Safety) 29 CFR 1910.331 to 1910.339

National Fire Protection Association's (NFPA) 70E standards

Chapter

20

Chapter 20: Lockout / Tag-out Policy

Each day, approximately three million employees in the United States face risk from uncontrolled energy – electrical current to machinery that is not maintained in a safe manner. Injuries may include fractures, lacerations, contusions, amputations, puncture wounds, electric shock and falls. The Occupational Safety and Health Administration (OSHA) estimates those approximately 120 fatalities, 28,000 serious injuries and 32,000 minor injuries each year could be prevented if proper lock-out/tag-out procedures were initiation at job sites. . The purpose of this policy is to ensure that the hazards of uncontrolled energy at Lincoln County work sites are evaluated, safety procedures implemented and that the proper hazard information is transmitted to all affected employees.

Lincoln County will ensure that all machinery and other installations meeting the criteria for lock-out/tag-out within our county are evaluated and that information and training programs and lock-out/tag-out procedures are implemented. This standard practice instruction is intended to address the issues of evaluating and identifying potential uncontrolled energy sources, evaluating the associated potential hazards, communicating information concerning these hazards and establishing appropriate procedures and protective measures for employees. This policy applies to all departments and to all employees who while performing their duties for the County, may be required to do maintenance work on machinery or equipment.

Responsibilities

The department head will develop written detailed instructions covering each of the basic elements in this program and is the sole person authorized to amend these instructions for the specific department. Lincoln County has expressly authorized the Safety Officer to halt any operation where there is danger of serious personal injury.

Scope

This policy applies to the control of energy during servicing and/or maintenance of machines, equipment and other installations. Servicing and/or maintenance which take place during normal production operations are covered if:

- An employee is required to remove or bypass a guard or other safety device.
- An employee is required to place any part of his or her body into an area on a machine or piece of equipment where work is actually performed upon the material being processed (point of operation) or where an associated danger zone exists during a machine operating cycle.

Exception: Minor tool changes and adjustments and other minor servicing activities, which take place during normal production operations, are not covered if they are routine, repetitive and integral to the use of equipment for production, provided that the work is performed using alternative measures which provide effective protection in accordance with Lincoln County operational procedures.

This instruction does not apply to:

- Work on cord and plug connected electric equipment for which exposure to the hazards of unexpected energization or startup of the equipment is controlled by the unplugging of the equipment from the energy source and by the plug being under the exclusive control of the employee performing the servicing or maintenance.
- Hot tap operations involving transmission and distribution systems for substances such as gas, steam, water or petroleum products when they are performed on pressurized pipelines, provided it is demonstrated that (1) continuity of service is essential; (2) shutdown of the system is impractical; and, (3) documented Lincoln County procedures are followed and special equipment is used which will provide proven effective protection for our employees.

Procedures

Lincoln County shall establish a program consisting of energy control procedures, employee training and periodic inspections to ensure that before any employee performs any servicing or maintenance on a machine or equipment where the unexpected energizing, start up or release of stored energy could occur and cause injury, the machine or equipment shall be isolated from the energy source, and rendered inoperative. Any newly installed machinery and equipment must have a lock out energy isolating device. Tags out energy isolating devices are not allowed.

Facility/Department Evaluation

The Safety Officer will evaluate each facility to determine which machines or pieces of equipment require steps for shutting down, isolating, blocking and securing machines or equipment to control hazardous energy.

Energy Control Procedure Format

Once a facility evaluation has been accomplished, procedures will be developed, documented and used for the control of potentially hazardous energy. The department head will be responsible for development and implementation of these procedures.

The format below will be followed for each machine requiring energy control procedures. The procedures will clearly and specifically outline the scope, purpose, authorization, rules, and techniques to be utilized for the control of hazardous energy, and the means to enforce compliance including, but not limited to, the following:

- A specific statement of the intended use of the procedure.
- Specific procedural steps for shutting down, isolating, blocking and securing machines or equipment to control hazardous energy (manufacturer's specification will be followed whenever possible).
- Specific procedural steps for the placement, removal and transfer of lock-out devices or tag-out devices and the person(s) responsible for them.

- Specific requirements for testing a machine or equipment to determine and verify the effectiveness of lock-out devices, tag-out devices and other energy control measures.
- The device may be either a key or combination lock. Lock out devices must also indicate the identity of the employee applying the device(s), and must be affixed in a manner that will hold the energy isolating devices in a "safe" or "off" position.

Energy Control Procedure Exceptions

Once a facility evaluation has been accomplished, documented procedures will not be developed when the following conditions exist:

- The machine or equipment has no potential for stored or residual energy or re-accumulation of stored energy after shut down which could endanger employees.
- The machine or equipment has a single energy source which can be readily identified and isolated.
- The isolation and locking out of that energy source will completely de-energize and deactivate the machine or equipment.
- The machine or equipment is isolated from that energy source and locked out during servicing or maintenance.
- A single lock-out device will achieve a locked-out condition.
- The lock-out device is under the exclusive control of the authorized employee performing the servicing or maintenance.
- The servicing or maintenance does not create hazards for other employees.

Lincoln County, in using this exception, has had no accidents involving the unexpected activation or re-energization of the machine or equipment during servicing or maintenance. In the event of such occurrences, energy control procedures will be developed.

Protective Materials and Energy Control Devices

Appropriate energy isolating devices such as locks, tags, chains, wedges, key blocks, adapter pins, self-locking fasteners or other hardware shall be provided by our Lincoln County to prevent unexpected energization, start-up or release of stored energy based on the individual machine/equipment evaluation

Tag-out: If an energy isolating device is not capable of being locked out, this Lincoln County's a tag-out system will be used. Tag out devices must be of the non-reusable type, attachable by hand, self-locking, and able to withstand at least 50 lbs. of pressure before detaching. They must be of a uniform and identifiable color and must warn against the hazardous condition to be prohibited (e.g. Do Not Start, Do Not Open, etc.). Tag out devices must identify the employee who applied the device.

