

# Safety Manual



**Safety Policy Statement**  
**Currituck County**

We are sincerely concerned with the safety and welfare of our employees and the public they serve. We acknowledge an obligation as an employer to provide the safest possible working conditions for employees and a safe environment for the public who use our services. It is the fingers, limbs, eyes, and lives of our employees that we are concerned about. They are irreplaceable. Livelihoods are diminished, or at worst, destroyed when employees are disabled. Employees and their families suffer the most when an accident occurs.

The primary purpose of the Safety Manual is to acquaint employees with Currituck County's general safety rules and policies. It reflects the efforts of many people to establish reasonable, practical, safe work practices to prevent accidents. Our approach to accident prevention cannot be simple or basic; it is complicated by differences in tasks performed and differences in work environments.

We can and must perform the tasks of government operations and public services without accidents. The attitudes that shall guide our efforts are as follows:

- Accidents are caused and can be prevented.
- Safety is a mark of skill and good common sense.
- We are sincerely interested in safety and are willing to put forth the effort to prevent accidents.
- Safety is a personal responsibility.
- No job is so important, and no service is so urgent that we cannot take time to perform our work safely.
- We have a moral obligation to each other to do everything possible to prevent accidents.
- Work areas and equipment will be kept as safe as possible. As hazards are discovered, corrective measures will be taken.
- Employees shall report all unsafe conditions encountered in their work.
- No job shall be undertaken until it has been mastered by the employee and has been authorized by the supervisor.
- All injuries must be reported immediately.
- Compliance with safety rules is a condition of employment.

We will achieve a good, mediocre, or poor occupational safety record in direct proportion to the amount of effort that is exerted. Wishful thinking or discussions concerning safety will not produce the desired results. Only when our actions meet our desires will we achieve the goal. Safe work practices benefit the employee, the family, fellow employees, the county, and society as a whole.

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To accomplish this, we are assigning the responsibility, authority, and accountability for safety to all department heads and supervisory personnel within their individual area of operations. They will explain rules and policies regarding departmental operations.

We are also appointing the Fire Marshal as Safety Director. The Director will be responsible for the administration and coordination of the safety program at all levels to ensure that safety standards are met throughout the organization.

All employees will have the responsibility of contributing to the previous mentioned goals by performing their own work in a safe and efficient manner and to report unsafe conditions to their department head or supervisor for prompt correction.

Adopted this 18<sup>th</sup> day of November, 2002

  
Chairman of the Board

ATTEST:

  
Clerk to the Board

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## ***Introduction***

These guidelines are issued to inform County personnel about management policies that are the basis for our occupational safety program, and to establish uniform safety procedures for tasks that are performed in more than one department. Safety procedures for specialized tasks performed solely by one particular unit will be prepared by the Department Head concerned; and after approval, issued to employees performing these tasks.

All supervisors are required to study these guidelines. Supervisors will also be responsible for conveying the information contained herein to all personnel under their direct supervision.

Department heads are directed to make safety a matter of continuing concern, equal in importance to all other operational considerations. They are also directed to develop and administer an active departmental safety program. The program sets standards every employee must understand and accept if it is to be successful.

All employees are charged with the responsibility for cooperating with, and supporting, the safety program's objectives. Every employee is expected, as a condition of employment, to be concerned with personal safety, safety of fellow workers, and safety of the general public. This means willing acceptance and active support of approved safety rules or safety procedures. It is important that employees be constantly alert to potential hazards which are not referred to in any written practices, but which may result in injuries or property damage. Where potential hazards are thought to exist, employees will use all known precautionary measures. When in doubt as to the procedure to follow, employees will consult their supervisor before proceeding with the job.

Safety is a way of life. Most people endorse it, many talk of it frequently, but all of us fail in varying degrees to live up to the commitment we preach. Failures in accident prevention occur when we overlook or disregard safety to concentrate on a mechanical skill or problem; when we fail to recognize a hazard; or when we feel pressured to finish the job and decide to take unnecessary risks.

Experienced professionals in any occupation recognize that they cannot afford to ignore safety. Accidents are too costly. They cost employees' physical pain, possible disability, and potential loss of future income. Workers' Compensation, no matter how generous, will never equal the cost of injuries to employees. The monetary benefits are certainly a small consolation to the spouse and children of an employee who suffers fatal or severely disabling injuries. Accident costs to employers are high also. Premiums for Workers' Compensation insurance, medical treatment, repair of damaged equipment, and many indirect costs that are not so easily measured are an unnecessary burden. Accident prevention is just plain common sense. Safe operating procedures demonstrate job skill. Safe performance is efficient performance.

## ***Accident Is Any Unplanned Event That Results In Personal Injury or Property Damage***

Accidents do not just happen. They are caused. They are caused because someone acted in an unsafe or failed to act in a responsible, safe manner. Human failures can be controlled through effective supervision. By demanding safe performance and enforcing approved safety procedures, supervisors demonstrate concern for the welfare of all employees. Accident prevention can be the most important employment benefit any of us have.

What does all this add up to? Here is a positive side of Safety:

- Safety is a matter of **COMMON SENSE**. It is acceptance of procedures developed through experience for self-protection.
- The **SAFE WAY** to do a job is the most efficient way to do it. Shortcuts that ignore safety ultimately cost you more and negate any monetary savings.
- A good safety record is a mark of **JOB SKILL**.

Employee training is the single most important activity in any organization. Thorough training provides employees with the most efficient and safest methods to perform their jobs. Therefore, it is essential that all supervisors develop a plan to ensure that employees are properly trained in all aspects of their jobs. An effective training program includes:

- Development of job work procedures.
- Communication of these procedures to the employee.
- Monitoring the employee's work to evaluate adherence to established procedures.
- Reinforcement of proper work methods and correction of improper methods.

## ***General Rules***

Safety means efficient performance. Safety must, therefore, be a part of the planning for every job, equal in importance to all other operational considerations. Observing safety procedures will make our operations safer. Every employee must be alert to the possibility of improvement. People are constantly finding new ways to do things. The new ways are not always safer or an improvement in any sense, but it is possible to find safer ways to do things that are improvements upon established methods. Employee suggestions for improvements of work conditions and work procedures are welcomed, in fact, invited. Changes must not be made, however, until suggestions have been evaluated and revision of the current procedures has been approved.

Unsafe conditions and unsafe procedures must be identified before they can be corrected.

Consequently, every employee should report those s/he recognizes immediately. All accidents should be reported, whether personal injury or property damage is involved or not. Remember - the "near misses (near accidents)" are danger signals. The accident you prevent may be the one that could have injured you. (Remember - an accident is an unplanned event that interrupts production).

### ***General Safety Procedures***

The following general safety procedures apply:

- Report all personal injuries, no matter how minor, to your immediate supervisor as soon as possible. This must be done whether the injury resulted in lost time from work or required medical attention or not. Prompt reporting of accidents is a requirement under the Workers' Compensation Law.
- The organization does not expect you to take any unnecessary chances or to work under hazardous conditions. Learn the right way to do your job. That will be the safe way. If you are not sure you thoroughly understand the job, 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 on the job, or during working hours, is prohibited. Any employee reporting to work under the influence of alcoholic beverages during working hours shall be subject to disciplinary action.
- Work at a speed consistent with safety. "Foolish Hurry" such as running in passageways or on stairs is dangerous.

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- Keep yourself in good physical condition to do a days work.
- Use the handrails on stairs or on elevated places.
- Jumping from an elevation such as a table, bench, or platform can result in injury. "DON'T DO IT".
- Always inspect tools and equipment before use. Report defects to supervisors and other potential users. Do not use tools and equipment that are defective to an unsafe degree.
- Remove splinters from workbenches, tables, bins, shelves, or chairs before someone is injured.
- Remove, cut off, or hammer down protruding nails, staples, or steel straps.
- Work clear of suspended loads; if a load is moved above where you are working, stand aside until it has passed by.
- Obey warning tags and signs. They are posted to point out hazards.
- 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. Avoid wearing loose clothing or personal equipment near machinery or equipment with moving parts.
- Wear protective equipment as required. Its use should be enforced.
- Common sense, along with 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 dismissal .

# ***Safety Responsibility***

## ***County Manager***

Under the direction of the County Manager there is:

- An active Safety Committee, consisting of department heads and other designated persons, meeting on a scheduled basis.
- A thorough and effective Accident Investigation format which includes reporting and recording procedures, a written report on actions taken to prevent recurrence of accidents, and action taken against individual violators of safety rules and practices.
- A training program for employees and supervisory personnel directly related to avoiding a possible injury or illness in the area of assigned operations.
- A periodic audit of all premises, equipment, and materials so that recommendations can be developed to obtain compliance with established standards.
- A communications system established and maintained to ensure that all personnel responsible for safety matters are kept abreast of new standards or procedures published by the Department of Labor.
- Specific goals established for the safety program. The seven steps to achieving the safety policy are accomplished through:
  - A Safety Manual
  - A Safety Director
  - A Safety Committee
  - Employee training and supervision
  - Employee safety meeting
  - Accident investigation
  - Departmental self-inspection

## ***Management***

Management will demonstrate support for the safety program through every visible means, including:

- Providing a safe and healthful work place
- Providing personal protective equipment, vests, as well as machine guards and safety devices commensurate with the state of the art.
- Reviewing accident records and accomplishments of the safety program with the Safety Committee.
- Evaluating effectiveness of the safety program.
- Participating directly and/or indirectly in safety activities as may be required to maintain the enthusiasm and interest of all concerned.
- Abiding by safety rules and regulations when exposed to conditions governed by the rules
- Directing that any flagrant disregard of safety rules and regulation by employees be grounds for dismissal as outlined in Personnel Policy

## ***Responsibility***

The County Manager is directly responsible for all safety efforts in the organization. Enthusiasm and faith in the safety program must be such as to maintain the interest and support of all Department Heads and Supervisors. This attitude is reflected down through the Department Heads and Supervisors to the individual workers. The specific accident prevention duties include the following:

- Active participation and direction in the planning of details for accident prevention which will bring the best results for all employees. Expansion and adaptation of programs and procedures to all departments within the organization.
- Demonstrated support of the program through personal participation and through approval of necessary expenditures for such items as personal protective equipment, mechanical guards, good lighting, good ventilation, and other physical improvements to the working environment,

as well as expenditures for safety training materials, awards and incentives, etc.

- Continuing review of the effectiveness of accident prevention efforts in various sections and departments, with necessary follow-up and bolstering of efforts when required.

### ***Safety Director Responsibility***

Implement and administer the safety program.

- Maintain records as necessary to comply with laws and objectives of the safety program. These records should include:
  - Copy of Report of Injury, Illness or Accident
  - Supervisor's Accident Investigation Reports
  - Required OSHA Forms
  - Minutes of all Safety Meetings
  - Safety Program Status Reports
- Submit status reports to Safety Committee
- Make periodic visits to all buildings/operations to assist and consult in developing safe work methods, accident investigations, training, and other technical assistance.
- Analyze accident reports and investigations weekly.
- Act as Chairperson of the Safety Committee.
- Promote a "safety awareness" in all employees through stimulating educational and training programs.
- Compliance with all OSHA, state and local laws, and established safety standards.
- Assist Supervisors in all matters pertaining to safety.
- Maintain contact with available sources of topical safety information such as American Society of Safety Engineers, National Safety Council, NCALGESCO, NC Department of Labor, and NC Industrial Commission.
- Provide training programs for Supervisors.

- Represent management in the implementation of the Safety Policy.
- Recommend immediate corrective action in cases of hazardous . operations.

## ***Supervisors***

Because of the close relationship with the employees and intimate knowledge of operating procedures, Supervisors are the key persons in the scheme of loss control.

Supervisors of each department are charged with the responsibilities of quality and quantity of production within that department, and therefore are responsible for the work conduct of same. Supervisors should be afforded the necessary knowledge to carry out their duties with efficiency and safety.

Supervisors should:

- Have a thorough knowledge of the safety policy.
- Provide instruction and training to workers so that they may fulfill their job in a safe manner. (See section on New Employee Orientation.)
- Make periodic inspection of the department to ensure that no unsafe conditions or unsafe practices exist.
- Initiate immediate corrective action where unsafe conditions or practices are found. When a capital expenditure is required to make necessary corrections, a written report shall be submitted to the County Manager and the Safety Director.
- Properly complete accident reports and investigate all accidents to determine what must be done to prevent recurrence of a similar accident.
- Be familiar with procedures that must be followed in the event of an emergency.
- Enforce safety rules and regulations of the organization.
- Provide good example by safe work habits.

## ***Employees***

To assist the employees in developing a keen "safety awareness", the following responsibilities are assigned:

- To abide by the safety rules and regulations of the organization.
- To regard the safety of fellow workers at all times.
- To report any unsafe condition to the Supervisor.
- To contribute ideas and suggestions for improving the safety of conditions or procedures to the Supervisor.
- To use individual knowledge and influence to prevent accidents.
- To attend safety training sessions.
- To report accidents and injuries immediately.

## ***Safety Committee***

The Safety Committee provides the important function of improving employee participation in the safety program by tying the knowledge of employees with the experience of supervisors.

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The Committee provides a channel for action on suggestions and ideas submitted by the employees. It encourages a closer relationship between management and employees, improving attitudes toward safety and understanding of problems.

The Safety Committee is an excellent means for maintaining good employee and public relations and for keeping morale on a high plane.

