



City of Pittsburgh
Luke Ravenstahl, Mayor

City of Pittsburgh Safety Manual

This manual is administered through the City of Pittsburgh Safety & Injury Prevention Program
Department of Personnel and Civil Service Commission

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I. INTRODUCTION

As employees of the City of Pittsburgh, regardless of our occupation, we have a responsibility to work toward the success of our City. Injuries to City employees affect that success. Injuries have a very personal effect and that effect can extend to the family of the employee. In addition, injuries place a tremendous drain on our human resources and we all know that the services to the citizens do not get completed without the people to perform the work.

Every director, chief, manager, supervisor, foreman and employee must take individual responsibility to integrate the concept of a safe work place and safe work practices into their day-to-day lives. Each of us must step up to meet the challenges of this day and join together as a team to reduce the human and economic loss caused by injuries.

II. PURPOSE AND SCOPE

This Safety Manual is an essential tool needed to build a Safety and Injury Prevention Program, as it provides knowledge that employees can use to work safely. All of the components of this manual were constructed to help achieve a certain objective. That objective is to **prevent injuries and illness in the workplace.**

The City of Pittsburgh Safety and Injury Prevention Program, the City Safety Policy and the City Safety Manual are designed to promote safe and efficient performance of city services and operations. We believe that injuries are preventable. Therefore, **every employee** must accept individual responsibility for eliminating hazards and unsafe actions in the workplace. When we understand that safe job performance begins with each individual and we perform our duties in ways that minimize our exposure to injury, we all play a part in the success of the city.

This Manual was revised and re-issued with an effective date of June 2013.

Any questions concerning this manual should be directed to the
Department of Personnel - Safety Manager at 412-255-2403.

III. ASSIGNMENT OF RESPONSIBILITIES

A. Department Directors:

- As per the City Safety Policy each director, department head, elected official, or senior manager will place the highest priority in all of their operations upon the safety of their employees and all city residents.
- Each department director shall be responsible for establishing and implementing safe work practices and offer leadership in the area of safety by setting a proper example and encouraging safety.
- Each department director shall ensure that all injuries are investigated to arrive at root cause of the injury and shall be aware of the frequency, severity, cause and cost of injuries occurring within their area of responsibility.
- Each department director shall initiate corrective action for any safety hazard and ensure follow up so that the corrective action is completed.
- Each department director shall ensure that vehicles, equipment, tools and materials used are adequate for the intended purpose and equipped with appropriate safeguards.
- Each department director, with the assistance of the Safety Manager if needed, shall take necessary action to ensure that employees are properly trained to perform assigned tasks safely. This responsibility shall include ensuring that all employees are instructed and understand the use and need for protective equipment for the specific hazards of the job.
- Each department director shall ensure that safety suggestions and written comments from employees are encouraged and that those that are feasible are adopted and those with possible general application are forwarded to the Safety Manager for comments and/or implementation.
- Each department director, in conjunction with the Safety Manager, shall conduct regular work site safety inspections for the purpose of recognizing hazards and eliminating/reducing them before they cause injury.
- Each department director shall delegate some of his/her authority, for controlling conditions that cause human or economic loss, to the supervisors and ensure that said authority is understood.
- Each department director, in conjunction with the Safety Manager, will monitor for continued compliance with the Pennsylvania Worker and Community Right to Know Law.

III. ASSIGNMENT OF RESPONSIBILITIES continued

B. Safety Manager:

- The Safety Manager, in conjunction with the Director of Personnel, will provide overall management control of the Safety Policy and the Safety Manual.
- A primary function of the Safety Manager is to direct the strategy needed to drive change and continuous improvement for safety, health and injury prevention.
- The Safety Manager shall meet regularly with each Department Director or designee to provide information and measures as to the effectiveness of their efforts to prevent injuries.
- The Safety Manager will assist department management with conducting hazard assessments. Assessments are conducted for the purpose of discovering and correcting unsafe conditions or unsafe work practices in order to prevent injuries.