Lock-out: If an energy isolating device is capable of being locked out, this Lincoln County's energy control program shall use lock-out, unless it is can be demonstrated that the use of a tag-out system will provide full employee protection.

Tag-out Location. When a tag-out device is used on an energy isolating device which is capable of being locked out, the tag-out device shall be attached at the same location that the lock-out device would have been attached. The tag-out program will provide a level of safety equivalent to that obtained by using a lock-out program.

Future requirements: Whenever replacement or major repair, renovation or modification of a machine or equipment is performed, and whenever new machines or equipment are installed, energy isolating devices for such machine(s) or equipment shall be designed to accept a lock-out device.

Lock-out/Tag-out Selection Criteria

Lock-out/tag-out devices shall be singularly identified, shall be the only devices(s) used for controlling energy, shall not be used for other purposes and shall meet the following requirements:

1. General: Selected lock-out and tag-out devices shall be capable of withstanding the environment to which they are exposed for the maximum period of time that exposure is expected.
2. Lock-out Devices: Selected lock-out devices shall be substantial enough to prevent removal without the use of excessive force or unusual techniques, such as with the use of bolt cutters or other metal cutting tools.
3. Tag-out Devices: Tag-out devices, including their means of attachment, shall be substantial enough to prevent inadvertent or accidental removal.
4. Tag-out device attachment means attachable by hand, self-locking and non-releasable with a minimum unlocking strength of no less than 50 pounds and having the general design and basic characteristics of being at least equivalent to a one-piece, all-environment-tolerant nylon cable tie.
5. Tag-out devices shall be constructed and printed so that exposure to weather conditions or wet and damp locations will not cause the tag to deteriorate or the message on the tag to become illegible.
6. Tags shall not deteriorate when used in corrosive environments such as areas where acid and alkali chemicals are handled and stored.
7. Standardization within the facility. Lock-out and tag-out devices shall be standardized within the organization in at least color, shape or size, and additionally, in the case of tag-out devices, print and format shall be standardized.

Identification Requirements

- Lock-out/tag-out devices shall indicate the identity of the employee applying the device(s).
- Tag-out devices shall warn against hazardous conditions if the machine or equipment is energized and shall include a legend such as Do Not Start, Do Not Open, Do Not Close, Do Not Energize, Do Not Operate, etc.
- Energy Isolation - Lock-out or tag-out shall be performed only by authorized employees who are performing servicing or maintenance.

Notification of Employees –

Affected employees shall be notified of the application and removal of lock-out devices or tag-out devices. Notification shall be given before the controls are applied and after they are removed from the machine or equipment.

Application of Control

The lock-out or tag-out procedures shall cover the following elements and actions and shall be done in the following sequence:

1. Preparation for shutdown. Before an authorized or affected employee turns off a machine or equipment, he or she should have knowledge of the type and magnitude of the energy, the hazards of the energy to be controlled and the method or means to control the energy

2. Machine or equipment shutdown. The machine or equipment shall be turned off or shut down using established procedures. An orderly shutdown must be used to avoid additional or increased hazard(s) to employees as a result of equipment stoppage.
3. Machine or equipment isolation. All energy isolating devices that are needed to control the energy to the machine or equipment shall be physically located and operated in such a manner as to isolate the machine or equipment from the energy source(s).

Lock-Out Device Application

- Lock-out or tag-out devices shall be affixed to each energy-isolating device by authorized employees.
- Lock-out devices, where used, shall be affixed in a manner that will hold the energy isolating devices in a "safe" or "off" position.
- Tag-out devices, where used, shall be affixed in such a manner that will clearly indicate that the operation or movement of energy isolating devices from the "safe" or "off" position is prohibited.

Tag-Out Device Application

- Where tag-out devices are used with energy isolating devices designed with the capability of being locked, the tag attachment shall be fastened at the same point where the lock would have been attached.
- Where a tag cannot be affixed directly to the energy isolating device, the tag shall be located as close as safely possible to the device, in a position that will be immediately obvious to anyone attempting to operate the device.

Stored Energy

- If there is a possibility of re-accumulation of stored energy to a hazardous level, verification of isolation shall be continued until the servicing or maintenance is complete, or until the possibility of such accumulation no longer exists.
- Verification of Isolation. Prior to beginning work on machines or equipment that have been locked out or tagged out, the authorized employee shall verify that isolation and deenergization of the machine or equipment have been accomplished.
- Following the application of lock out or tag out devices, the machine must be checked for any stored or residual energy that could initiate its operation. All stored energy must be relieved, disconnected, restrained or otherwise rendered safe.

Release from Lock-out or Tag-out

Before lock-out or tag-out devices are removed and energy is restored to the machine or equipment, procedures shall be followed and actions taken by the authorized employee(s) to ensure:

- The work area shall be inspected to ensure that nonessential items have been removed and to ensure that machine or equipment components are operationally intact.
- The work area shall be checked to ensure that all employees have been safely positioned or removed.
- After lock-out or tag-out devices are removed and before a machine or equipment is started, affected employees shall be notified that the lock-out or tag-out devices have been removed.
- Each lock-out or tag-out device shall be removed from each energy isolating device by the employee who applied the device. When the authorized employee is not available to remove it, the device may be removed under the direction of department head, provided that specific procedures and training for such removal have been developed, documented and incorporated into this Lincoln County energy control program

This Lincoln County shall demonstrate that the specific procedure provides equivalent safety to the removal of the device by the authorized employee who applied it. The specific procedure shall include at least the following:

- Verification that the authorized employee who applied the device is not at the facility.
- Making all reasonable efforts to contact the authorized employee to inform him/her that his/her lock-out or tag-out device has been removed.
- Ensuring that the authorized employee has this knowledge before he/she resumes work at that facility.