The "on-the-job" experience of the Committee members is valuable in determining hazardous conditions and methods of work, suggesting corrective measures and obtaining participation of all personnel.

By its observation, thinking and discussions, the Committee provides the stimulation and suggestions necessary to maintain safe conditions and safe workers.

1. This Committee shall consist of:

- Safety Director
- Department Managers and/or representatives

2. The Committee shall meet quarterly.

3. Its primary purpose is to assist the Safety Director in the formulation and implementation of the safety program.

To accomplish this, the Committee shall:

- Draft safety rules and regulations and recommend approval for adoption by management.
- Devise methods of promoting safety among all employees.
- Review accident records to discover trends and to gauge effectiveness of the safety program.
- Discuss difficult accident problems and make suggestions for preventive measures.
- The following activities are the Committee's responsibility and require periodic attention:
  - Departmental self-inspection
  - Maintenance of fire prevention and suppression equipment
  - Seasonal promotional activities
  - Safety regulations

- Employee training program
  - Maintenance of material handling equipment
- Written reports of all Committee meetings, signed by the Safety Director.

### ***Effective Committee Meetings***

Good safety meetings require planning and effort. Notices of meetings, preferably accompanied by an agenda, should be sent to each member of the Committee.

The frequency of meetings varies, depending upon the type of committee and the program. There should be sufficient items of business for at least one meeting a quarter.

Where possible, the meeting place should be comfortable and cheerful. Each person attending the meeting should be provided with a seat and be in a position to see and hear the speakers.



Meetings should be conducted according to the generally accepted rules of order. Formality should not be allowed to overwhelm the meeting and inhibit free and frank discussions.

The following is presented as a suggested order of business that may be adopted for Safety Committee meetings in general:

- Call to Order. The meeting should be called to order promptly at the appointed time.
- Roll Call by the Secretary. Names of members and others present should be recorded. Members who cannot attend should notify the Secretary in advance, and the reasons for absence should be noted.
- Introduction of Visitors.
- Unfinished Business. All matters on which definite decisions have not been made are brought up for reconsideration.
- Review of Accidents and Statistics. Classification by cause should be determined and approved. Responsible conditions should be determined for every accident and preventive measures should be discussed.
- Inspections and Recommendations. An inspection of the facility should be made on a scheduled basis. A record of the inspection time, territory covered, unsafe conditions found, and recommendations made should be included in the minutes. Definite action, not necessarily favorable, should be taken on recommendations and reported

to the Committee.

- Posters. The Chairperson should question each member as to the condition of bulletin boards in the jurisdiction of the Committee. Posters are useful in obtaining subject matter for meetings.
- New Business. The Chairperson should appoint subcommittees to arrange for:
  - Speakers from outside the organization
  - Accident statistics
  - Revision of safety rules and shop practices
- Adjournment. Reports (meeting minutes) should be taken, prepared and circulated by the Secretary, after approval by the Chairperson. The reports are of great importance since they are often sent to others in addition to Committee members, especially top management. The reports must record accurately all decisions made and actions taken, since they serve as a means of keeping management informed of the group's work and as a follow-up.

**Chairperson**

**Duties**

Arrange for Meeting Place  
Notify Members of Meeting  
Arrange Program  
Make Time Schedule for Meeting Arrange for Seating All Members  
Review Previous Reports and Materials for Meeting

**Secretary**

**Duties**

Prepare Reports of Meetings  
Distribute Minutes  
Report Status of Recommendations  
(Secretary May Assume Chairperson's Duties)

**Members**

**Duties**

Report Unsafe Acts & Conditions  
Attend All Safety Meetings  
Report All Accidents or Near-Accidents (Near-Misses)  
Investigate All Lost Time Accidents, Including Specific Causes of the Accident  
and Specific Recommendation to Prevent Recurrence Contribute Ideas and  
Suggestions for Improvement of Safety Work Safely  
Influence Others to Work Safely  
Make Inspections

**SAFETY COMMITTEE MEETING**

**DATE** \_\_\_\_\_, **19**\_\_\_\_

A. Attendance:

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B. Review of Previous Minutes:

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C. Review of Suggestions Received at Prior Meetings:

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D. New Suggestions Submitted:

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E. Special Topics Covered:

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~~Jobs~~

~~Safety~~

# ***Maintenance of Safe Working Conditions***

## ***Inspections***

A vital factor in accident prevention is the detection and correction of hazards before an accident is caused.

The findings of an inspection, when combined with an analysis of past accidents, are a sound basis on which to base necessary corrective action.

Inspections are made by various agencies with the same common interest of accident prevention, but with different secondary interests.

The various agencies and procedures involved are as follows:

### ***Self-Inspection***

- Departmental supervisor shall make a periodic informal inspection of the department.
- The Safety Director will make periodic inspections of the facilities and work sites of the organization, concentrating attention to certain areas, types of hazards or inspection of facilities and equipment in accordance with applicable codes or laws.

### ***Insurance Inspection***

- Insurance Company or Broker representatives will make periodic inspections.
- An appointment for inspections must be made prior to visit with the County Manager or Safety Director.
- Safety Director and Department Representative will accompany inspector on tour.
- The inspector will follow safety regulations.

### ***Chapter 1 Governmental Agency Inspections***

- Municipal and state agencies
  - The County Manager should be made aware of any inspector on the premises.
  - The County Manager and department representative will accompany the inspector at all times.

- OSHA Compliance Officer:
  - To carry out the purposes of the Occupational Safety and Health Act (OSHA), a Compliance Officer, upon presenting proper credentials, will be turned over to the County Manager and the Safety Director. Under no circumstances will an inspection begin without these representatives being present.
    1. The Compliance Officer is authorized to enter without excessive delay and at reasonable times any establishment, work place, or environment where work is performed by an employee of the employer. This is not applicable to the Consultative Officers.
    2. The Compliance Officer is authorized to inspect and investigate during regular hours and at other reasonable times, and within reasonable limits and in a reasonable manner, any such place of employment. He may observe any conditions, structures, machines, apparatus, devices, equipment and materials. He can question privately any employer, owner, operator, agent or employee.
    3. The Compliance Officer can make a formal request that a representative of the employees be permitted to participate in the inspection, such formal request must be complied with by the individual in charge. The Safety Director and appropriate department representative will accompany the Compliance Officer at all times while he/she is on the premises.
    4. In the exit interview, the Compliance Officer will discuss the findings with management and will indicate what violations may be cited. The citations and penalties will be forwarded by mail.

## ***Departmental Safety Inspections***

### ***Planning & Conducting Inspections***

Departmental safety inspections are an important part of any organized effort to control accident exposures and prevent personal injuries. They should be a routine with every supervisor.

Here are some tips on how to plan for inspections and what to look for:

- Look at the record. Before the inspection, analyze past accidents to determine specific causes and high hazard areas or operations. Give special attention to these during the inspection.
- Unsafe conditions and unsafe acts. Both unsafe conditions and unsafe acts are contributing factors in most accidents. An unsafe condition, in addition to being a direct cause of accidents itself, often requires, or at least suggests, an unsafe act.

***Check for the Following Unsafe Conditions***

- Floors and floor openings
  1. Are concrete floors in good condition, free of broken and pitted surfaces?
  2. Are floor openings properly protected?
  3. Check floors for slippery conditions - a major cause of falls.
  
- Aisles and passageways
  1. Are aisles and passageways kept clear?
  2. Are they free of tripping hazards?
  
- Machines
  1. Are belts, pulleys, gears, chains and sprockets guarded?
  2. Are effective points of operation guards in use?
  3. Is additional guarding needed?
  
- Electrical
  1. Are electrical cords approved for their current use and location?
  2. Are cords stretched across the floor without appropriate floor covers?
  3. Are cords free from damage (exposed wires, missing grounding pins)?
  4. Are electrical equipment, wiring and fusing up to standards?
  5. Are portable electrical tools grounded?
  
- Hand Tools
  1. Are the right tools for the job used?
  2. Are tools in good condition?
  3. Are cutting edges sharp?
  4. Watch for mushroomed heads, split handles and other defects.
  
- Housekeeping
  1. Is the department clean and orderly?
  2. Are materials properly stored out of walkways or paths to exits?
  
- Storage of materials
  1. Are materials and supplies properly stacked - within recommended heights?
  2. Are flammable materials properly handled and stored?

- Lighting
  1. Is lighting in work and storage areas, passageways and stairways satisfactory?
  2. Check for burned out bulbs.
  3. Check light guarding and reflectors.
  
- Ventilation
  1. Is there good general ventilation?
  2. Is there adequate local ventilation to control possible health hazards?
  
- Ladders
  1. Are portable ladders of standard construction and in good condition?
  2. Are fixed ladders of standard construction and securely fastened
  
- Fire Extinguishers
  1. Are enough fire extinguishers of the right type available and easily accessible?
  2. Is all fire suppressant equipment in proper working order?
  3. Are fire extinguishers properly mounted?
  4. Are fire extinguishers inspected on a monthly & annual basis per OSHA requirements?
  
- Exits
  1. Are emergency exits adequate in number and location and properly identified?
  2. Are any exits blocked or locked, preventing escape to the outside?
  3. Are emergency lighting and exit lights properly maintained?

***Watch for the Following Unsafe Acts of Employees***

- Using equipment without authority.
- Unstable or disorderly stacking or arranging of material.
- Operating equipment at unsafe speed.
- Using defective tools or equipment.
- Unsafe loading of trucks, skids, racks, conveyors, etc.
- Lifting improperly or handling loads that are too heavy.
- Using improper tools or equipment.

- Using tools or equipment improperly.
- Making guards or safety devices inoperable.
- Failure to use personal protective equipment.
- Repairing or adjusting machinery in motion or equipment that is under pressure or energized.
- Horseplay.

#### ***Additional Inspection Procedures***

Well-planned safety inspections help in detecting hazards before an accident occurs. Approached properly, they help to convince employees of your concern for their welfare and are an indication that with you, safety is not an off-again-on-again proposition.

Removing hazards increases operating efficiency because safety and efficiency go hand in hand.

A record should be kept of periodic inspections required by state and local laws. This usually applies to elevators, boilers, unfired pressure vessels and possibly some other equipment. Supplementary inspections should be scheduled and made by qualified personnel of the organization.

A schedule of periodic inspections by qualified personnel should also be established for hoisting equipment, automatic devices, conveyors, pumps, power trucks and other equipment, which requires specialized knowledge for complete inspections to be completed.

## ***Accident Procedure Guide***

### ***Accident Recordkeeping***

The purpose of recordkeeping is to discover patterns and trends of occurring accidents to direct risk control efforts in the right direction. Effectiveness of the Currituck County Safety Program can be gauged by keeping accurate statistics.

The following recordkeeping procedures will be used in the Safety Program:

***Accident Report***

- All accidents shall be reported immediately to the supervisor.
- Supervisor shall investigate all accidents immediately to determine what corrective action should be taken to prevent future similar accidents.

***OSHA Recordkeeping***

- The Safety Director will maintain the OSHA Form 200, Log of Occupational Injuries and Illnesses. Each recordable case must be entered no later than six (6) days after the incident.
- The Safety Director will post the completed OSHA 200 Form for the period beginning on February 1<sup>st</sup>, and ending on March 1<sup>st</sup>.
- The Safety Director, Personnel Director, Finance Officer, or other designated Claims Personnel will maintain a record of the Form 19, "First Report of Injury" (NCIC Form) for all incidents which are entered on the OSHA Form 200. The Form 19 is generally used in lieu of the OSHA Form 101 and kept with the OSHA 200 Log.

***Accident Summary and Analysis***

- The Safety Director shall prepare a quarterly summary and analysis of all accidents and/or incidents.

***Procedure for Medical Treatment***

- Employee reports the accident to the Supervisor.
- Supervisor, depending upon the extent of injury, arranges to:
  - Direct employee to authorized physician or hospital.
  - Have temporary first aid treatment administered followed with treatment by a physician or at a hospital.

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- Supervisor completes the Supervisor's Accident Investigation Report that investigates cause of accident with specific recommendations to prevent recurrence and forwards it to the Safety Director and/or designated Claims Personnel for review and Workers' Compensation insurance purposes.
- Safety Director and/or Claims Personnel completes the appropriate State Workers' Compensation forms (Form 19). The Form 19 is sent to the insurance company for claims review and approval.

***Procedure for Disability (Lost Time) Accidents***

- Employee reports accident to supervisor.
- Depending on extent of injury, employee is administered first aid and/or transported to a physician or hospital for treatment.
- Supervisor completes Supervisor's Accident Investigation Report that investigates cause of accident with specific recommendations to prevent recurrence and forwards it to the proper authority for review and Workers' Compensation insurance purposes.
- Safety Director and/or Claims Personnel completes the appropriate State Workers' Compensation forms (Form 19). The Form 19 is sent to the insurance company for claims review and approval.

All accidents must (without identifying the individual involved) be reviewed at Safety Committee meetings. Specific recommendations must be made and entered into the reports of meeting.

**NOTE:**        ***Follow personnel policy regarding employee absences.***

***Administration of Workers' Compensation Claims***

A Commission or Board created by law generally administers the Workers' Compensation laws. The North Carolina Industrial Commission (NCIC) administers the North Carolina Workers' Compensation Act (Law).

The following examples are provisions relating to administration:

- Time limits in which employers must be advised of injury.

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- Time in which claims must be filed.
- Claim settlement conditions.
- Appeal provisions.