C. Department Management (Managers, Supervisors, Foremen):

- Department Management shall implement and enforce their department safety program.
- Department Management shall demonstrate, by example, that they are safety conscious.
- Department Management shall be responsible for the detection and correction of unsafe acts and unsafe conditions observed during normal working routines.
- Department Management shall be responsible for the initial investigation of injuries occurring within their areas of responsibility.
- Department Management shall be responsible for the training of new employees, the retraining of present employees and the observation of the work routine of all employees subordinate to them.

D. Employees:

- Employees shall take responsibility for their own safety and the safety of their co-workers.
- Employees shall be responsible for complying with the Safety Policy and all safety regulations applicable to their work areas.
- Employees shall wear or use the personal protective equipment (PPE) of the type required, approved, and supplied for the safe performance of their work. Employees shall also be responsible for the proper use, care and maintenance of their PPE.
- Employees shall report, to their department management, conditions that might prove hazardous to themselves, their fellow workers or the public. The City of Pittsburgh Health and Safety Action Needed Report exists for this purpose. (Departments can obtain copies of this form through the Department of Personnel).
- Employees shall report injuries or a “near miss” immediately to their department management.

IV. STANDARDS

- COMPONENTS OF THE SAFETY & INJURY PREVENTION PROGRAM
- BUILDING EVACUATION
- INDUSTRIAL HYGIENE SURVEYS AND INDOOR AIR QUALITY
- VEHICLE SAFETY
- PERSONAL PROTECTIVE EQUIPMENT (PPE)
- CONFINED SPACES
- HOT WORK PERMIT
- OFFICE SAFETY
- HOUSEKEEPING
- WORK ZONE SAFETY
- LIFTING, HANDLING, & STORING MATERIALS
- OPERATIONAL EQUIPMENT SAFETY
- SPILLS or SLICK SURFACES
- MACHINERY and MACHINE GUARDING
- LADDERS
- HAZARD COMMUNICATION (PA WORKER AND COMMUNITY RIGHT TO KNOW ACT)
- FIRE EXTINGUISHERS
- HAND, ELECTRIC, & PNEUMATIC PORTABLE TOOLS
- CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT)
- FALL PROTECTION
- HOW TO REPORT AN INJURY
- INJURY INVESTIGATION
- BLOODBORNE PATHOGENS and INFECTIOUS DISEASE

COMPONENTS OF THE SAFETY & INJURY PREVENTION PROGRAM

1. Injury Investigations

- A. Each department director is responsible for ensuring that all injuries are investigated to arrive at the root cause of the injury and to identify any corrective actions to be taken to improve safety. Each department director will delegate some of his/her responsibility and authority for investigating injuries and controlling conditions that cause human and economic loss, to the supervisors and ensure that said responsibility and authority is understood.
- B. All department directors will work in coordination with the Safety Manager to ensure that his/her supervisors and safety representatives have been trained in root cause analysis and injury investigation.
- C. An injury investigation will be conducted for each work related injury reported by an employee. The investigation results will be documented using the City of Pittsburgh Injury Investigation Form. The form must be submitted to the Safety Office within three days (72 hours) of the injury.

2. Hazard Assessments (health and safety inspections)

- A. All supervisors are to conduct regular hazard assessments within their areas of responsibility and will take corrective action when necessary to remove any hazardous condition discovered by these assessments. Upon completion of a hazard assessment, the supervisor will complete a written report (checklist or summary), place a copy on file and send a copy to the Safety Office. Supervisors are to conduct continuous incidental assessments as they go about their normal work.
- B. Safety Office representatives are to periodically conduct announced or unannounced hazard assessments throughout all city departments. The purpose of the assessment is to identify non-compliance with city safety standards including department specific (policies, procedures, work rules, regulations and practices) or safety legislation and to identify any hazardous situations. A report is to be prepared and submitted to the department director and department safety representative.