Testing of Machines, Equipment or Components

In situations where lock-out or tag-out devices must be temporarily removed from the energy isolating device and the machine or equipment energized to test or position the machine, equipment or component thereof, the following sequence of actions shall be followed:

1. Clear the machine or equipment of tools and materials.
2. Remove employees from the machine or equipment area.
3. Remove the lock-out or tag-out devices as specified as part of the individual machine procedures.
4. Energize and proceed with testing or positioning.
5. De-energize all systems and reapply energy control measures in accordance with machine procedures and continue servicing and/or maintenance.

Non-Lincoln County Personnel (contractors, etc.)

Whenever outside servicing personnel are to be engaged in activities covered by the scope and application of this instruction, this Lincoln County and the outside contractor shall inform each other of their respective lock-out or tag-out procedures. This organization shall ensure that his/her employees understand and comply with the restrictions and prohibitions of the outside organization's energy control program.

Group Lock-out or Tag-out

- When servicing and/or maintenance is performed by a crew, craft, department or other group they shall use a procedure which gives employees a level of protection equivalent to that provided by the implementation of a personal lock-out or tag-out device.
- Group lock-out or tag-out devices shall be used in accordance with the procedures required by this instruction governing individual procedures which shall include, but is not limited to, the following specific requirements:
- Primary responsibility will be vested in an authorized employee for a set number of employees working under the protection of a group lock-out or tag-out device (such as an operations lock).
- Provision for the authorized employee to determine the exposure status of individual group Lincoln County regarding the lock-out or tag-out of the machine or equipment will be made.
- When more than one crew, craft, department, etc., is involved, assignment of overall job-associated lock-out or tag-out control responsibility will be vested to an authorized employee designated to coordinate affected work forces and ensure continuity of protection.
- Each authorized employee shall affix a personal lock-out or tag-out device to the group lock-out device, group lockbox or comparable mechanism when he or she begins work, and shall remove those devices when he or she stops working on the machine or equipment being serviced or maintained.

Shift or Personnel Changes
Specific procedures shall be used during shift or personnel changes to ensure the continuity of lock-out or tag-out protection, including provision for the orderly transfer of lock-out or tag-out device protection between off-going and oncoming employees, to minimize exposure to hazards from the unexpected energization or start-up of the machine or equipment, or the release of stored energy.

Periodic Inspections
Each department must conduct a periodic inspection of the energy control procedure for each machine or piece of equipment at least annually to ensure that the procedure and requirements of this instruction are being followed. The periodic inspection shall be conducted to correct any deviations or inadequacies identified.

Authorized Inspection Personnel
Inspections will be conducted by the following authorized personnel to evaluate lock-out/tag-out requirements:

NAME	TITLE
Enter Name	Enter Title
Enter Name	Enter Title
Note: The inspection shall be performed by an authorized employee other than the ones(s) using the energy control procedure being inspected.	

Types of Inspections:
Lock-out inspections. Where lock-out is used for energy control, a periodic inspection shall include a review between the inspector and each authorized employee.
Tag-out inspections. Where tag-out is used for energy control, the periodic inspection shall include a review, between the inspector and each authorized and affected employee.

Inspection Certifications
The department head shall certify that the periodic inspections have been performed. The certification shall at a minimum identify:
1. The machine or equipment on which the energy controls procedure was being used.
2. The date of the inspection.
3. The employees included in the inspection.
4. The person performing the inspection.

Employee Training

Our Lincoln County Safety Officer or department safety officer will provide training to ensure that the purpose and function of the energy control program are understood by employees and that the knowledge and skills required for the safe application, use and removal of the energy controls are acquired by employees. The training shall include:

Initial Training

- Each authorized employee shall receive training in the recognition of applicable hazardous energy sources, the type and magnitude of the energy available in the workplace and the methods and means necessary for energy isolation and control.
- Each affected employee shall be instructed in the purpose and use of the energy control procedure.
- All other employees whose work operations are or may be in an area where energy control procedures may be used, shall be instructed about the procedure and about the prohibition relating to attempts to restart or reenergize machines or equipment which are locked out or tagged out.
- When tag-out systems are used, employees shall also be trained in the following limitations of tags:
- Tags are essentially warning devices affixed to energy isolating devices, and do not provide the physical restraint on those devices that is provided by a lock.
- When a tag is attached to an energy isolating means, it is not to be removed without authorization of the authorized person responsible for it and it is never to be bypassed, ignored or otherwise defeated.
- Tags must be legible and understandable by all authorized employees, affected employees and all other employees whose work operations are or may be in the area. Non-legible or missing tags will be reported to department head immediately.
- Tags and their means of attachment must be made of materials which will withstand the environmental conditions encountered in the workplace.
- Tags may evoke a false sense of security, and their meaning needs to be understood as part of the overall energy control program.
- Tags must be securely attached to energy isolating devices so that they cannot be inadvertently or accidentally detached during use.

Refresher Training

- Retraining shall be provided for all authorized and affected employees whenever there is a change in their job assignments, a change in machines, equipment or processes that present a new hazard, or when there is a change in energy control procedures.
- Additional retraining shall also be conducted whenever a periodic inspection reveals, or whenever this Lincoln County has reason to believe, that there are deviations from or inadequacies in the employee's knowledge or use of the energy control procedures.
- The retraining shall re-establish employee proficiency and introduce new or revised control methods and procedures, as necessary.

Program Evaluation

The Safety Officer will review and evaluate this standard practice instruction on an annual basis, or when changes occur to 29 CFR 1910.147, or when facility operational changes occur that require a revision of this document.