If any employer feels a decision of the Workers' Compensation Board should be appealed to the appropriate court, the Safety Director, after reviewing the Workers' Compensation Board decision, should contact the insurance administrator and review the reasons for the appeal. Based upon the facts, the appeal will be made by the insurance company.

### ***Benefits Provided Under Workers' Compensation Laws***

Benefits under Workers' Compensation are listed under three (3) categories:

- Cash Benefits or Compensation include both impairment benefits and disability benefits. Impairment benefits are paid whenever there is a physical impairment to an employee arising out of, or in the course of, their employment. Disability benefits are available whenever there is an impairment and a wage loss.
- Medical Benefits are provided without dollar or time limits. In the case of most occupational injuries, only the medical benefits are provided since substantial impairment or wage loss is not involved.
- Rehabilitation Benefits include both medical rehabilitation and vocational rehabilitation for those cases involving severe disabilities.

Cash benefits, which replace employee loss of income or earning capacity due to occupational injury or disease, are classified into the following disabilities:

- Permanent Total Disability generally indicates that the employee is regarded as totally and permanently unable to perform gainful employment.
- Temporary Total covers those benefits paid to employees while they are unable to do any productive work because of an occupational injury. That is, the employee, although totally disabled during the period when benefits were payable, is expected to recover and return to employment.
- Temporary Partial Compensation benefits are paid to employees who have returned to work but, due to the injury, earn less than they did before the injury. They are generally paid 2/3 of the difference in earnings between the two jobs.
- Permanent Partial benefits are listed as either "non-scheduled" or "scheduled" disabilities which involve loss, or loss of use of, specific body members, where wage loss based on nature of impairment is presumed. The actual amount payable is a

specific number of weeks of benefits (based on the member involved) multiplied by the weekly benefit amount (based on earnings at time of injury).

## ***Tips on Accident Investigations***

### ***When Should Accidents be Investigated?***

Every accidental injury should be investigated just as soon as possible. The longer you wait, the harder it is to get the facts. As time passes, evidence is lost and important details are quickly forgotten. Prompt investigation assures more complete and useful information.

### ***Why Should They be Made?***

Accidents do not just happen - they are caused.

One of the purposes of accident investigations is to find out what causes them. Once this has been determined, action to eliminate or control the cause can be taken.

Even minor injuries should be investigated, for the seriousness of an accident is frequently a matter of luck. Eliminating the cause of a minor injury today may prevent a serious accident tomorrow.

If it happened once - it could happen again.

### ***Who Should Make Them?***

The Supervisor should conduct an investigation. While others will probably also want to look into the situation, here are three good reasons why the Supervisor should personally get the facts:

- Employees under supervision are basically the Supervisor's responsibility. This includes responsibility for their safety and welfare.
- Supervisors know the employees and the jobs better than anyone else. They are in the best position to get the facts and find a practical solution to the problem or recognize those problems needing the attention of technical personnel.
- Supervisor's investigation of the accident can help to promote better relations with employees by demonstrating concern for their safety and proving that management is sold on accident prevention.

### ***How Should Accident Investigations be Made?***

Skill in conducting effective accident investigations increases through experience. A good basic

approach is to get the answers to these two questions:

- What or who caused the accident?
- What can be done to prevent a recurrence of a similar accident?

Here are some suggestions that will aid you in ascertaining the facts and reaching a logical conclusion:

- Check the site and circumstances of the accident thoroughly before anything has been changed.
- Discuss the accident with the injured employee, but only after first aid or medical treatment has been given. Talk with those who saw the accident and others familiar with conditions immediately before and after it occurred.
- Really "dig" for information. Remember, the smallest detail may point to the real cause.
- Reconstruct the events that resulted in the accident. Consider all of the possible causes. Look for the unsafe acts and unsafe conditions, which separately or in combination were contributing factors.
- If help is needed in determining the cause, ask for it. Technical personnel, safety specialists and your insurance carrier are all good sources of assistance.
- Be objective throughout the investigation. Its purpose is to find the cause of the accident, not to place the blame or embarrass anyone.

***You Have Found the Cause - Now What?***

Take action! Be sure that the condition causing the accident is eliminated or controlled at once. Time has been wasted if the results of the accident investigation are not used to devise ways of preventing more accidents.

Here is a proven procedure to follow:

- If employee failure was involved, be sure the employee is properly instructed and that the instructions are followed. Also, ensure that all employees involved in similar operations receive the same instructions.
- Where the operation can be changed to eliminate the hazard, make the change if it is within your authority to do so. If it exceeds your authority, get approval from management.

- When equipment changes or guards are necessary, decide exactly what is needed. Then, discuss it with management. It may be helpful to get advice from safety specialists, either in the organization or from the insurance carrier. They have probably encountered and solved similar problems before.
- Last, but of considerable importance, make a written report of the findings, the action taken and recommendations to management. Use accident investigation forms.

If it happened once, prevent it from happening again.

- Get the facts.
- Decide on a method of prevention.
- Take action, within authority.
- Confirm recommendations to management.

## ***Accident Analysis Factors***

### ***Unsafe Acts***

1. Lack of skill or knowledge - Applies in cases where the worker had not received training or had insufficient training. Training involves instruction, demonstration and "feed back" to worker on their work.
2. Failure to follow operating or maintenance procedures or methods - Applies when an employee knowingly does not follow the standard work procedure for reasons such as haste or other reasons other than drugs, physical limitations, and defective equipment. Also applies when an injury occurs while servicing, repairing, or removing a jam without turning off the equipment.
3. Failure to use proper tools or equipment - Applies in cases where the worker uses the wrong tool or machine for the job. Can also apply in cases where the proper tool or equipment is not available.

4. Failure to use guards provided - Applies to cases where guards or other safety devices were broken, unintentionally removed, or left off of the machine.
5. Failure to use personal protective equipment - Applies in cases where the worker did not wear protective equipment such as safety glasses, respirator, etc.
6. Making safety devices inoperable - Applies in cases where an employee intentionally removes or disables a safety device or guard.
7. Operating vehicle or equipment at unsafe speed or in unsafe manner - Applies in cases where operation of the tool, machinery, or vehicle was "beyond" the normal method or speed. Do not use this if worker has not been provided proper training and therefore might not know the proper method or speed.
8. Using known defective equipment - Applies when using a machine or tool with a defect or improperly operating part.
9. Operating without authority - Applies in cases where the worker operated a machine, tool, or vehicle without permission or proper supervision.
10. Unsafe lifting, loading or placing - Applies in cases where the weight or placement of material was the primary cause of the accident. An example of placement would be a storage location above the safe lifting height of a worker. Most of the time this act is attributable to poor job layout or design.
11. Improper lifting, lowering, or carrying technique - Applies in cases where improper lifting, lowering, technique, or twisting while lifting or carrying an object, results in an injury. Does not apply when lifting excessively heavy loads.
12. Taking unsafe position - Applies to cases where the injury is due to the injured assuming an awkward posture or position that increases the risk of injury. This can be due to poor job ergonomics or confined work area.
13. Influence of alcohol or drugs - Applies in cases where alcoholic beverages, prescription drugs, non-prescription drugs, or illegal drugs impaired the worker enough to be the primary cause of the accident.
14. Physical or mental limitation - Applies when worker has physical injury or impairment, or mental limitation or learning disorder.
15. Unaware of hazard - Applies when proper training or instruction was given, but failed to inform about job hazards. This situation would be due to a training program being developed without performing a job safety analysis.
16. Unsafe act of other - Applies in cases when a non-employee is the cause of the accident.

17. Other - Use when none of the above conditions are appropriate.

### ***Unsafe Conditions***

1. Inadequate guards or protection - Applies to a machine or tool that can be effectively guarded but is not. The lack of guards can be due to them being removed or not provided.
2. Defective tools, equipment, machine or vehicle - Applies in cases in which tools, equipment, or machinery has a defect that causes improper operation or breakdown that resulted in injury to a worker.
3. Unsafe condition of tools, equipment, machine or vehicle - Applies when a tool, machine or vehicle is in poor operating condition due to normal wear and tear.
4. Congested work area/roadways - Applies in cases where the lack of adequate work or travel space is caused by excessive work in process or heavy traffic on roadways.
5. Unsafe floors, ramps, stairways, platforms - Applies to floors, ramps, stairways, and platforms that are in poor condition, slippery, or unstable.
6. Poor housekeeping - Applies when scrap, debris, or other substances create unsafe working conditions.
7. Hazardous atmospheres: gases, dust, fumes, vapors - Applies in cases where the worker has either long term exposure to low levels of toxic gases, chemicals, substances, or where injury is due to short term acute exposure to high concentrations of toxic gases.
8. Hazardous chemicals/substances - Applies to toxic chemicals, metals, or poisons in a solid or liquid form that causes injury upon contact or ingestion.
9. Inadequate warning system - Applies to special work conditions where workers rely on equipment or other workers to provide warnings about hazards. Applies to: air monitoring equipment for detecting toxic gases, barricades for road work or traffic restrictions to a hazardous area are in poor condition or poorly deployed, warning lines for roof work.
10. Fire or explosion hazards - Applies when flammable liquids, gases, or explosive dust causes a fire or explosion.
11. Improper material storage - Applies to raw material, work in process, or finished product that is sloppily stored, stored in the wrong place, or is not easily accessible.

12. Inadequate ventilation - Applies when natural or mechanical airflow is insufficient to remove hazardous vapors/gases or provide adequate oxygen.
13. Radiation exposure - Applies in cases where exposure to radiation from welding, sun, x-ray, or radioactive materials causes injury.
14. Excessive noise - Applies when there are high noise levels (above 90 decibels).
15. Inadequate illumination - Applies in cases where lack of or insufficient light was the primary cause of the accident.
16. Adverse weather - Applies in cases where adverse weather such as rain, snow, or sleet, is the primary cause of the accident. Pertains primarily to vehicle accidents and outside work.
17. Poor road conditions - Applies to cases where road conditions that are not due to weather are the primary cause of the accident. These conditions can be related to poor construction, potholes, or lack of markings and signs.
18. Limited visibility - Applies primarily to vehicle accidents where visibility is limited by either hills, curves, or obstructions.
  
19. Other - Applies when none of the above items are

appropriate. **Basic Causes - Work System**

The following definitions for Work Systems causes often specify supervision in order to simplify the cause determination process. With the exception of one aspect of INADEQUATE SUPERVISION, basic causes are not reflective of the quality of the immediate supervisor's work. Work System causes are really deficiencies within the entire management system that have either not been identified or have received a low priority.

1. Inadequate hiring/placement practices - Applies when deficiencies in determining previous work performance, physical condition, or job skills are the primary cause of the accident.
2. Inadequate enforcement of work rules and procedures - Applies when management/supervision does not enforce work procedures, safety rules, or use of personal protective equipment.
3. Lack of proper job procedures - Applies when management/supervision has not developed the proper job procedure to perform a job with minimal risk of injury or illness.

4. Inadequate safety procedures - Applies when there is a lack of a formal safety procedures for high hazard work such as machine repairs (lockout/tagout), confined space work (permit entry procedure), hazardous chemical handling, etc. Applies to direct causes that could have been eliminated or controlled by safety management practices such as work area inspections, job safety analysis, accident investigations, training, etc.
5. Inadequate job instruction/training - Applies when employee has not received proper/adequate training or instruction of the job.
6. Inadequate safety management activities - Applies to direct causes that could have been eliminated or controlled by safety management practices such as work area inspections, job safety analysis, accident investigations, training, etc.
7. Inadequate preventive maintenance - Applies when a preventive maintenance program is needed but has not been implemented or existing program is inadequate.
8. Inadequate environmental control program - Applies when management has not identified or controlled environmental factors such as excessive heat, cold, noise, toxic materials, etc.
9. Inadequate job planning methods - Applies when supervision does not plan a job so that potential hazards are found and removed or adequately controlled.
10. Improper layout or design of work area - Applies when work areas are improperly laid out or designed for the work being performed. The improper layout of the work area creates a hazard that results in employee injury.
11. Unsafe design or construction of tools/equipment - Applies when a machine or tool is poorly designed or constructed. This includes quality of machine/tools as well as the extent of safety devices included in the machine.
12. Inadequate medical monitoring - Applies to incidents where medical monitoring could have reduced the severity of the injury or illness.
13. Inadequate supervision - Applies when the quality of supervision or the degree (supervisors per worker) of supervision is inadequate. Quality of supervision includes both the immediate supervisor as well as the entire management system.
14. Other - Applies when none of the above items are

appropriate. **Basic Causes – Individual**

The following Individual Causes relate to either the injured worker or the person who performed the unsafe act. With the exception of drug use and dishonesty, these causes are not intended to determine the "guilt" of the individual, but to recognize the limitation of individuals and our inability to identify individuals predisposed to certain occupational illnesses.

- Pre-existing physical condition - Applies when the injury or illness is a recurrence of a previous injury and the action causing the injury was not overly stressful. An example would be someone bending over and their back "goes out" on them.
- New physical impairment or condition - Applies when the injury or illness is due to some previously unknown physical condition or impairment. An example would be someone who has an allergic reaction to a material or chemical.
- Impairment due to drug use - Applies when illegal or legal drugs (alcohol or medicine) alter the physical or mental condition of a person and the impairment is the primary cause of the accident.
- Learning disability - Applies when the individual has a learning disability and it keeps them from understanding job instructions and training. The primary cause of the accident should be related to this lack of knowledge or skill and not to a poorly implemented training program.
- Employee insubordination or dishonesty - Applies when an insubordinate or dishonest act by an employee directly causes the accident. This can be used in the case where adequate training has been provided, and proper follow-up discipline was utilized, but employee continues to disregard job procedures and methods.