3. Safety Observations

- A. All supervisors, on a continuing basis, are to conduct job safety observations of work in progress. The supervisor is to take immediate action to stop any unsafe act or eliminate any hazardous condition that could cause injury.
- B. Representatives of the Safety Office are to conduct announced and unannounced safety observations. The purpose of this activity is to:
Provide direct intervention and safety education on safe work practices and conformance to safety standards (policies, procedures, work rules, regulations and practices). The Safety Office representative upon recognizing unsafe acts or hazardous conditions is to request the supervisor in charge of the job to take corrective action to remove the hazards before continuing the job.

COMPONENTS OF THE SAFETY & INJURY PREVENTION PROGRAM continued

4. Training

All newly hired employees are to receive the proper safety training by their departments for their position. Providing education to employees helps to empower them to take responsibility for their own safety. All city employees must receive training by their department when new equipment or processes are introduced, or when procedures have been revised or updated. Representatives of the Department of Personnel Safety Office are available to assist in coordinating or conducting safety training.

5. Safety Committees

The purpose of safety committees within the city structure is to provide employees an opportunity to become involved and make recommendations that are designed to improve safety and health and to prevent injuries.

There are two types of safety committees within the city structure, a citywide committee and individual department committees. All departments are represented by their designated safety representative in a citywide safety committee. The existence of the citywide committee does not preclude any department from organizing a department safety committee with appropriate representation from management and labor.

General Duties of Safety Committee members:

Promote safety and injury prevention within the department by performing the following functions:

- A. Analyze and solve safety and health issues submitted by fellow employees, supervisors or the Workplace Safety Manager.
- B. Detect hazards, notify supervisor and assist with corrective action.
- C. Assist with the development of safety policies, practices, or guidelines that promote safety and health in the workplace.

6. Employee Safety Suggestions Form

A "Health and Safety Action Needed Report" can be used by all City of Pittsburgh employees who have a concern or suggestion regarding occupational safety. This form, once completed, should be sent to the employee's immediate supervisor. The department supervisor will either send the Safety Office the completed form, which indicates the corrective action taken, or request assistance from the Safety Office in resolving the problem.

Employees may omit their names from the form in order to maintain confidentiality. If the employee feels that sending the form to the department representative may cause a problem, the employee may send the form directly to the Safety Office.

The Health and Safety Action Needed Report does not excuse any city employee from immediately notifying his/her supervisor of a hazardous condition or a corrective suggestion.



CITY OF PITTSBURGH

HEALTH AND SAFETY



ACTION NEEDED REPORT

SUBMITTED BY _____		DATE _____		
A/N# _____				
DESCRIPTION OF PROBLEM/HAZARD				
EFFECTS OR COST OF PROBLEM/HAZARD				
CAUSES OF THE PROBLEM/HAZARD				
SUGGESTED CORRECTIVE ACTION				
INVESTIGATION STAGE				
ASSIGNED TO:	REVIEW / DUE DATE:	REASSIGNED TO:	REVIEW DATES	
RECOMMENDATION:				
CORRECTIVE ACTION / RECOMMENDATION STAGE				
ASSIGNED TO:	REVIEW / DUE DATE:	REASSIGNED TO:	REVIEW DATES	
IMPLEMENT. STEPS	RESPONSIBILITY	PLAN COMP	REVIEW DATE	ACT COMP

BUILDING EVACUATION

A. Introduction

Being prepared for an emergency can save your life. The following guidelines will help you to maintain order and complete a safe evacuation from a building.

B. Requirements

When an evacuation is announced at any city facility all employees must immediately leave the building and go to their designated meeting location. Each department must plan ahead of time to prepare for an emergency.