APPENDICES

Appendix 20 – A: Definitions

Appendix 20 – B: Energy Control Procedure

Appendix 20 – C: Lock Out Tag Out Checklist

Appendix 20 – D: Machine Equipment Energy Control Procedures

For More Information

Occupational Safety & Health Act (OSHA) - Regulations (Standards - 29 CFR) Part 1910.147


OSHA Lockout / Tagout

Appendix 20 – A: Definitions

Affected employee: An employee whose job requires him/her to operate or use a machine or equipment on which servicing or maintenance is being performed under lock-out or tag-out, or whose job requires him/her to work in an area in which such servicing or maintenance is being performed.

Authorized employee: A person who locks out or tags out machines or equipment in order to perform servicing or maintenance, an affected employee becomes an authorized employee when that employee's duties include performing servicing or maintenance covered under this section.

Capable of being locked out: An energy isolating device is capable of being locked out if it has a hasp or other means of attachment to which, or through which, a lock can be affixed, or it has a locking mechanism built into it. Other energy isolating devices are capable of being locked out, if lock-out can be achieved without the need to dismantle, rebuild, or replace the energy isolating device or permanently alter its energy control capability.

Energized: Connected to an energy source or containing residual or stored energy.

Energy isolating device: A mechanical device that physically prevents the transmission or release of energy, including but not limited to:

1. A manually operated electrical circuit breaker.

2. A disconnect switch.

3. A manually operated switch by which the conductors of a circuit can be disconnected from all ungrounded supply conductors, and, in addition, no pole can be operated independently.

4. A line valve, a block and any similar device used to block or isolate energy.

5. Push buttons, selector switches and other control circuit type devices are not energy isolating devices.

Energy source: Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal or other energy

Hot tap: A procedure used in the repair, maintenance and service activities which involves welding on a piece of equipment (pipelines, vessels or tanks) under pressure in order to install connections or accessories. It is commonly used to replace or add sections of pipeline without the interruption of service for air, gas, water, steam and petrochemical distribution systems.

Lock-out: The placement of a lock-out device on an energy isolating device in accordance with an established procedure ensuring that the energy isolating device and the equipment being controlled cannot be operated until the lock-out device is removed.

Lock-out device: A device that uses a positive means such as a lock, either key or combination type, to hold an energy isolating device in a safe position and prevent the energizing of a machine or equipment. Included are blank flanges and bolted slip blinds.

Normal production operations: The use of a machine or equipment to perform its intended production function.

Servicing and/or maintenance: Workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, and maintaining and/or servicing machines or equipment. These activities include lubrication, cleaning or unjamming of machines or equipment and making adjustments or tool changes, where the employee may be exposed to the unexpected energization or startup of the equipment or release of hazardous energy.

Setting up: Any work performed to prepare a machine or equipment to perform its normal production operation

Tag-out: The placement of a tag-out device on an energy isolating device in accordance with an established procedure to indicate that the energy isolating device and the equipment being controlled may not be operated until the tag-out device is removed.

Tag-out device: A prominent warning device, such as a tag and a means of attachment, which can be securely fastened to an energy isolating device in accordance with an established procedure to indicate that the energy isolating device and the equipment being controlled may not be operated until the tag-out device is removed.

Appendix 20 – B: Energy Control Procedure

ENERGY CONTROL PROCEDURE

ENERGY CONTROL PROCEDURE						
Department:	**Location:**	**Date:**				
Equipment/Machine/Process:		**Job Description:**				
ENERGY SOURCE/TYPE			**STEPS TO BE TAKEN TO ISOLATE ALL SOURCES OF HAZARDOUS ENERGY**			
Step	**Type**	**Magnitude**	**Identity (System)**	**Part of System to be LOTO**	**Describe where the LOTO is applied**	**Isolated** ☑
						☐
						☐
						☐
						☐
						☐
						☐
						☐
Stored or Residual Energy Sources to be Deenergized and Isolated						
If locks cannot be applied, and only tags will be used, describe what additional safety measures will be used in addition to the use of tags: ☐ Isolating circuit element removal; ☐ Control switches are blocked; ☐ Extra disconnecting device opened; ☐ Valve handles are removed; ☐ Other (describe):						
Comments:						
Job Performed by:					**Date:**	
LOTO Procedure Authorized / Approved By:						

Appendix 20 – C: Lockout / Tagout Checklist

Yes	No	Question
☐	☐	Is all machinery or equipment capable of movement, required to be de-energized or disengaged and 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 assure 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 key(s) 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 lock-out by attempting a startup after making sure no one is exposed?
☐	☐	Are employees instructed to always push the control circuit stop button immediately after checking the safety of the lockout?
☐	☐	Is there a means provided to identify any or all employees who are working on locked-out equipment by their locks or accompanying tags?
☐	☐	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?

Appendix 20 – D: Machine / Equipment Energy Control Procedures

MACHINE / EQUIPMENT		EVALUATED	PROCEDURE DEVELOPED		EVALUATED & DEVELOPED BY	
#ID	DESCRIPTION	(Date)	(Date)	(#)	(Name)	(Title)

Chapter

21

Chapter 21: Respiratory Protection

The purpose of this policy is to provide guidance and information for the proper selection, care, use, maintenance, fitting and medical requirements of respiratory devices, and to protect county employees exposed to hazardous environments.

This policy applies to all departments and to all employees who, while performing their duties for the county, may be required to wear respiratory protection. It shall be the responsibility of each department director to insure that the provisions of this policy are carried out within their respective departments. A checklist is provided in Appendix E covering pertinent OSHA requirements.

The department head will develop written detailed instructions covering each of the basic elements in this program and is the sole person authorized to amend these instructions for the specific department. Lincoln County has expressly authorized the Safety Officer to halt any operation where there is danger of serious personal injury.