## ***Office Safety***

Office work can be more hazardous than is commonly thought since many accidents occur during ordinary office routines.

- Every employee should see that his or her desk and work area is clean and orderly. Pick up items such as pencils or paper clips and wipe up any spilled liquids. Good housekeeping is the key to a safe office environment.
- Keep an eye open for loose or rough floor covering, loose tiles, or carpeting that can create a tripping hazard.
- 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 drawer of unsecured file cabinets has caused many injuries and damaged the file cabinet. If unfamiliar with the file cabinet, test the drawers and be careful not to pull them out too far if there is no locking device on them.
- 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. Be sure your chair is behind you before you sit down.
- Never use chairs, desks or other office furniture as a makeshift ladder. Use a stepladder or step stool and don't over-reach.
- Message spindles are a frequent source of puncture wounds to hands and other parts of the body. When used, the point should be protected by a suitable blunt cover or the point should be bent down.
- Keep the blades of a paper cutter closed when not in use.
- Pencils are safest when carried point down in shirt pockets.
- Scissors, paper cutters, glass, and razor blades can cause painful injuries. Report such injuries at once to protect yourself from infection.
- Keep your hands clear of electric typewriter carriages while they are in motion.
- 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. Use something like an old typewriter ribbon box, and keep razor blades covered. Even a little scratch can get infected.
- Be sure 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.
- 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.

## ***Ergonomics***

With the increased use of computers in every line of work, it is important to review your computer workstation setup. If you spend the majority of your time in front of a computer, then you should be aware of some basic ergonomic principles that will help improve your comfort and minimize stress caused from repetitive motion and poor posture.

### ***Computer Workstations***

***Ergonomics is the science of designing your workstation to fit you better.***

- Make sure that your workstation is not too low or too high for you. Most work should be conducted while in a seated position within two inches above or below your elbow. If you share a work area with a co-worker, look for ways to adjust your chair so that you are comfortable in relation to your desk surface.
- Select a sturdy chair with a firm padded back, adjustable arms, and with a back that adjusts vertically and horizontally. By adjusting the backrest to support your lumbar curve (lower back), you can help support and improve your posture, which will ultimately improve your comfort.
- Use a chair that swivels to avoid unnecessary reaching. The base should have five legs for greater stability.
- Adjust the chair height so that when seated, your feet are flat on the floor. If this makes the chair too low for the desk surface, you can use a footrest for added support and comfort.
- Sit up straight! Poor posture can increase problems with your back, neck and shoulders and increase the strain you feel in these areas.
- Make sure that the top of the computer monitor (VDT) is at eye level to help prevent head and neck strain. If you wear bifocals, you may want to have the monitor slightly



below eye level.

- If you enter data into your computer from hard copies, use a document holder positioned next to your VDT screen. This helps keep your eyes focused at the same distance and reduces eyestrain associated with moving your eyes from the document to the computer.
- Use a cushioned pad or wrist rest to support your wrists when working at a computer workstation. This support can reduce the pressure on your wrists and reduce strain as well. Try to keep your wrists straight or in a neutral position.
- If overhead lights create glare on your screen, glare screens can be placed over the front of your monitor. You have glare on your screen if you can see reflections or images of the lights or other objects on your computer screen. Glare can produce eyestrain. Be sure to blink every so often as your eyes will get dry if focusing on an object for long periods of time. It is also helpful to glance away from the monitor regularly to focus on a distant object.
- You can also reduce glare on your screen by tilting the front of the VDT screen down. Most monitors have an adjustable tilt, which should be used to keep the face of the monitor down, thus reducing glare from overhead lights.
- While ergonomics can help improve your comfort and productivity, remember that micro-breaks can also be beneficial. During a micro-break, you might perform other job tasks that allow you to get up and move around. Filing, making copies, or performing other functions can provide that micro-break which allows you to increase your circulation, relieve tension and improve your mental attitude. Try stretching while you are taking a micro-break to get your limbs working freely again.

## ***Housekeeping***

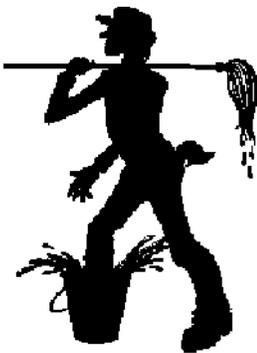
Many painful and sometimes disabling injuries are caused when, employees are struck by falling objects or by striking against or tripping over objects they did not see. Many injuries and property damage losses stem from fires caused by poor housekeeping practices and improper storage of flammable materials. 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 for orderly storage, and are returned to the proper place after use, they are easier to find and easier to inspect for damage and wear.

The following housekeeping safety procedures apply:

- Keep work areas and storage facilities clean, neat and orderly.
- Keep all aisles, stairways, passageways, exits and access ways to buildings free from obstructions at all times. Remove all grease and water spills from traffic areas immediately.
- Do not place supplies on top of lockers, hampers, boxes, or other moveable containers at a height where they are not visible from the floor.
- When piling materials for storage, make sure the base is firm and level. Cross tie each layer. Keep piles level and do not stack piles too high. Keep aisles clear and maintain adequate space to work in them.



When storing materials suspended from racks or hooks, secure them from falling and route walkways a safe distance from the surface beneath.

- When storing materials overhead on balconies or mezzanines, provide adequate toe boards to keep objects from rolling over the edge.
- Do not let soft drink bottles, soiled clothes, etc., accumulate in lockers and work spaces.
- Tools, equipment, machinery and work areas are to be maintained in a clean and safe manner. Defects and unsafe conditions must be reported to your supervisor.
- Return tools and equipment to their proper place when not in use.
- Lay out extension cords, air hoses, water hoses, ladders, pipes, tools, etc., in such a way as to minimize tripping hazards or obstructions to traffic.
- Clean up spills immediately to avoid hazards. In the event the removal cannot be done immediately, the area must be appropriately guarded, signed or roped off.
- Nail points, ends of loop or tie wires, etc., must not be left exposed when packing and unpacking boxes, crates, barrels, etc. Nails are to be removed as soon as lumber is disassembled.
- Store sharp or pointed articles to keep co-workers from coming in contact with the sharp edges or points.
- Dispose of all packing materials properly to reduce the chance of fires.
- Empty wastebaskets into approved containers.
- Put oily and greasy rags in a metal container for that purpose and dispose of properly and frequently.
- Maintain adequate lighting in obscure areas for the protection of both employees and the public. Keep landscaping well manicured to minimize hiding places.
- Employees are not to handle food, tobacco, etc., with residue from any lead-based product (such as leaded gasoline) on their hands.
- Employees whose hands are cut or scratched are not to handle any lead-based products.

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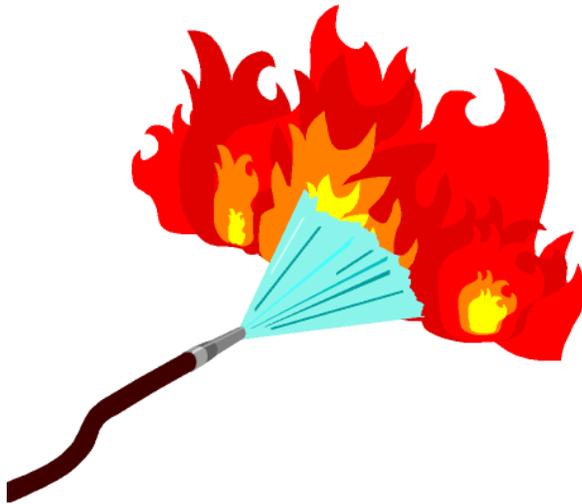
- All switches or drives on machinery must be shut down and locked out before cleaning, greasing, oiling, or making adjustments or repairs.
- Panel boxes and fuse boxes should be kept closed at all times. It is a requirement to maintain a minimum clearance of 36-inches them. Flammables (kerosene, gasoline)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

## **Fire Prevention**

One of the most fearsome and damaging disasters that can occur is a fire. Due to the various activities performed in public entity facilities, the potential fire hazards that exist must be recognized and addressed. Fires can be prevented through planning, sensible arrangement of fire or spark-producing activities in relation to combustible materials, good housekeeping, and observance of practical work practice controls (no smoking) when flammable substances are present.

It is necessary that maintenance shops and office activities that contain potential fire hazards have a fire plan to combat fire if it should occur. The plan should include:

- Adequate warning measures for alerting all people in the area of the existence of a fire.
- Rapid reporting to the Fire Department.



- Evacuation of affected personnel from areas involved in fire.
- Procedures for containing the fire in so far as it is safe to do so and, particularly only to the extent that it is possible to maintain safe exit for personnel so engaged.
- Employee training for those who regularly work in the area, and their duties, if any, in a fire situation.
- Adequate fire extinguishing equipment that is regularly inspected by a

responsible authority.

- Each building is to have an emergency fire plan.

The following fire prevention safety procedures apply:

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- Fire extinguishing equipment is to be prominently displayed, labeled for usage, and kept clear for easy access at all times.
- Know the location of fire extinguishers and how to use them. After using an extinguisher, report the use immediately to your supervisor so a replacement may be obtained or the extinguisher recharged.
- Do not use water-type extinguishers on electrical fires because of the danger of electrocution and damage to equipment. Water-type extinguishers are intended for use on Class "A" fires only (combustibles such as wood, paper, rags, etc.).
- Keep oily rags and other flammable wastes in covered metal containers. Such debris must be removed from the maintenance shop building as soon as possible and, in no case, should it be left unattended in a building overnight.
- Keep cleaning solutions that have flammable properties (a flash point below 140° F) in UL Listed or Factory Mutual Approved safety containers having spring-lift caps. Each container must also be labeled as to its contents. Use of gasoline is prohibited for cleaning purposes.
- Gasoline used in small quantities in shops for fueling engines being repaired, tested, adjusted, etc., must be handled and dispensed in the smaller (one gallon) approved safety containers, having a spring-lift cap. Containers must be labeled as to contents.
- The fueling of any type of motorized equipment while the engine is running is prohibited. When transferring flammable liquids, make sure the filler nozzle touches the equipment or can to be filled in order to guard against the build-up of static electrical charge.
- Never overfill a tank but rather, under-fill it to allow room for expansion of the liquid.
- No artificial light, except UL Listed electric flashlights will be used near escaping gasoline or other flammable vapors or when entering an enclosure suspected of containing gas. Stay out of the area completely and call the Fire Department. Check the atmosphere with hydrocarbon sniffer or explosive meter before entering.
- Do not enter dark places, basements or cellars without proper light. The use of matches is strictly forbidden.
- The use of fuel oil or kerosene for starting fires is allowed only in outside areas. Caution must be observed. Do not use fuel oil or kerosene for starting fires in stoves. Under no circumstances will gasoline be used for starting fires.



- A "No Smoking" rule will be enforced in all areas where hazardous substances are stored or used and in all other areas where "No Smoking" signs are posted.
- Exits are not to be locked (chained or otherwise) from the inside.
- All motorized equipment will have an appropriate fire extinguisher.
- Inspect fire-extinguishing equipment on a regular basis and as required by the manufacturer.

## ***Material Handling***

Many injuries have occurred in the process of handling materials, including strains and sprains, crushing, hernia and rupture, fractures, lacerations, bruises, and contusions.

Injuries of this nature can be avoided by taking a little time to plan ahead, by using mechanical equipment whenever possible, by thinking about the proper way to do the task, and by using the proper tools.

The single and most important preventative safety measure an employee should keep in mind is the four step lifting process. The technique, putting aside considerations of costly hospital and medical bills, can help save you pain and suffering that may extend into your retirement years. Therefore, it is essential that you carefully read and implement the following lifting process:

**Get Ready ...** Size up the load. If it is too heavy or bulky, play it smart--get help. Check the load and remove protruding nails, splinters, sharp edges, oil, grease or moisture. If the surface is rough--wear gloves. Wear protective footwear to help prevent foot injuries. Know where the load is going and where you are going to put it down. Be sure the path you take is clear of obstacles.

**Pick It Up ...** Get a firm footing and good balance; have your feet about shoulder width apart. If the load is below waist level, bend your knees to get into position. Keep your back as straight as possible. Grip the load firmly. Lift the object to carrying position, keeping it close to the body. Let the leg and arm muscles do the work.

**Carry It Carefully ...** Be sure you can see where you are going. When changing directions, be careful not to twist your body. Turn your body with changes of the position of your feet. Use extra caution in tight places so as not to smash your fingers or hands.

**Put It Down ...** If the receiving surface is about waist high, use the edge to take part of the load. Then push it forward. If you lower the load to the floor, bend your knees, keep your back as straight as possible and the load close to your body.

Beyond knowing the proper technique for lifting, employees should follow established material handling rules:

- Four-wheel hand trucks with swivel axles and tongue are to be pulled; all other trucks are to be pushed.
- Use the right type of hand truck for the materials you are handling. If there is a special truck, for example a drum or drawbar truck, it should be used.