C. Pre-Planning Elements:

It is critical that each department has their own plans in place ahead of time to minimize confusion and panic during an emergency. Pre-planning elements include the following:

- Designate meeting places that are located at least 100 feet away from the building.
- Employees must know when and how to evacuate and must be aware of primary and secondary exit routes.
- Designate employees to assist individuals with impairments (mobility, visual, mental, hearing) during an evacuation.
- Insure that employees are aware of the location of fire alarm pull stations and fire extinguishers as well as how to operate them.
- Designate employees to search restrooms and private offices as well as other isolated areas during an evacuation.
- Identify the chain of command so that in an emergency confusion will be minimized and employees will have no doubt about who has the authority to make decisions.
- Identify the method of communication that will be used to alert employees that an evacuation or some other action is required as well as how employees can report emergencies (such as manual pull stations, public address systems or telephones).
- Identify the evacuation routes from the building, tornado shelter areas and locations where employees will gather.
- Complete an evacuation drill at least once per year or other as required by City ordinance.

INDUSTRIAL HYGIENE & INDOOR AIR QUALITY

A. Purpose:

This document serves to communicate responsibilities regarding industrial hygiene surveys and indoor air quality. All potential indoor air quality problems are to be reported to your department management. Department management should then report the problem to the Department of Personnel Safety Manager who will address the issue in a timely manner.

B. Requirements:

When a workplace assessment or complaint identifies the potential for exposure to air contaminants, an evaluation by the Safety Manager will be conducted to determine the type of potential exposure and whether monitoring is necessary.

If an employee feels that he or she is being exposed to a contaminant, that employee must report it to his/her supervisor. The supervisor will go through the proper channels of reporting to management. The department supervisor or management will then report the problem to the Department of Personnel Safety Manager. The Safety Manager will follow up on all reports involving occupational illness or potential air contaminants. If necessary, the Safety Manager will utilize any existing contracts for industrial hygiene services. If it is determined that a problem exists, appropriate corrective action will be taken.

VEHICLE SAFETY

A. Introduction

The use and operation of all city-owned vehicles or motorized equipment shall be in a safe and prudent manner to protect the operator, passengers, pedestrians, and property of the city.

Note: *Vehicle* is defined as a motor vehicle that may be licensed for operation on the roadways of Pennsylvania. **Motorized equipment** is defined as construction and maintenance equipment (such as mowers, excavating equipment, bucket loaders and similar vehicles) which generally are not driven or licensed to drive on the roadways.

B. Requirements

License:

All employees that operate city vehicles are to have a current valid Pennsylvania driver's license with the appropriate approval to operate the vehicle.

- All licenses must be carried by any employee who is operating a city vehicle and made available to their department management, for inspection, when requested.
- Commercial driver's license is required as per specific department policy.

Non Commercial License Class Information:

- Class A – Non commercial vehicle with a gross weight rating of 26,001 pounds (lbs.) or more, provided the vehicle begin towed is in excess of 10,000 lbs.
- Class B - Non commercial single vehicle of 26,001 lbs. or more gross vehicle weight rating or any such vehicle towing a trailer not over 10,000 lbs. gross weight.
- Class C - Non commercial single vehicle not over 26,001 lbs. gross vehicle weight rating (passenger car, station wagon, or small truck). Or any such vehicle, except those requiring a motorcycle classification, that does not meet the definition of Class A or Class B.
- Class M – Required to operate a motorcycle or motor-driven cycle.

VEHICLE SAFETY continued

Safe Operation:

- All employees who operate or are passengers in city vehicles are to be knowledgeable about and comply with state and city vehicle laws.
- All employees who operate or are passengers in city vehicles are to wear seat belts (if the vehicle is without seat belts a request is to be made to have seat belts installed).
- No employee is to ride on the exterior of any city vehicle except by specific department policy (using safe work practices).
- While transporting equipment, materials, refuse, etc., it is the operator's responsibility to ensure that the load is secure to prevent shifting or leaking of the load being transported and that the load does not exceed the weight capacity of the vehicle.
- Transportation of chemicals of any kind i.e., compressed gas, gasoline, oil, etc. is to be carried out in compliance with federal, state and city laws. All such materials are to be secured from movement and containers protected from being struck or punctured by other materials in the cargo compartment. When required, placards must be correct and visible.
- When operating city vehicles in areas where the driver's vision is limited (i.e., backing, low or tight clearances, etc.) it is the passengers or crews responsibility to act as ground guide/spotters until the driver has the vehicle in a position to operate safely. It is the responsibility of the ground guides/spotters to place and keep themselves in the vision of the driver during these maneuvers.
- In inclement weather, especially winter, thoroughly clean all windows of snow and ice.
- Employees that are required to use a cell phone to conduct city business are not do so while driving. The driver must stop the vehicle in a safe location in order to use a cell phone. If the phone must be in use while driving the employee must utilize a hands free method. Many studies have proven the risk of distraction resulting in potential bodily injury and property damage.
- Using personal cell phones or text messaging is not permitted while operating city vehicles.
- Smoking is not permitted in city vehicles.
- While operating City of Pittsburgh vehicles or equipment, it is easy to be recognized as a city employee. It is the driver's responsibility to set a good example by operating the vehicle in a safe and cautious manner.

C. Vehicle Safety Checks

As a continuous or daily operator of a city vehicle, it is the driver's responsibility to complete an equipment safety check prior to and after operating the vehicle and if conditions warrant any time during the work shift. This safety check must be completed as per department policy. These inspections will be termed "pre-trip", "post-trip" and "spot" inspections respectively. These inspections may include but not be limited to the following:

- All lights are clean and functioning properly, (i.e., head, tail, backup, turn signals, auxiliary, parking, and clearance).
- All tires are properly inflated.
- All mirrors, windows, and glass are not cracked or physically distorted and that mirrors are securely fastened and properly adjusted. All should be clean.
- Windshield wipers will function and clean the windshield properly.
- The steering system is functioning properly. The exhaust system has no obvious leaks.
- No obvious fluid leaks, (i.e., radiator coolant, engine oil, transmission oil, hydraulic oil, wheel seals).

VEHICLE SAFETY continued

- Vehicles equipped with air brake systems have no audible air leaks and the braking system is in proper working order.
- All on-board safety systems are functioning and in place (i.e., gauges, warning indicators, fire extinguishers, safety chocks and breakdown warning devices).
- No devices that would restrict vision or hearing are to be used when operating a city vehicle (i.e., personal over the ear radios, hoods that restrict peripheral vision, etc.).

D. Training

All operators of city-owned *motorized equipment* shall be required to pass a department developed equipment operations test. This test is administered through the Department of Personnel & Civil Service Exams Division or a departmental representative. This test shall consist of both driving and operating procedures such as braking, stopping, parking, turning, and shall include any other operation which may apply to the specific types of equipment being operated.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

A. Introduction:

There are functions, operations and environments within the city workforce where personal protective equipment (PPE) has been determined to be necessary. PPE is provided to city employees and usually takes the form of hard hats, gloves, coveralls, safety shoes, hearing protection, eye protection and respiratory protection but may also include other types.

B. General Rules for PPE:

All personal protective equipment shall be of safe design and construction for the work to be performed. The employee must meet the following responsibilities when it has been determined that PPE is necessary for the performance the employee's duties:

- Defective or damaged PPE shall not be used.
- Utilize all required PPE when instructed or required to do so.
- Report all failures of PPE to your supervisor immediately.
- Maintain all PPE in a clean sanitary fashion.
- Know the limitations of the prescribed PPE.
- Report to the worksite with the required PPE.
- Contact lenses are not permitted during welding operations or when wearing full-face piece respirators.
- Employees may be held responsible for the replacement (if lost or damaged) of all issued PPE.

PPE will be periodically inspected to ensure cleanliness, adequate maintenance and the ability to protect the employee.

PPE devices alone should not be relied on to control hazards or provide protection against hazards, but should be used in conjunction with guards, engineering controls, and safe operating practices.