The following Respiratory Protection program includes respiratory protection procedures, employee training and periodic inspections to ensure that before any employee wears the necessary respiratory equipment they have been properly fit tested, physical taken and instructions/training on any respiratory equipment use.

Equipment

Equipment Selection

1. Respiratory safety equipment must be selected on the basis of hazards to which the employee may be exposed.
2. All apparatus shall be approved by the National Institute for Occupational Safety and Health (NIOSH), Mine Safety and Health Administration (MSHA), and, selected in accordance with the guidelines of the American National Standard, Practices for Respiratory Protection Z88.2 - 1969 or Z88.2 - 1980.
3. Should gas masks be used for specific respiratory hazards, canisters shall be properly labeled and colored in accordance with Table I-1 of 1910.134.
4. Each canister shall have a label warning that gas masks should be used only in atmospheres containing sufficient oxygen to support life (at least 16%).

Equipment Use

1. Standard procedures have been developed for respiratory equipment use. These procedures consist of the manufacturer's instruction for prefer use and care and are located for reference in Appendix A.
2. Personnel shall be familiar with their assigned respiratory apparatus and the procedures for use.
3. In areas where the wearer, with respiratory, equipment failure, could be overcome by a toxic or oxygen deficient atmosphere, at least one additional person shall be present. Communication shall be maintained between both persons at all times.
4. Approved respiratory protection equipment shall be readily available and must be used by all personnel when the need arises.
5. Respirators shall not be worn when conditions prevent a good face seal. Such conditions include:
    a) growth of a beard;
    b) long sideburns;
    c) temple pieces on glasses; or
    d) facial deformities.
6. Wearing of contact lenses in contaminated atmospheres with a respirator shall not be allowed. If corrective spectacles or goggles are required, they shall be worn as not to affect the fit of the face-piece.

Equipment Cleaning

1. Respirators maintained for emergency use shall be thoroughly cleaned and disinfected after each use per manufacturer's specifications in Appendix A.
2. They shall be inspected after cleaning and the disinfected results recorded on the Inspection After Each Use Log.

Equipment Maintenance

1. Equipment shall be properly maintained to retain its original effectiveness and shall be inspected daily and after each use.
2. A program for maintenance and care of respirators includes the following basic services:
    a) inspection for defects;
    b) cleaning and sanitizing;
    c) repair and reconditioning;
    d) storage;
    e) written procedures and recordkeeping.

3. Replacement or repairs shall be done only by experienced persons with parts designed for the respirator. No attempt shall be made to replace components or to make adjustments beyond the manufacturer's recommendations. Reducing or admission valves or regulators shall be returned to the manufacturer or to a trained technician for adjustment or repair.

Equipment Storage

1. After inspection, cleaning and necessary repair, respirators shall be stored to protect against dust, sunlight, heat, extreme cold, excessive moisture or damaging chemicals.
2. Respirators shall be stored in a convenient, clean and sanitary location that is quickly accessible at all times.
3. Instructions for proper storage of emergency respirators are found in the "care and use" instructions referenced in Appendix A.

.**Equipment Inspection**

1. Respirators for emergency use, such as self-contained breathing apparatus, shall be thoroughly inspected at least once a month and after each use.
2. Respirator inspection shall include a check of the tightness of connections and the condition of the face-piece, headbands, valves and hoses. Worn or deteriorated parts shall be replaced.
3. It shall be determined that the regulator and warning devices function properly.
4. Rubber and elastomeric parts shall be inspected for pliability signs of deterioration. Stretching or manipulating these parts with massaging action will keep them pliable and flexi and flexible will prevent them from taking a set during storage.
5. Air and oxygen cylinders shall be fully charged according to the manufacturer's instructions. Cylinders kept for emergency purposes shall be recharged after each use.
6. Each department director shall be responsible for the inspection inspections of the respirators in their charge. A record shall be kept of each inspection dates and findings for respirators maintained for emergency use. A form is provided for this purpose in Appendix B.

Employee Training

1. For safe use of any respirator, it is essential that the user be properly instructed in its selection, use and maintenance. Both supervisors and workers shall be so instructed by a State Certified Instructor from the county's or city's fire department. Training shall be conducted no less than once annually. To provide an opportunity to handle the respirator, have it fitted properly, test its face-piece to face seal and to wear it in normal air for a long familiarity period.
2. Training shall be documented (see Appendix C) and the documentation maintained at a central location.
3. It shall be the responsibility of each department director to schedule employee training.

Medical Requirements

Appropriate surveillance of work area conditions and degree of employee exposure of stress shall be maintained. Persons shall not use a respirator unless it has been determined that they are physically able to perform the work and use the equipment. A qualified physician shall determine what health and physical conditions are pertinent:

1. The respirator user's medical condition shall be reviewed at least every two years;
2. Records (see Appendix D) shall be maintained at a central location;
3. It shall be the responsibility of each department director to schedule employee appointments for medical examination;
4. The department director shall provide the physician with information regarding the type of respirator used, the type of work being performed, the extent of usage and any other special environmental conditions.
5. Special evaluations shall be performed after prolonged absences from work for medical reasons or whenever a functional disability has been identified.
6. The physician shall certify whether the individual is permitted to use a respirator on the form provided in Appendix D. The physician shall classify the examinee in categories as follows:
    a) Class 1 - no restrictions;
    b) Class 2 - some specific use restrictions;
    c) Class 3 - no respirator use under any circumstances;
7. Test results shall be forwarded to the department director for documentation and review and then to a central location for filing.
8. A medical history questionnaire should be utilized to identify the following:
    a) Previously diagnosed disease;
    b) Psychological problems;
    c) Breathing problems;
    d) Past problems with respirator use;
    e) Any known physical deformities or abnormalities which may interfere with respirator use.
9. The physician shall designate work restrictions that are based on the person's medical history or current health condition. Disqualifying reasons for respirator use shall include, but are not limited to:
    a) Facial deformities and facial hair that interfere with a proper sealing of the respirator as determined by fit-testing;
    b) Individuals with prescription eyeglasses who are required to wear a full-face respirator shall use special frames for their glasses that do not interfere with the face-piece seal.
    c) Wearing of contact lenses in contaminated atmospheres with a respirator is not allowed (systems have been developed for mounting corrective lenses inside full face-piece);
    d) The employee's hearing shall be adequate to ensure communication and response to instructions and alarm systems. Individuals with perforated tympanic membranes cannot wear respirators in hazardous areas where inhalation or absorption of toxic materials may occur;
    e) Diseases affecting pulmonary function may prevent respirator use;
    f) Cardiac disease which may affect respirator use;

g) Endocrinal disorder which may affect respirator use;

h) Neurological disability may affect respirator use;

i) a history of problems related to prescription drug use;

j) clinical history or indication of severe anxiety if an employee's psychological condition may affect respirator use.

10. For individuals requiring heavy or strenuous exertion, additional evaluation may be necessary.

11. **If a medical provider will not sign off on an employee then spirometry must be performed before that employee can use any respiratory equipment.**

FOR MORE INFORMATION

Occupational Safety and Health Act (OSHA) Respiratory Protection Standards (1910.134).

Appendices

Appendix 21 – A: Manufacturer's Instructions - Equipment

Appendix 21 – B: Respiratory Inspection Log

Appendix 21 – C: Respiratory Protection Training Form

Appendix 21 – D: Medical Clearance For Respirator Use

Appendix 21 – E: Physician's Evaluation

Appendix 21 – F: OSHA Respirator Checklist

Appendix 21 – G: OSHA Respirator Medical Evaluation Questionnaire (Mandatory)

Appendix 21 – H: Fit Testing Form

Appendix 21 – A: Manufacturer's Instructions for Proper Care And Use Of Respiratory Equipment

Appendix 21 – B: Respiratory Inspection Log

Department: _____

Apparatus: _____

Respiratory Information

Mask #:_____ **Spare Cylinder Information**

Mfg. _____ Cylinder#:_____

Regulator Serial #: _____ Current Hydro Test Date:_____

Model #:_____ Date Purchased:_____

Appendix 21 – C: Respiratory Protection Training Form

The respiratory protection workshop included information on the following subjects:

A. Selection to include the nature of the respiratory hazard, reasons for selection of a particular type of respirator and limitations of the selected respirator.

B. Correct usage to include fitting and adjusting of respirator.

C. Proper maintenance guidelines for cleaning and disinfection, drying, inspection of worn or defective components, and storage.

The respirator protection training included the opportunity to handle the respirator, have it fitted properly, tested its face-piece to face seal and the trainee wore the respirator in normal air for at least ten minutes.

I have received basic information on the above subjects.

Employee: _____

Date: _____

I verify the employee has been instructed on the above subjects.

Instructor: _____

Date:_____

Appendix 21 – D: Medical Clearance For Respirator Use

Employee _____ SS#_____

Date of Birth _____

Supervisor_____ Department _____

Circle Type or Types of Respirator( ) to be Used:

Atmosphere-supplying respirator	Continuous-flow respirator
Open-circuit SCBA	Closed-circuit SCBA
Supplied-air respirator	Combination air-line and SCBA
Air-purifying (non-powered)	Air-purifying (powered)

Level of Work Effort (circle one):

Light Moderate Heavy Strenuous

Extent of Usage:
1. On a daily basis;
2. Occasionally, but more than once a week;
3. Rarely or for emergency situations only.

Length of Time of Anticipated Effort in Hours:

Special Work Conditions (i.e., high places, temperature, hazardous material, protective clothing, etc.)

_____

_____

_____

Department Director _____

_____

Appendix 21 – E: Physician's Evaluation

Employee:_____

Evaluating Physician:_____

Class (circle one):
1. No restrictions on respirator use
2. Some specific use restrictions
3. No respirator use permitted

Restrictions:

Appendix 21 – F: OSHA Respirator Checklist

APPENDIX 21 – F:

OSHA RESPIRATOR CHECKLIST

Reference	OSHA 29 CFR 1910.134	Compressed Gas Association Pamphlet G-7.1
	ANSI Z 88.2	CPL 2-2.6
	ANSI Z 88.6	CPL 2-2.7

Item No.	Subject	Standard	Yes	No
1	Are respirators provided to control breathing air contaminated by harmful dusts, fogs, fumes, mists, gases, smokes, sprays and vapors when engineering controls are not feasible or while they are being instituted?	1910.134(a)(1)		
2	Is there a respiratory protective program (RPP) established and maintained? Is it in writing?	1910.134(a)(2)		
3	Does the RPP contain written standard operating procedures governing selection and use of respirators?	1910.134(b)(1)		
4	Are respirators selected on the basis of hazard exposure?	1910.134(b)(2)		
5	Is the user instructed and trained in the proper us of the respirator and its limitations? Are records maintained?	1910.134(b)(3)		
6	Are respirators regularly cleaned and disinfected? Are respirators worn by more than one worker disinfected after each use?	1910.134(b)(5)		
7	Are respirators stored in a convenient, clean and sanitary location?	1910.134(b)(6)		
8	Are respirators regularly inspected? Are worn parts replaced?	1910.134(b)(7)		
9	Are work area conditions and employee exposure maintained by surveillance measures?	1910.134(b)(8)		
10	Is there regular inspection and evaluation to determine continued effectiveness of the program?	1910.134(b)(9)		
11	Has employer determined the medical status of the user before requiring respirator usage?	1910.134(b)(10)		
12	Is the medical status of the respirator user reviewed periodically by the local physician?	1910.134(b)(10)		
13	Are only approved respirators used?	1910.134(b)(11)		

APPENDIX F: OSHA RESPIRATOR CHECKLIST, cont'd.