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- Watch where you are going when pushing or pulling a hand truck, and slow down at corners.
- Allow clearance for your hands when moving through doorways or past other objects. Use truck handles.
- Secure help in getting hand trucks up or down inclines to keep them from getting away from you.
- When using hand trucks, stop at all blind intersections before passing the area.
- Always park hand trucks at a spot where people will not stumble over them; leave handles in a vertical position.
- Report hand trucks with broken wheels or splintered handles.
- All hand truck operators are to wear steel-toed shoes.
- When using hand trucks, be sure to watch the floor ahead to avoid bumps, cracks, uneven surfaces, etc.
- Pile loads evenly. An unbalanced load may shift causing the hand truck to overturn.

### ***Powered Lift Trucks***

- Only trained and authorized employees are to operate a powered lift truck - or forklift.
- If you have been trained to operate the forklift, be sure that all nameplates and markings are in legible condition. If nameplates or markings are illegible or missing, notify your supervisor immediately.
- Never attempt to use the lift truck to move loads that exceed the rated capacity. This endangers you as well as your co-workers.
- Pedestrians always have the right of way. Watch for pedestrians at all times.
- When operating a forklift, look in the direction of travel and keep a clear view of the path of travel. If the load blocks your vision, travel with the load trailing.
- Only lift stable or safely arranged loads. When moving a load, the forks should be lowered and tilted back.



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- Powered lift trucks should not travel with loads above six inches from the floor. Loads should never be lifted or lowered while traveling.
- Never carry passengers on the forklift.
- Never allow a co-worker to pass under the elevated portion of the lift truck, whether loaded or unloaded.
- When a truck is unattended, the forks must be fully lowered, the brakes set, the power shut off, and the controls in neutral position. A truck is considered unattended when either the operator is 25 or more feet away, or when the operator is not in view of the truck.
- When operating a lift truck at cross aisles and other locations where your vision is obstructed, slow down and sound the horn.
- A forklift should not be used to lift people except in special cases. If employees are going to be lifted, then a special safety platform securely fastened to the lifting carriage or forks must be used. The safety platform must be approved for use with your lift truck. Home or shop- made lifts are not permissible unless certified by a Registered Professional Engineer and permitted by the manufacturer.
- If you must move co-workers on a safety platform, the brakes must be set and the operator must remain in the truck. Do not move the truck horizontally with employees on the platform or while the platform is elevated.
- Avoid driving in bays or shop areas where the floors may be oily or wet. If these areas cannot be avoided, then slow down. Report these hazardous floor conditions to your supervisor.
- If you use the public entity's forklift to unload deliveries from a tractor-trailer, be aware of safe loading and unloading procedures. The brakes of a highway truck or trailer should be set and the rear wheels chocked before the forklift enters the trailer. It is your responsibility as the forklift operator to ensure that the wheels have been chocked, or that a dock lock is secured.
- If the trailer is not coupled to a tractor, then fixed jacks will be used to support the semi-trailer. Wheel chocks or dock locks are still required when fixed jacks are used.
- Before you enter, check the floor of the trailer to ensure that it is not damaged, then secure dockboards and bridgeplates before you drive the forklift into the trailer.
- Refueling can only be performed with the engine off. Also, do not refuel in a location that has flame sources. Do not smoke when refueling a forklift.

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- All battery changing or charging areas must be equipped with fire extinguishers and emergency eyewash stations. No smoking is allowed in battery changing or charging areas.
- Examine the lift truck to ensure that it is in proper working condition at the beginning of each shift. If at any time a truck is found to be in need of repair, or unsafe in any way, contact your supervisor immediately and take the lift truck out of service until it can be repaired by an authorized repair person.
- Last, but not least, never stunt drive or be involved with horseplay when operating a forklift.

### ***Hoisting Equipment***

- All hoists are to have a rated load capacity posted on the exterior of the hoist. Employees are not to exceed the specified limit.
- If you use hoisting equipment in your public entity to move heavy objects, the controls should be moved smoothly and gradually to avoid abrupt jerky movements.
- Do not lift or move a load if anyone is in a position to be injured. Never carry a load over people. If people are in the path of travel, stop and clear the area.
- Never raise a load before the chains are secured and everyone's hands are free and clear of the load. As a load is picked up, pinch points are created which could cause a severe hand injury if proper precautions are not taken. Always let others in the area know when you are ready to move the load.
- When raising or lowering a load, proceed slowly and make sure the load is under control. Stand far enough away from the load so that if it swings, slips, or spills, you will not be injured.
- When unhooking material, always clear the hooks and chains well away from the load.
- If at any time the hoisting equipment is not operating properly, or other unsafe conditions are found - report this to your supervisor immediately.

### ***Piling Materials***

- Have a safe base. That means a solid, smooth, and level surface. If the floor or ground is not level, use dunnage or bearing strips or timber to make sure that the pile will not shift. Barrels and other materials that may roll or slide should be chocked at

the base.

- Pile to a safe height, that means not so high the pile will be unsteady, that the floor limit is not exceeded, and that 18 inches remain between the pile and sprinkler heads, (if building is equipped with a sprinkler system).
- Lock the material by cross-tying the layers so there are no unsteady stacks within the pile. Piles should also be stepped back to insure stability.
- Maintain aisle space for workers and fire equipment. Materials should not protrude beyond the face of the pile.

### ***Warehouse - Material Storage***

Another issue in the warehouse is material handling and proper storage. By following some good housekeeping principles, you can reduce hazards that could possibly cause you or a co-worker to be injured.

- Be sure that goods are stored neatly on shelving, or are stacked in the designated area. Objects that are laying in aisles and walkways create a tripping hazard for the employees who work in the warehouse.
- Keep heavy materials stored low to the floor. This will make it easier to move and lift these objects safely. If heavy materials are stored too high, it can increase the chance for a back injury, since you may have to lift the object with your arms extended.
- Be sure that stored supplies do not block electrical breaker boxes. Breaker boxes should be closed or covered to minimize that chance of a spark starting a fire.
- Electrical panels and disconnects should be labeled and accessible at all times should an electrical emergency arise. By keeping supplies stored in their designated location, you can be sure that the panels can be reached in an emergency.
- Keep a step stool or stepladder in the area to reach supplies. Do not use a chair, or climb on shelving to reach objects. This increases your chance of falling and being injured.

### ***Handling Gas Cylinders***

- The protective cap over the valve should be kept on when the cylinder is not in use.

- Never let grease or oil be on your hands or gloves. Keep hands away from the oxygen cylinder controls.
- Lifting cylinders is always a job for two persons. If available, move cylinders with a cylinder dolly.

Keep cylinders on end and strap or chain them securely so that they cannot fall.

- Store cylinders away from salt, acid, film, or other corrosive substances.
- Cylinders should be kept away from radiators and other sources of heat.
- Oxygen cylinders in storage should be separated from fuel-gas cylinders or combustible materials (especially oil or grease), a minimum distance of 20 feet, or by a noncombustible barrier at least 5 feet high having a fire resistance rating of at least one-half hour.

## ***Protective Clothing and Equipment***

### ***Machine Guarding***

Employees within county government perform a variety of work operations that involve many industrial hazards. The tasks performed range from custodial services to heavy truck repair. Over time, research is conducted to develop measures that protect employees from accidental

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injury during various tasks. When measures can be developed that protect the employee, we refer to it as having "engineered out" the hazard. This can be seen by the use of guards on various types of machinery.

When working with machinery, there are several rules that should be followed without exception:

- Keep all machine guards in place while machinery is in operation.
- Tampering with machine guards is prohibited and any removal of a machine guard requires the prior approval of the supervisor.
- All guards are to be properly replaced after the repair work has been completed. At no time will equipment be operated without the guard in place.
- When necessary to work on electrically driven machinery, the disconnect switch for controlling the machinery is to be secured in the open or off position by the worker or workers performing the job. Proper lockout/tagout procedures will be followed. Verification of proper lockout/tagout is to be done by your supervisor.
- The securing device, such as a combination lock, is not to be removed until the work has been completed and the area has been cleared.

### ***Protective Equipment***

When it is impractical or impossible to place a guard over the source of the hazard, then it becomes necessary to place the guard on the worker. This is done by wearing approved personal protective apparel such as hard hats, safety belts, safety goggles, face shields, gloves, aprons, toe guards, respirators, etc. Supervisors should insure that all their employees are properly protected. Local dress codes may be established within a particular department, or work area, and each employee is expected to know and follow these codes where applicable.

Every possible effort will be made by management to select protective clothing and equipment that is acceptable for comfort, appearance and utility and still afford the desired protection. At times protective equipment is less comfortable to wear than ordinary dress, but do not be tempted to lay it aside when the "boss isn't around". If you do, you may become a gambler who is betting his life, eyesight, or physical well being, by thinking, "it won't happen to me". Losing that bet becomes more uncomfortable for a lifetime than wearing the equipment for the duration of the job. Safety, in this instance, is knowledge of the hazards, knowledge of the protection available, and a frame of mind that makes use of available protection a safe work habit.

### ***General Clothing***

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- For your safety and comfort, invest in work clothes that are sturdy, fit well, and are washable. If the County issues you a work uniform, wear what has been issued.
- The wearing of loose clothing on or near moving machinery or equipment is prohibited. Shirt-tails need to be kept tucked in.
- Pant legs should be kept to slightly below ankle length and ensure hems are sewn up. Rolled up cuffs are discouraged as they collect dirt and are likely to come down and cause you to fall.
- Wear steel toed safety shoes on all jobs involving handling or moving heavy material. Otherwise wear sturdy, comfortable work shoes. Excessively high heeled shoes may create a tripping hazard and soft soled shoes (such as tennis shoes) do not afford protection from puncture wounds when in the field and their use is prohibited while on the job.
- Shoes with run down heels or torn soles are hard on the feet and can cause falls. Keep your shoes in good repair.
- The safe worker does not wear rings, medals, identification bracelets, and other jewelry. Jewelry increases the danger of electric shock and can cause fingers to be badly injured.
- Wash work clothes frequently as a safe guard against skin infections and irritations.
- For outdoor work in winter weather, it is best to wear loose, warm, fairly lightweight clothing. Wear layers of clothing so you can peel it off for inside work and put it back on when you have to go outdoors.
- Oil soaked clothes are a serious fire hazard. Keep your clothes free from oil.

### ***Face and Eye Protection***

Hazards involving the possibility of injuries to the face and eyes exist in both indoor and outdoor tasks. They range from dust blown into eyes on a windy day, to particles of steel, sand, rust, etc., propelled into eyes with considerable force by power tools and machinery, or splashes of corrosive dust and liquid chemicals.

There are many types of safety glasses, goggles, shields, etc., made of impact resistant glass or plastic to protect the worker from these hazards. The loss of one or both eyes can have extremely serious consequences to an employee. Yet individuals often vigorously resist efforts by management to require this vital protection with no better excuse than slight discomfort or false pride. This is probably one of the most important protective features of any safety program, yet one of the most difficult to sell.

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Face and eye protection is to be provided for any task where there is any probability that an injury may occur without such protection. Employees assigned to perform tasks that require eye protection are to wear the protection provided.

Safety glasses, goggles, and other eye protection equipment offer a vital protection. If sufficient care is not exercised to maintain them properly, dirty or scratched lenses may provide another hazard from reduced visibility.

The following safety procedures apply:

- Safety goggles or safety glasses with temple shields are to be worn when:
  - Grinding, cutting, milling or drilling with power tools
  - Using impact wrenches and compressed air tools
  - Chipping, scrapping, or scaling paint, rust, carbon or other materials
  - Using punches, chisels, or other impact tools
  - Cutting rivets
  - Cutting or breaking glass
  - Using paint remover
  - Soldering
  - Cleaning dust or dirt from vehicles, machinery, etc.
  - Sand blasting or air cleaning operations
  - Using metal cutting lathes, shapers, drill press, power hack-saw and other metal working tools
  - Steam cleaning
  - Washing vehicle parts with soaps or solvents
  - Working under vehicles
  - Using push and riding type rotary lawn mowers
- A full face shield and safety goggles are to be worn when handling acids, caustics, and other harmful dusts, liquids, or gases.
- A face shield with the proper filter lens, or welders lens, or welder's goggles, is to be worn in all welding and cutting operations.

### **Welding**

- For electric arc welding, a welder's helmet with proper filter lenses is to be worn. During gas welding or cutting operations, welder's goggles with proper filter lenses should be worn.

- Portable welding screens are to be used to protect the eyes of others in the vicinity whenever potential exposure to others exists.
- Helpers and observers are to wear safety glasses, goggles, or hand held shields with the proper filter lenses.

***Your supervisor may also require eye protection on other jobs not listed. But most importantly -- You have but one pair of eyes -- They cannot be replaced -- Protect them!***

### ***Hearing Protection***

In Currituck County, there are some machines or equipment that may produce sound levels in the frequencies which cause hearing loss. When employees are subjected to excessive sound levels, attempts will be made to use engineering controls. If the sound level cannot be reduced within a tolerable range, then personal protective equipment (PPE) will be provided and is to be worn by exposed employees.

Ear protection may consist of earmuffs or earplugs (referred to as hearing protective devices – HPDs). When hearing protection is required due to the noise levels, a choice of hearing protection will be provided at no cost to employees. Hearing protection will be selected to ensure that it will provide a sufficient reduction to noise exposure. Cotton balls will not be used as earplugs since cotton does not offer any protection.

### ***Foot Protection***

Many tasks involve manual lifting or handling of heavy tools and materials. Foot injuries frequently occur when heavy objects are dropped, resulting in bruises, dislocations, fractures or crushes. Shoes and boots, reinforced with steel toes or soles, can help prevent foot injuries from the impact of falling objects, stepping on sharp objects, or exposure to blades of power tools. Protective footwear is available in a variety of attractive styles, and is as comfortable as any pair of properly fitted shoes.