Item No.	Subject	Standard	Yes	No
14	Does breathing air meet Grade D specifications? Is there written documentation?	1910.134(d)(1)		
15	Do oil-lubricated compressors used to supply breathing air have high temperature or carbon monoxide alarms? If not, is the air frequently tested for carbon monoxide? Are records maintained?	1910.134(d)(2)(ii)		
16	Are air line couplings incompatible with outlets for other gas systems?	1910.134(d)(3)		
17	Are written procedures developed covering safe use of respirators in dangerous atmospheres?	1910.134(e)(3)		
18	Do all respirator wearers receive detailed fitting instructions? Are respirators fit-tested? Are records maintained?	1910.134(e)(5)(i)		
19	Do all respirator wearers have a confirmed good face seal?	1910.134(e)(5)(i)		
20	Are all self-contained breathing apparatus inspected monthly?	1910.134(f)(2)(ii)		
21	Is a record maintained of inspection dates and findings for respirators maintained for emergency use?	1910.134(f)(2)(iv)		
22	Are respirators for emergency use accessible at all times?	1910.134(f)(5)(i)		

Appendix 21 – G: 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:

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

d. 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 ear drum: 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 21 – H: FIT TESTING FORM

Chapter

22

Chapter 22: Contractor Safety Policy

The regulations set forth below have been established to reduce the potential for personal injury or property damage accidents for both the contractor employees and property and that of Lincoln County . The following regulations apply to all contractors working on Lincoln County property.

Responsibilities

- The Contractor shall enforce the regulations upon the employees and equipment that he/she furnishes to accomplish the contracted services.
- The Contractor shall take all necessary precautions to assure that the work is completed in the safest possible manner, and to observe all recognized safety and security practices while on Lincoln County property.
- MANAGEMENT RESERVES THE RIGHT, WITHOUT PENALTY, TO STOP ANY AND ALL WORK BEING PERFORMED IN AN UNSAFE MANNER.

Procedures - Insurance:

- Proof of current satisfactory insurance coverage, including liability and employees' compensation, must be furnished by the contractor and accepted by Lincoln County before the start of any work.
- If for any reason a contractor neglects to continue insurance coverage for work being conducted at Lincoln County , the contractor will be held accountable for ANY liability incurred at our facility. In addition, Lincoln County reserves the right, without penalty, to stop any and all work.
- By signing the contractor clearance form, the contractor agrees to hold Lincoln County harmless for any injury or damage that may occur at our facility.

Occupational Health and Safety:

- The Contractor agrees to adhere to Lincoln County safety rules and regulations, State and Federal Occupational Safety and Health Act regulations, and all other applicable codes, rules and regulations.
- It shall be the duty of the Contractor to provide employees and any sub-contractors with any training required under federal or state right-to-know legislation.

Eye Protection:

- All contractor's employees shall wear ANSI approved safety glasses and/or other safety glasses and/or such other safety equipment as required for the work in which they are engaged or other personal protective equipment as designated by Lincoln County.
- ANSI approved safety glasses are required in ALL Enter areas where requried areas!

Welding and Cutting:

Fire Safety during Welding Operations:

- Approved multi-purpose (ABC) fire extinguisher(s) of at least 20 LB ABC size or equivalent type extinguishers shall be provided in the area of any welding.
- The contractor shall provide a fire watch during the time when combustibles or flammables are within 35 feet of where welding or cutting is being performed and for at least a half-hour after welding or cutting has ceased.
- Wherever possible, combustible or flammable materials should be removed from the area. No welding or cutting shall be performed in or near paint, stain, or a solvent storage area without express permission of the Lincoln County Fire Marshal and only then after the atmosphere has been tested for LEL, combustible gases, etc.

Electric Welding:

- A suitable shield must be used to prevent direct viewing of the electric arc by passer-by whenever feasible.
- Temporary electrical hookups of electric arc welding machines shall not be permitted unless made by a qualified electrician.

Gas Welding:

- Full or empty acetylene, oxygen or other compressed gas cylinders must be secured at all times in an upright position either to portable carts designed for this purpose, or to stationary objects of sufficient strength to hold the cylinders.
- All cylinder valves must be protected against damage when not in use. Cylinders in use shall have their valves shut off except when welding is being performed.
- Backflow regulators must be installed on all fuel gas welding and cutting equipment. Only standardized hoses, manifolds, regulators and torches shall be used.
- When not in use, acetylene and oxygen cylinders must be placed in an approved storage area and cylinders shall be capped and secured against falling.

Ladders:

- All ladders shall be in safe condition. Aluminum ladders shall not be used around electrical wiring or when electrical work is being done.
- Extension ladders shall be equipped with ladder safety shoes.

Contractors shall not use portable or extension ladders belonging to Lincoln County except when granted explicit permission by a designated Lincoln County member of Management. **The contractor agrees to hold** Lincoln County **harmless for any injury or damage caused to the contractors or sub-contractors property or employees that may result while in possession of a ladder belonging to** Lincoln County.

Barriers and Guards:

- Barriers and adequate warning devices meeting all Federal, State and /or local laws, standards, regulations or rules shall be provided by the Contractor for all openings and excavations
- Adequate means shall be provided to protect building interiors and contents against weather damage from openings made in roofs or walls while performing the scope of the contracted work.
- Safety guards or other adequate protection shall be provided whenever holes, inserts, bolts or other hazards are left in, on or above the floor.
- Safety guards shall be put back in place before equipment is returned to production.
- Where guards must be left off to perform adjustments or inspections, it may be necessary to bypass safety cutoffs. The equipment may be operated for a short time with the guards removed to complete this task, but must remain under direct supervision so that only authorized persons can access the machinery. The unguarded machine shall not be left unattended with the guards removed.