The wearing of sandals or canvas sneakers (tennis shoes) in shop work areas (where the chances of foot injuries are greatest) is prohibited.

Foot protection is a sound investment for any employee -- not only for work activities, but for many off the job tasks as well.

### ***Finger, Palm, and Hand Protection***

One of the most dangerous pieces of jewelry to wear in occupational or industrial work is a ring. Rings need to be removed or not worn to work if there is the slightest chance of getting the ring caught in any hook, tool, or piece of machinery. Rings can cause the loss of a finger or painful

lacerations. In some cases, rings have to be cut off of a finger if they have been bent in such a manner as to cut off circulation.

Gloves with leather palms are to be worn when handling rough edges or abrasive material, or when the work subjects your hands to possible cuts or burns. Rubber gloves may be needed when handling chemicals such as paints, solvents, degreasers, or other irritating products. Latex gloves offer minimal protection from chemicals and should be used cautiously. Before using any type of PPE, refer to the packaging information regarding use, maintenance and cautionary measures.

Washing with soap and water and not gasoline can prevent skin irritation. Good hygiene is important in controlling dermatitis and skin rashes.

### ***Respiratory Protection***

There are many tasks involving exposure to fumes, gases, mists, and dusts that are harmful to the human respiratory system. This is common in spray painting and body shop work that may occur in your public entity.

If you are painting or doing body work, you may be required to wear a respirator while performing these tasks. Several types of respirators are used in repair shops but they all have one thing in common, they are all NIOSH – approved (National Institute for Occupational Safety & Health).

Dust masks may be used during sanding and buffing operations. Where painting and priming are performed, you may be given a cartridge style respirator, or a supplied air respirator. The type of respirator being used depends on the health hazards of the products in use. If you are not sure which respirator to use, be sure to ask your supervisor for instruction and training so that you will be protected.

- Regardless of which respirator you are provided, you need to be fit tested. You should also be shown how to put on the respirator, adjust it, and wear it correctly.
- Know how to clean and inspect the respirators in your work area. Respirators are to be cleaned and inspected frequently. Your cleaning schedule will depend on how often you use this equipment. Your respirator can be cleaned with soap and water, then sanitized with a dilute bleach solution. (2 tablespoons bleach to a gallon of water.) Rinse thoroughly and allow your respirator to dry.
- Store your respirator in a clean, sanitary and convenient location. Many people use a sealable plastic bag for this purpose, and then place the respirator in a locker or on a shelf. Proper storage keeps your respirator clean, and can minimize the chance of contaminants getting on the face piece.

- Most dust masks are disposable. If you have these respirators available when sanding and buffing, be sure both straps are used and that you replace the dust mask routinely.

Respirators are used in shops because in many cases, the spray booths or ventilation cannot remove the airborne paint mist or other chemicals effectively. Because of the health hazards present, you may be instructed to wear respirators in this area. This is for your protection, and you must follow the rules and instructions you have received regarding respirator use.

## ***Hand Tools***

Disabling injuries, such as metal chips from mushroomed chisel heads flying in an eye, do happen. Injuries to fingers and hands are a common occurrence.

The following safety rules apply:

- Select the right tool for the job - it's safer and easier. Do not use a wrench as a hammer or use the wrong size wrench for a job.
- Sharpen the cutting edges of tools and carry them with the sharp edge down.
- Smooth sand the wooden handles of a shovel, rake, maul, etc., thus preventing splinters and burns.



- Check the handle of each tool for tightness.
- Check the head of each tool, such as hammers, chisels, punches, mauls, and have the tool dressed if it is mushroomed (includes burns and chipped edges). All tools, whether public entity property or personally owned, should be maintained in first class condition.
- Wear shatterproof clear goggles or protective eyewear when using chisels, punches, wedges, grinders, drills, wire brushes, etc. Be sure no one is in the area before using such a tool.
- Avoid using metal measuring tapes, fabric tapes containing woven metal strands, rope with wire cord, or other tools and equipment that have conductive properties while around energized electrical circuits or equipment.
- Use only properly insulated tools (screwdrivers, wire cutters, etc.) when working around energized electrical circuits or equipment.
- Return tools to their proper place so that they do not fall from a ledge or are tripped over.
- Remember good housekeeping and store your tools in a toolbox or on a workbench. Do not leave your tools in aisles or walkways. If you use a mobile tool cabinet, use the wheel brakes so that the cabinet will not be moved carelessly into a work area

## ***Power Tools***

### ***Electrical Equipment***

Power tools substantially increase the number and types of hazards an employee must be aware of to operate the equipment safely. Because of the extreme mobility of power tools, they can come in contact with fingers, hands, and other body parts. Hazards can also include electrical shock due to a short circuit, or being struck by chips, shavings, and other debris during operation.

- All electrical tools used must be grounded, by connecting a three-wire cord with a polarized three-prong plug to a properly grounded three-hole receptacle. In some cases, you may also encounter double insulated tools that also provide reliable shock protection, even though they have a two-prong plug. Double insulated tools are permanently marked either by label or symbol.
- If extension cords are used, they must be of the three-conductor type with matching plug and receptacle. This will help ensure proper grounding for those tools that are

not double insulated.

- Visually inspect each electrical tool or machine for damage to cords and ground connections prior to use. The most common defects occur at the points where the cord is attached to the tool or where the cord is attached to the plug.
- Where electrical equipment is used in a wet location, use only low voltage equipment and wear rubber boots and rubber gloves.
- Never operate power tools without the guards provided.

## **Grinders**

- Only those employees who are familiar with the mounting of grinding wheels are permitted to do so. A ring test on each new grinding wheel should be completed before installation. (A ring test is, made by supporting the wheel freely on a rod through the arbor hold and tapping it lightly with a wooden object. A clear, metallic ring indicates an absence of cracks).
- The abrasive wheel must fit easily onto the spindle. Too loose or too tight is dangerous.
- When the wheel is mounted, stand out of danger at one side while you allow it to develop full operating speed for at least one minute. Keep co-workers out of the area while the wheel is being tested.
- Apply work gradually to a cold wheel at the beginning of each grinding task since cold wheels are most subject to breakage.
- Never store a grinding wheel on damp or concrete surfaces, nor put oily rags on the wheel.
- Every grinding tool must be securely fastened to the shaft before commencing work.
- The maximum operating speed as given by the wheel manufacturer is on the wheel label; grinding wheels are not to be operated in excess of these speeds.
- The work-rest must be securely adjusted on all stationary grinders to within 1/8 inch of the wheel.
- Avoid using the side of a wheel for grinding, unless it is especially designed for side grinding. Side grinding weakens the ordinary wheel and may cause it to burst.

- Use the cutting surface of a grinding wheel uniformly, as a grooved wheel has been dangerously weakened.
- Grinder bearings must be kept properly oiled and adjusted. This will help to prevent hot bearings and spindles, which are sometimes responsible for melted bushings.
- Do not abuse the wheel by applying excess pressure.
- Be particularly careful when grinding narrow tools or other objects because they can catch between the rest and the wheel.
- The operator's eyes must be protected with goggles at all times when the machine is in use.

### ***Drill Press***

- Adjust the table so that you have plenty of room for the job and keep your hands away from the revolving drill. Never run the point of the drill into the table.
- Be sure that both the chuck and the drill are tight on the spindle, and that any circular tables are tightened before beginning to drill.
- A sluggish drill is probably the result of incorrect grinding. Be sure the drills are sharpened properly for the particular material, so that the cut may be the right size.
- Materials need to be clamped or fastened to the drill press bed, not held in the hand.
- Never run a drill faster than the rated speed. This may result in broken drills, damaged material and serious injury.
- It is dangerous to attempt the removal of broken drill pieces with a center punch and hammer. For further details see your foreman.
- Never leave the key in the chuck after tightening the drill. If setscrews protrude, report it to your foreman.
- Lower the spindle close to the table before removing the chuck, so that it may not cause any injury or damage to the material as it falls.
- Reduce the pressure if there is any backlash in the spindle. Listen carefully for the distinctive noise made when the drill comes through work so that you can ease off the pressure.

- The safety stop must be set to keep the over arm of a radial drill from swinging out where it may cause an injury.
- Do not wear gloves or loose clothing while operating a drill press.

### ***Lathe Operations***

- Ground lathe tools - so that the chips will break off instead of curl. Only lathe dogs equipped with setscrews are to be used.
- Make sure that all gear and belt guards are in place. This includes backgears and ingears, especially.
- Whenever chucks or faceplates are changed, they must be started on the spindle by hand power. Keep hands off chuck rims when lathe is in motion.
- After adjusting a chuck, be sure to remove the chuck wrench immediately. See that the tailstock tool-holder and material are properly clamped before turning on power.
- For external work, never set the lathe tools below the center of the work being turned.
- Use a brush to remove chips. Do not use compressed air.
- Wear only short sleeves when filing on a lathe. When near the chuck end or head stock, file with right hand over the lathe stock instead of the left hand, holding file in such a position that in case it is forced back, the hand will not be forced against the body.
- The operator's eyes must be protected with goggles at all times when the machine is in use.

### ***Compressed Air***

Do not use compressed air for cleaning purposes except where reduced to less than 30 P.S.I. and then only with effective chip guarding and personal protective equipment. Compressed air is not to be used for personal blow-off at any time.

### ***Woodworking Machinery***

- Machine guards are to be permanently attached.

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- If you are running short of narrow stock, protect your fingers by using a block.
- Before using a circular saw, check all materials for possible warping. If a concave edge is found, always place it away from the straight edge of the table saw.
- If the saw binds in a cut, the saw must be shut off before attempting to dislodge the lumber.
- Do not use a rip saw for cross-cutting, or a cross-cut saw for ripping. A spreader and kickback fingers are required when using a rip saw. A spreader is required when using a cross-cut saw.
- Learn to stand out of the line of a possible "kick-back" and to avoid the danger of being struck by the small pieces that are frequently thrown from a circular saw.
- Never reach over any machine to get finished materials from the opposite side, to remove dust or wood particles from the saw table, or to oil the machine while it is in operation.
- When using a jointer, never allow either hand to pass over the knife. Use both hands, one on each side of the material, using particular care at the start and finish.

## **Gas Welding**

- Keep all gas welding equipment and connections free from gas and oil. (Oxygen will explode upon contact with oil or grease). Oily and greasy gloves may bring about the same effect, besides making it difficult to handle the cylinders.
- Never roll tanks on the floor, nor attempt to carry them by hand or hoist unless properly slung. Cylinders must be securely chained at all times.
- Securely fasten acetylene and oxygen tanks in an upright position with a chain and store them where there is no danger of their falling or being bumped.
- Use a standard green oxygen hose with right hand couplings, together with a red acetylene hose with left-hand thread.
- Blow out the tank valve before attaching the regulator. Never use compressed air for blowing out equipment since air may contain some oil and moisture. Use oxygen to blow out the oxygen hose and acetylene to blow out the acetylene hose.



- When changing empty tanks for full ones:
  - Shut off valve on empty tanks
  - Release thumb screw on regulator
  - Disconnect regulator, blow out tank valve and connect on full tank.
  - Stand on opposite side of tank, point the acetylene valve outlet away from the oxygen tank and face away from the gauge while operating the tank valve.
  - Adjust thumb-screw on regulator to proper pressure, making sure that you do not have excess oxygen, which only causes unnecessary sparks in operation.
- Be sure that the end of your torch is cleaned before attempting to light it. Use only friction lighters.
- Do not put the materials in such a position as to permit sparks, hot metal, or the severed section of metal to fall on the gas supply hose or the feet of an employee.
- At the completion of the work, the welder is to inspect the job site to insure that hot articles have not been left smoldering which might later develop into a serious fire.
- Wear proper goggles and gloves. Employee should wear steel-toed shoes.

### ***Electric Arc Welding***

- Whenever possible, welding operations should be carried on inside a regular welding booth. If work must be performed outside a booth, the arc is to be effectively screened to prevent injury to eyes and others.
- Before entering the welding area, give an effective warning, such as a shout, so that the operator will be aware of your presence and help you to avoid a sudden flash or other injury.
- Like the welding operator, any person entering the welding area is required to wear eye protection.
- The welding of galvanized material requires the operator to be protected with a specially designed airline respirator that fits under the helmet.
- Deposit short ends of welding rods in containers made for that purpose to prevent burning holes in your shoes or starting fires.
- When not in use, place the electric holder where it cannot cause an arc.

- Avoid an injury to yourself from short circuits by using welding cables that are in good condition.
- Only properly authorized operators may use welding equipment. Never attempt to repair welding equipment yourself.
- Use helmets and shields with all electrical welding. Do not remove your helmet while bending over a hot weld.

### ***Lawn Mowers***

- Do not leave power mowers unattended with the motor running.
- Inspect the area to be mowed for foreign objects. Remove wire, stones, bottle caps, sticks, etc., before mowing.
- The operator should warn bystanders about the danger of flying objects. Extreme precaution must also be taken when there are children in the immediate area.
- Always keep your hands and feet away from the undercarriage of the mower. Never reach near the undercarriage to remove jammed materials, sticks, or objects blocking the mower blade.
- After mowing is completed, remove dirt, grass, etc., from the top of the mower; and place mower in dry location under cover.
- Operators of power mowers are to wear steel-toed shoes.
- Power lawn mowers must not be lifted or tilted off the ground while the motor is running.
- When refueling the mower, turn off the mower and allow the engine to cool. Never smoke during refueling operations.

## ***Construction Safety***

### ***Above Ground and Underground Work***

Employees are often involved in tasks related to the construction industry. Heavy machinery is employed for special projects, creating potential hazards to inexperienced or untrained workers. Operators of construction machinery often do not have sufficient visibility to detect danger to nearby workers, or the ability to avoid an accident by quickly reversing the controls. This machinery is designed to handle extremely heavy work. Being struck by, or caught in or between such machinery and its loads, inflicts severe injuries. No bi-directional equipment should be operated without a reverse direction (backup) alarm.

Public utilities are often installed in or near the work site of projects to be completed. Contact with, or damage to utilities may effect the safety of the workers on the job, safety of the general public, or interruption of essential utility services. The following list includes most of the utilities that employees must consider:

- Electric Company
- Water works
- Gas Company
- Storm drains
- Telephone Company
- Traffic signals
- Sewer
- Cable TV
- Street lighting

Daily familiarity with these services may cause even experienced employees to treat them too lightly until a gas explosion, an electrocution, a cave-in, or a loss in vital communication service occurs. Frequent work in a particular area may lead employees to think they are aware of all services in the area. However, the rapidly changing demands by today's society leaves no room for such confidence. Recent changes may have been made. This attitude must be avoided at all times. Safety precautions must be a part of job planning. Overhead lines constitute a hazard that must be considered when operating machinery beneath them. Underground services constitute many hazards when damaged by digging.

The most immediate dangers to workers lie in their contact with electricity and ruptures in gas service. Advance planning can minimize such accidents. Utilities should be located and marked before any digging begins. However, should a digging accident occur, prompt reporting to the utility company is of prime importance. Escaping natural gas constitutes an explosion potential and trained personnel must stop the leak as soon as possible. Contact with a primary electrical circuit constitutes a shock hazard. If rescuers are attempting to remove an injured employee who is still at the point of contact, the reactivation of the circuit poses additional hazards. Prompt reporting to the utility company will reduce the potential of compounding the hazard.

Some of the principal hazards affecting employees and/or the public safety are:

- Digging that results in gas explosion, electrocution, flash burns, etc.
- Rupture of gas, water, and sewer facilities from using mechanical compaction, boring, or digging equipment.
- Electrocution resulting from contact with overhead electrical wires.
- Interruption of electrical service or communication lines from digging, pole collapse, etc.
- Fractures, contusions, crushes, etc., may be caused by being struck by or caught in materials and/or machinery.
- Suffocation, fractures, strains, dislocations, etc., from cave-ins.
- Strains from lifting and material handling tasks.
- Eye injuries from dust and debris propelled by machinery and/or tools.

Construction accidents can be prevented by planning necessary safety precautions into every job, determining the locations of all utilities near the job site, instructing workers regarding the hazards involved in each job, use of approved personal protective clothing and equipment, and adherence to approved safe job procedures.

## ***Safety Procedures***

The following safety procedures should be established:

- Check plans to see which public utility services are located at or near the work area.
- Contact all public utilities having services in the work area to secure assistance in locating, marking, and protecting all underground or overhead services that may be affected.
- Make a personal inspection of the work area to identify what signs, post markers, overhead electrical lines, etc., may be visible and provide this information to all workers.
- Obtain the service and repair telephone numbers of all utilities in the job site area so that if accidental contact should occur it can be reported immediately.

## ***Natural Gas Service***

- All crew members should be informed of locations and depths of buried pipelines.
- Consult the local gas utility of closely paralleling or crossing buried pipelines.
- Specifically instruct equipment operators to avoid contact with buried lines. Hand dig when in close proximity to buried pipelines.
- Be aware of proper compaction procedures when using mechanical compaction equipment after back filling over buried pipelines.
- Do not use drop weight type concrete or frost breakers over buried pipelines.

### **If A Gas Pipeline Is Damaged**

- Immediately call the gas utility service and repair office to report the damage.
- Shut off all motors in the area.
- Remove all flares or lanterns.
- Enforce "No Smoking" in the area.

- Do not cover up a damaged pipeline.
- Do not operate gas valves.
- Check buildings in the immediate area for gas odors.
- Request occupants to leave the area if gas odors are detected.
- Reroute traffic from the immediate area and notify Law Enforcement Officials.
- Stay near the area until relieved by Law Enforcement Officers or gas company officials.

### ***Electrical Transmission Service***

Contact the local electrical power utility if work is to be done near electrical service to locate any buried service.

If excavating near poles or guy wires where the possibility of damage to cables or collapse of a pole line exists, consult the power company.

If excavating beneath buried conduit or cables, arrangements shall be made in advance with the power company concerning maintenance of electrical services, proper support of exposed conduit, and suitable compacting of backfill.

- All wires and conduit shall be considered energized and dangerous.

Booms and protruding parts of construction machinery shall not be operated closer than 10 feet from overhead electrical lines. When construction machinery is operated in close enough proximity to energized lines that a full traverse of the moving parts could result in contact, a signalman shall be provided to direct the operator. Signalmen in those circumstances shall be especially watchful to prevent movement of the machinery any closer than the 10 feet minimum clearance prescribed above.

Workers on the ground handling suspended loads, slings, cables, or in contact with the machine, are in the most hazardous position if contact with energized electrical lines occurs. Ground crews shall be trained and repeatedly warned of the hazard and especially watchful to prevent such contact.

#### **If Machines Contact Energized Wires**

- Immediately contact the power company service and repair office.
- The operator should attempt to swing the boom clear.
- Persons on the rig are usually safe. If it is necessary to leave the rig, jump entirely free, being careful that no part of the body is in contact with the machine and the ground at the same time.
- When jumping clear of energized equipment, aim for dry ground.

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- Once clear of energized equipment, stay clear. Keep all persons,

- employees or public, away from energized equipment.
- If wires are down, post guards to help prevent anyone from touching them.

### ***Telephone Service***

- While telephone circuits operate on low voltage and are not an electrical hazard in themselves, they may be energized with higher voltages when crossed with power lines accidentally at points far removed from the job site. You should consider ALL lines as being hazardous.
- Do not cut or disturb guy wires. Sudden release of tension may cause an entire pole line to collapse.
- Observe the precautions listed for electrical power lines.
- Underground telephone cable is generally buried with a minimum cover of 24 inches. Subsequent grading may have reduced this minimum. Pipe pushers, trenchers, boring tools, air hammers, pins for paving, and curb forms, etc., should not be used until has been determined the depth and location of buried telephone cables and conduit.

### ***Digging and Trenching Operations***

- Approved guards such as cribbing, barricades, warning signals, or flagmen should be in place when workers are engaged in any street excavation or street repair work, or when removing or replacing manhole covers. Warning devices should be placed a sufficient distance ahead of the work to permit vehicles a reasonable stopping distance with due regard for visibility, speed, and volume of traffic. Open manholes should be properly guarded with approved warning devices.
- A signalman should be posted on the surface to assist the machine operator. He should station himself where he can be seen by the operator, outside the range of movement or hazardous area from loads, and warn the operator of the presence of others who may enter that area.
- Manhole covers not provided with lifting devices shall be raised slightly on one edge and slid off the hole. To replace the cover, reverse the procedure.
- All tools, materials, and equipment should be kept at least two (2) feet

from the edge of trenches, curbs, or embankments.

- Shoring or sloping of trenches must commence at a depth of 5 feet. Earth banks more than 5 feet in depth, when not shored or braced, should be sloped to a safe angle. Excavation work should be under the supervision of someone with the necessary experience and authority to modify the shoring and method of excavating as necessary to ensure safety. Excavations less than 5 feet should also be guarded when hazardous ground movement may be expected.
- Workers in an excavation that is properly sloped or shored should not be in danger of being buried by a cave-in. An adequate means of exit, such as ladders or steps, shall be provided and located so as to require no more than twenty-five (25) feet of lateral travel.
- Prevention is the best insurance. Watch the texture of the earth as it is removed. If it is unstable (sand, loose fill, etc.) warn workers to stay away from the edge until the shoring is installed. Workers must not enter the excavation until sloping or shoring is completed.
- Hard hats should be worn at all times by workers in or around excavations, trenches, tunnels, sewers, or other subsurface operations.
- When chains, ropes, cables, slings, etc., are placed under tension, workers and observers should be warned to stay beyond the range of whipping strands in case they should separate due to tension.
- The public should be directed away from hazardous areas and material piles.

### ***Materials Handling Machinery***

- When moving heavy objects with a crane, use proper slings and grips to secure the load.
- When guiding a suspended load into position, always use nonconductive ropes or nylon tag lines to permit maintenance of a safe distance from the drop zone in case the load should fall or come into contact with an electrical service.
- Do not crawl under mobile construction machinery at any time.
- Avoid moving a suspended load above persons on the ground, or above persons working in an excavation.

## ***Aerial Platforms and Baskets***

A public entity may use several types of vehicles equipped with platforms or baskets designed to raise employees who have to work in areas that cannot be reached from the ground. This equipment is used by linemen, tree trimmers, and in various public service maintenance tasks.

The hazards involved are:

- Contact with electrically charged overhead wires.
- Falls.
- Dropping tools and other objects on employees who are working below.
- Being trapped in, on, or between equipment parts.

Extreme care must be exercised while operating this equipment near overhead lines. Aerial platforms or baskets should not be positioned closer than ten (10) feet to overhead lines.

Falls can be prevented by use of adequate and appropriate safety equipment. A raised platform or basket becomes highly unstable when jarred by a collision with the base vehicle, jerky operation, or failure of mechanical controls. A safety line (strong enough to support the weight of the employee) that is secured to the employee and to the boom or platform, will aid in preventing falls.

The equipment used by crews has controls at various locations on the basic machine to operate the outriggers, booms, power takeoffs, etc. There is little standardization, even on equipment of the same general type. Operators should make sure that all persons in the vicinity of this equipment are clear of any moving part before power is applied. The supervisor or lead man in charge of the crew is responsible for ensuring that this precaution is taken and that appropriate warning is given.

The following safety procedures should be established:

- Always lower outriggers before raising the basket. (Most equipment now in use is equipped with an interlock that prevents raising the basket until outriggers are down.)
- Give verbal warning to persons near the vehicle when lowering outriggers if an automatic audible signal is not operative.
- When working aloft in aerial baskets or platforms, a safety line shall be connected to a fitting or harness secured to the platform, basket, or boom, and to a safety belt or harness worn by the employee.

## ***Working in Public Rights-Of-Way***

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Employees are often required to work in or alongside right-of-ways normally used for vehicle or pedestrian traffic to repair utility services, or perform tree trimming or landscaping tasks, and other maintenance activities. It is desirable that, whenever possible, some continued flow of traffic be maintained with the least possible interference with normal traffic patterns. There are two safety considerations involved:

- Protecting employees from being struck by vehicular traffic.
- Protecting the public from hazardous obstructions, excavations, etc., that interrupts the flow of both vehicle and pedestrian traffic.

When road surfaces are being repaired, manholes opened, or excavations dug, it is necessary to post adequate warnings of the hazard; to block off a minimum amount of the right-of-way, consistent with safety requirements; and to efficiently re-route traffic.

If repair work obstructs a traffic lane in a street and thus compresses multiple lanes of traffic into fewer lanes, warning signs and barricades must be set up for motorists, well in advance of the obstruction. If manhole openings and excavations constitute a hazard to pedestrians, adequate barricades must be provided and walkways must be re-routed.

Maintenance activities may include minor interference such as tree trimming, curb site planting, street sweeper operations, trash pick ups, light fixture cleaning, traffic signal repair, etc. Stationary or slow moving vehicles and equipment, as well as work in the normal right-of-way could interfere with normal traffic. For minor construction or maintenance operations requiring fifteen (15) minutes or less, simultaneous flashing of all turn signal lights should be required, augmented by oscillating or rotating lights, or flashing arrow signs mounted on the vehicles. These vehicles should also be equipped with brightly colored markings or reflective markings.

## ***Working in Confined Spaces***

Employees are frequently required to work in confined spaces. OSHA defines a confined space as those work spaces which are adequate in size and configuration to allow employee entry but which are not designed for continuous human occupancy and which have limited or restricted means of entry or exit. Examples are closed storage tanks, storage bins, ductwork, sewers, tunnels, vaults, manholes, valve chambers and even open pits where heavier than air gases may accumulate.

Employees may be tempted to adopt an indifferent attitude in regards to the hazards of confined spaces. It is often particularly difficult to convey the hazards of a potentially deadly atmosphere when an atmospheric hazard cannot be seen or detected by our senses. The records are full of stories about people trapped in confined spaces and overcome by gases, vapors, lack of oxygen, etc. Many of these tragedies were compounded when would be rescuers exposed themselves to the same situation.

The hazards include flammable or explosive gases or vapors, toxic gases or vapors, and not enough oxygen to support life. They can kill with frightening efficiency and lightning speed. Some gases and vapors are colorless, odorless, and tasteless. With some, a very small amount can be dangerous.

When employees enter manholes for sewer repair, cleaning, checking electrical circuits, etc., there may be hazardous gases, or a lack of oxygen present. These hazards may be caused by natural sewer gas decomposition, spills of chemical compounds, or seepage through the ground.