Overhead Work:

All necessary precautions shall be taken to protect persons when work is being performed overhead, including adequate barriers and signage, and making employees aware of the need to wear the appropriate personal protective equipment.

Condition of Work Area:

- Work areas shall be kept clean, orderly and safe.
- Combustible materials and other debris shall be removed from the facility at the end of each workday.
- All spills shall be cleaned up and removed immediately. Spills of potentially hazardous materials are to be reported immediately to 911 and the Fire Marshal
- Bolts, nuts, hand tools and other loose materials shall be removed and not left where they could fall and cause damage or injury.
- All scaffolding and materials must be removed to an area designated by management, when not in use.
- Any noise generation above 85 dBa, on an 8 hour TWA (time weighted average) which would affect Lincoln County associates, must be reviewed with management in advance of work starting.

Equipment:

- All hand tools, trucks, and other equipment must be kept in safe operating condition.
- Lincoln County reserves the right to inspect all equipment used by the contractor or its sub-contractors and to prohibit the use of any equipment found to be unsafe.
- Portable electrical equipment must either have the grounding plug in place or be double insulated. Portable electrical equipment used outdoors shall be used with a ground fault interrupting device.

Explosives and Flammable Liquids:

- Written clearance from Lincoln County shall be obtained before any explosives or tools using a power cartridge can be used.
- The Contractor assumes full responsibility for bodily injury or property damage resulting from the use or possession of such explosives/tools or power cartridges.
- Only one day's supply of gasoline or other flammable liquids shall be kept on hand in UL approved safety cans. Capacity shall be no larger than five gallons. All gasoline and flammable liquid containers shall be removed from the facility premises at the end of each workday or shall be secured in an enclosure approved by authorized Lincoln County of Management.

Interruption of Existing Services:

- Hand excavation shall be used to locate underground services before proceeding with powered excavation.

Leaving Job before Completion:

- When leaving a job site before completion of the work, the area shall be secured
- All materials, rigging and debris shall be removed from the area.
- Adequate barricades and warnings shall be erected at all openings, excavations and obstructions.
- No materials or equipment shall be left overhead unless secured.
- All crane booms shall be lowered to the ground or be secured as designed at the end of each workday.

General:

- All contractors' employees and their sub-contractors shall sign in and out with name and location
- Contractor's employees are allowed only in their work area(s) and the immediate means of ingress and egress from such area(s). Usage of toilets, lunchroom, and vending facilities will be allowed only upon approval of management. Contractor's employees and sub-contractors shall be responsible for cleaning up after their use of such areas.
- Lincoln County reserves the right to inspect incoming and outgoing vehicles, packages, bags, tool boxes, etc. Contractors and their sub-contractors shall make every effort to have materials, tools and equipment on-hand at the beginning of each day so that ingress and egress throughout the day to the facility is held to a minimum.
- Permission must be obtained from Lincoln County before tools are hauled to specific areas. After unloading, the vehicle(s) must be returned immediately to the designated parking area.
- Business agents representing contractor or sub-contractors employees must conduct their business at places designated by Lincoln County. Should it be necessary to contact a contractor's employee, the business agent must request Lincoln County to have the specific contractor or sub-contractor report to such place as designated by management for conducting such business.

- Contractor is not to move or operate Lincoln County equipment without permission of management. Lincoln County management must be requested to have such equipment moved or operated. It is understood and agreed that whenever Lincoln County equipment is operated by contractor or sub-contractor employees or is operated at the request of the contractor or sub-contractor, that Lincoln Countyshall be held harmless for any injury or damage caused by such equipment.
- Vehicles operated at the facility shall be operated safely at all times and stored in designated storage areas.
- Smoking is prohibited except in designated areas and is prohibited in any area used for storage of flammable liquids or otherwise designated as a no-smoking area.
- Contractors and sub-contractors shipping materials and/or equipment directly to this facility must ship them prepaid or make necessary arrangements for receipt with Lincoln County management PRIOR to making such shipment. Lincoln County accepts no responsibility for performing incoming inspection of such shipments.

Potential Hazards in Lincoln County Areas:

Emergency Procedures:

Chemical Labeling:

The chemical labeling system used at Lincoln County is predominantly labeling by the manufacturer of the chemical. Manufacturer labels contain, at minimum, the chemical name and hazards, if any, and the manufacturer's name and address. Where transfer containers are used in the workplace, Lincoln County puts the chemical name or list of chemical components, if any, on the container.

Contractor's Agreement:

As part of each contract, the contractor must sign the following statement acknowledging our Safety Procedures:

The undersigned contractor, and any and all sub-contractors, having read the above Safety and Security Rules and Regulations for Contractors, do hereby accept these rules and regulations, and do hereby further assume full and total responsibility to inform their employees, agents, and subcontractors of these rules, regulations and responsibilities. The Contractor agrees to conform and to have all employees, agents and sub-contractors conform with the Safety and Security Rules and Regulations for Contractors, and that compliance with

said Safety and Security Rules and Regulations is a continuing requirement of all contracts to be performed at Lincoln County facility. **The contractor agrees to hold** Lincoln County **harmless for any injury or damage that occurs at our facility.**
This agreement is effective as of the date signed and is continuous from the date signed until canceled or completion of this contract, dated Lincoln County.

CONTRACTOR:

Name of Contracting Firm: _____ Date: _____
By: _____ Title: _____
For: _____

Witnessed By: _____ Title: _____