The protection against these hazards involves adequate precautionary measures. Pre-planning, education, and established confined space entry procedures must be established to protect employees from the hazards that can be encountered in a confined space. Air monitoring equipment is available to detect oxygen concentration and the presence of explosive gases or vapors, or other toxic gases. If tests indicate danger, the area should be purged of dangerous atmospheres whenever possible. Whenever it is necessary for a worker to enter a space that is potentially hazardous, appropriate work practices must be followed. OSHA has developed a regulation on confined spaces that requires established entry procedures. It is recommended that all Entities involved in confined space entry develop a permit system and entry procedures to meet OSHA requirements and that these guidelines be strictly followed.

The following safety procedures should be established:

- All supervisors, designated stand-by personnel, and entry personnel should be fully trained on the hazards of confined spaces. Everyone involved should understand each and every entry procedure, and why that procedure is important to their safety. Before an entry occurs, refresher training may be appropriate,

and if special hazards or unusual conditions are present - this training session will provide an opportunity to address all safety requirements.

- Before entering confined spaces, know your permit entry requirements and perform tests to determine oxygen concentration and whether explosive or toxic gases or vapors are present.
- Venting of hazardous atmospheres shall be accomplished before entering whenever possible.
- Maintain adequate ventilation while working.
- When using portable blowers to ventilate, make sure the air intake will not pick up carbon monoxide from the engine. Never use gasoline blowers near confined spaces containing flammable gases unless adequate separation is maintained between confined space and blower.
- Appropriate respiratory equipment (SCBA or airline respirator with escape bottle) should be available for use as necessary. Any employee required to enter a confined space must be instructed about the nature of the hazards involved, the necessary precautions to take, use and care of personal protective equipment, and use of emergency equipment required.
- No employee should enter a manhole, sewer, tank, or other underground confined space without a safety belt or harness and attached lifeline that is tended by another employee at the point of entry.
- Smoking or open flames should be prohibited in any underground operation and in any confined space.
- When opening manholes in streets, use barricades and warning signs with lights at night to protect pedestrian traffic and to alert vehicular traffic to the hazard.
- Never allow exits to be blocked.
- Ladders should be used when entering manholes if there is any question about the safety of manhole steps.
- Only explosion-proof lights and equipment, approved and provided by the Entity, should be used in manholes and sewers.
- No gasoline or diesel motor should be operated in any enclosed place or confined space unless the exhaust is connected to the proper outlet.

When personnel are required to inspect storm sewers and sanitary sewers by walking through them, the following procedures should apply:

- There should always be two manholes opened in front of the inspection area and portable blowers will be used to ventilate the space.
- At least one employee should remain on the surface should rescue activities be needed or entrants need other assistance.
- Employees walking the sewer will only travel as far as the lifeline safely allows before returning to the entry point. The entry point and equipment will then be moved down the line and entry will begin again.
- Each employee will be equipped with an escape (self-rescue) self-contained breathing apparatus and a gas tester.
- Descents over five (5) feet require that a mechanical retrieval device be used along with the lifeline and harness. A standby person or attendant will monitor this rescue equipment.

The above information outlines basic facts you should be aware of if you perform confined space entry. If you have any questions about other confined space entry requirements or need additional details, you should contact your supervisor. OSHA's Permit Required Confined Space Standard, 1910.146, outlines minimum safety standards for entry. The requirements of this standard should be met, and exceeded if possible, to ensure employee safety when performing any type of confined space entry work.

## ***Ladders and Scaffolding***

Electrocution and falls are the two most critical types of injuries resulting from work on ladders and scaffolding. Other hazards include splinters, slivers, and slips resulting in sprains, strains, bruises, and abrasions.

## **Ladders**

The following safety procedures will aid in the prevention of accidents and possible injuries:

- Choose the right ladder for the job. The ladder should be the correct type and length for the job.
- Metal ladders should not be used in the vicinity of electrical circuits. If a ladder could contact energized electrical lines, a ladder with nonconductive side rails should be used.
- Periodically inspect wooden ladders. Wooden ladders shrink over time causing steps or back bar members to become loose. Hold the rods beneath the steps with pliers and tighten the nut at the end with a wrench to maintain strength and steadiness. If rungs or other parts are broken or missing, the ladder should not be used. Remove it from service and mark it so others do not use it.
- Wooden ladders or scaffold planks should not be painted as defects may be covered up by paint. Use a good grade of spar varnish, or a mixture of linseed oil and turpentine to preserve the wood.
- Nonskid feet should be used on all straight and extension ladders.
- Straight ladders form a triangle when placed against walls or objects for climbing. When properly placed, the bottom side of the triangle should be about one-fourth (1/4) as long as the vertical (i.e. if the ladder is leaning eight (8) feet high against a wall, the feet should be set two (2) feet from the wall). Ladders should never be placed against window sashes.
- When ladders are used to access a roof or other landing, the side rails must extend at least three feet above the landing. If this is not possible, then the ladder must be secured, and a grab rail or other device should be used to help workers get on and off the ladder safely.
- If the bottom of a ladder is placed on an unsecured surface, secure the ladder in position by using hooks, ropes, spikes, cleats, or other anti-slip devices, or by stationing an employee at the base of the ladder to hold it in position.
- Employees should never stand on the top step of a stepladder.

Only one person should be on a ladder at a time.

Do not carry tools or materials by hand while climbing ladders. Use a hand line to raise and lower tools and materials, or carry them in a tool belt. Hands must be kept free to grasp the ladder while climbing.

Always face a ladder when ascending or descending.

Clean muddy or slippery shoes before climbing. Keep rungs clean and free from grease and oil.

If it is necessary to place a ladder near a door or where there is potential traffic, set up warning signs and use any other precautionary measures needed to ensure that the ladder will not be struck by anyone or anything.

## **Scaffolding**

Scaffolding is often used to access work areas, and if assembled properly, can be a safe working platform. However, for any scaffold to be safe, certain safety precautions and policies should be followed.

- Supervision is required while employees are erecting scaffolding.
- Scaffolds should meet all safety requirements before any worker climbs it. If the scaffold is damaged or deteriorated, it may be unsafe, and should not be used.
- Scaffolds should be plumb, square, and rigid. This will ensure the most secure and stable work platform. When erecting scaffolding, do not force braces to fit. Adjust and level the scaffolding until the braces fit easily.
- All braces should be fastened securely. Use the proper pins - bent wire or welding rods are not adequate. If additional pins are needed, contact your supervisor.
- Planks and other materials used to build scaffolding must be sound and free from knots. Walk boards should be scaffold grade lumber or manufactured walk boards. Planks should be kept in good condition with a spar varnish. **DO NOT** paint the planks.
- Planks should be adequately cleated. Scaffolding should have toe boards, mid-rails, and hand rails at any level where employees are working. Allow enough overlap in walk boards to ensure they will not slip off. Unsupported ends of walk boards should not extend more than 18 inches beyond the end of the scaffolding.

- Tools on top of the scaffolding are apt to fall and injure someone. Tools should be kept in a bucket or box that has been strapped to the scaffolding. In addition, anyone working below or surrounding the scaffold should wear a hard hat while in the job area.

## ***Motor Vehicles and Mobile Equipment***

Most county vehicles are easily identified and thus constitute a traveling advertisement seen by the public. They have what advertisers call "high exposure." In our relationship with other motorists and pedestrians while driving county vehicles, we control an important influence upon good or bad public relations. By using courteous, considerate driving habits, we can help build good public relations. We must also apply the principles of defensive driving to avoid accidents.

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The following safety procedures apply: (From this point on the term “county vehicle” will include any vehicle rented, leased, owned by the county or an individual used during an authorized work assignment on behalf of the county government)

- All employees are required to complete a safety check periodically on any vehicle they are assigned to drive.
- 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

(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.
- Drivers of county vehicles must possess a valid Drivers License and must be thoroughly familiar with the state and local regulations governing motor vehicle operation. The fact that an employee is operating an emergency vehicle does not absolve him or her from civil or criminal liability for the consequences of wantonly reckless driving. The driver must be in the position to satisfy a jury that reasonable care and prudence was used in operating emergency vehicles. Even though emergency equipment has warning devices, the drivers are expected to PROCEED WITH ALL CAUTION.

- Never take drugs or strong medication before operating a vehicle. Remember that 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. Set brakes and leave vehicle in gear.
  - When trucks or vehicles must be stopped on streets or highways, adequate warning signals must be used.
  - Use a flagman 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 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.

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- 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. Never drive with only parking lights on.
- 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.
- In the event of an accident involving a county owned vehicles, the following procedures apply:
  - Render first aid, if qualified to do so, and arrange for medical help if necessary.
  - Notify Law Enforcement Officials immediately. Unless it is necessary, the vehicle should not be moved until authorized by the investigating officer.
  - In the event the accident takes place outside the County lines and the investigator fails to appear within a reasonable time, exchange names, drivers license numbers and vehicle number with the other person involved. Obtain names and addresses of any witnesses to the accident. Offer no information regarding the responsibility for the accident or what should have been done to avoid the accident.
  - 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.
  - All claims against the county insurance policy are to be forwarded to the insurance carrier.

## ***First Aid***

While emphasis is placed on the prevention of accidents and injuries, accidents do occur. Prompt, knowledgeable treatment of injured employees will, in many cases, prevent minor injuries from becoming major ones.

The following first aid rules should be established:

- First aid cabinets or kits should be maintained in all buildings. First aid kits should also be carried on all vehicles.

First aid supplies are to be checked on a periodic basis.

Designated employees who have received certified First Aid and CPR training for each work site.

Minor medical treatment for cuts, scratches, etc., should be given by the supervisor. Always be sure that open wounds are thoroughly cleansed with soap and water to prevent infection.

- There may be cases when injured employees who need professional medical attention, could be transported to the hospital by car. There may be other cases, however, when injured employees should be transferred by ambulance to a hospital or medical center. If there is any doubt about the mode of transportation, an ambulance should be called. For example, the following conditions would definitely indicate ambulance service:
  - Employee is unconscious or in shock.
  - Hemorrhaging.
  - Severe abdominal cramps and/or vomiting.
  - Any apparent fracture.
  - Other symptoms of internal injury.
- If the need for the Emergency Medical Services or rescue squad should arise, personnel in vehicles equipped with two-way radios may use them to call for assistance.
- All animal bites, because of the possibility of rabies, should receive prompt medical attention by a physician. If someone is bitten, every attempt should be



made to confine the animal.

- All injuries, no matter how minor, are to be reported. The supervisor should complete an accident investigation report form as soon as possible after the incident.

## **New Employee Orientation**

When a new employee comes to work, they immediately begin to learn things and form attitudes about their company, job, boss, and fellow employees. They do so whether or not the employer makes an effort to train them. So that new employees may form good attitudes, it is desirable for the employer to give them the right kind of start.

At the beginning of employment, each employee should know the county's safety policies, but the amount learned during the introduction procedure is limited. Unfamiliarity with surroundings, interest in many matters of seemingly more immediate concern, the detailed procedure of getting on the payroll – all make it difficult for the employee to absorb and retain much safety instruction. It is necessary therefore, to consider what safety information must be first and the best way to present it.

On-the-job training is the most effective method of setting efficient and safe work patterns for employees to follow. Too much emphasis cannot be given to the importance of job training, as too often it is done inadequately. Supervisory performance is directly related to the degree to which knowledge and skill has been acquired by the people who work for a supervisor, permitting them to work with the best possible effectiveness and the least disturbance in work activity. If training is ineffective or incomplete or if instruction is improper, results will show in poor work and accidents. To be effective, job training will include safe procedures – the recognition of and how to avoid hazards – as an integral part of work methods.

Supervisors should be well versed in and apply the following methods of job instruction for all employees.

### **Techniques**

#### ***Get ready before job instruction is started.***

- Break down the job into the important steps of operations stressing the key points, one of which is safety.
- Have proper tools, materials and supplies available.
- Arrange the workplace the way the worker is expected to keep it.

#### ***Prepare the employee to learn.***

- Put the employee at ease.

- Create interesting training procedures.
- Find out what the employee already knows about the job.
- Put the employee in the best position to see and to learn.

***Present the operation.***

- Demonstrate with tools or equipment on the job, giving complete explanation of each step.
- Take important steps or operations one at a time.
- Explain, clearly and completely, and actually show the how and the why of each step or operation.
- Emphasize the hazards and how to avoid accidents.
- Repeat the demonstration as often as necessary.

***Let the employee try.***

- Have the employee do the operation and correct any errors immediately.
- Have the employee repeat the operation and explain, the what or why of each step.
- Question the employee on the hazards of the job and be sure they are understood.
- Have the employee repeat the operation until you are completely satisfied.

***Follow-up.***

- Check back to see if employees need further instruction and encourage them to ask questions.
- Gradually lessen close observation, but let employees know help is available at any time.
- Each employee should completely understand the following in order to have a good foundation in safety training:
  1. Management is sincerely interested in preventing accidents.

2. Accidents may occur, but it is possible to prevent them.
3. Safeguarding equipment and the workplace has to be thoroughly done, and management is willing to go further as needs and methods are discovered.
4. Each employee is expected to report any unsafe conditions that are encountered in the workplace to the supervisor.
5. The supervisor will provide job instructions. No employee is expected to undertake any job until authorized to do so by the supervisor.
6. If an employee suffers an injury, even a slight one, it must be reported to the supervisor immediately.

In addition to these points, any safety rules that are conditions of employment, such as wearing of eye protection or safety hats, etc., should be understood and enforced at once. They should also be told that any flagrant violations of safety rules would result in immediate disciplinary action up to and including discharge.