PERSONAL PROTECTIVE EQUIPMENT (PPE) continued

C. General Selection of PPE:

The general procedure for selection of protective equipment is to:

- Become familiar with the potential hazards and the type of protective equipment that is available and what it can do (splash protection, impact protection, etc.).
- Select the protective equipment that ensures a level of protection greater than the minimum required to protect employees from the hazards.
- Fit the use with the protective device and give instructions on care and use of the PPE. It is very important that end users be made aware of all warning labels for and limitations of their PPE.

D. Fitting the PPE:

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

E. Training:

Employees will be trained on the proper use and care of PPE where necessary. Appropriate training will include:

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

Each employee shall demonstrate an understanding of the training and the ability to use PPE properly before being allowed to perform work requiring the use of PPE.

F. Specific PPE Requirements:

Eye and Face Protection

Employees shall use appropriate eye or face protection when exposed to hazards from flying particles, liquid chemicals, acids or caustic liquids, chemical gases, vapors or potentially injurious light radiation.

Employees shall use eye protection that provides side protection when there is a hazard from flying objects.

Any employee, who wears prescription lenses while engaged in operations that involve eye hazards, shall wear eye protection that incorporates the prescription in its design, or wear eye protection that can be worn over the prescription lenses without disturbing the proper position of the prescription lenses or the protective lenses.

Eye and face PPE shall be distinctly marked to identify the manufacturer and the ANSI standard Z87.1.

PERSONAL PROTECTIVE EQUIPMENT (PPE) continued

Selection guidelines for eye and face protection:

Source	Hazard	Protection
Impact – Chipping, grinding, machining, masonry work, woodworking, sawing, drilling, chiseling, riveting and sanding, mowing, weed trimming, edging	Flying fragments, objects, large chips, particles, sand, dirt, etc.	Spectacles with side protection, goggles, face shield
Heat – Open flame operation and welding	Hot sparks	Faceshields, spectacles with sideshields. For severe exposures use faceshield
Chemicals – Acid and chemical handling, stripping and degreasing	Splash	Goggles, eyecup and cover types. For severe exposure, use faceshield
Dusts – Woodworking, buffing and general dusty conditions	Nuisance dust	Goggles, eye cup and cover type

Head Protection

Employees must wear head protection when working in areas where there is a potential for injury to the head from falling objects or overhead equipment. All head protection is designed to provide protection from impact and penetration hazards caused by falling objects. Head protection is also available which provides protection from electric shock and burn.

When selecting head protection, knowledge of potential electrical hazards is important:

Selection guidelines for head protection:

Class A Helmet – In addition to impact and penetration resistance, also provides electrical protection from low-voltage conductors (Proof tested to 2,200 volts).

Class B Helmets - In addition to impact and penetration resistance, also provides protection from high-voltage conductors (Proof tested to 20,000 volts).

Class C Helmets - Provide impact and penetration resistance (usually made of aluminum which conducts electricity) and should not be used around electrical hazards.

Some examples where head protection must be worn include: working below other workers who are using tools and materials which could fall; working below machinery or processes which might cause material or objects to fall; and working on exposed energized conductors.

PERSONAL PROTECTIVE EQUIPMENT (PPE) continued

Foot Protection

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

Safety shoes and boots provide both impact and compression protection (safety toe). Where necessary, safety shoes can be obtained which provide puncture protection. Safety shoes or boots with safety toe protection are required within certain worksites of the city as per individual department policy or through individual bargaining agreements. In general, safety shoes shall be utilized when carrying or handling materials such as packages, objects, parts or heavy tools, which could be dropped and for other activities where objects might fall onto the feet.

Hand Protection

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

Each department shall contact the Safety Manager prior to issuing any hand protection for use with chemicals. The selection of hand PPE shall be based on an evaluation of the performance characteristics of the hand protection relative to the task(s) to be performed, conditions present, duration of use, and the hazards and potential hazards identified. Gloves are often relied upon to prevent cuts, abrasions, burns, and skin contact with chemicals that are capable of causing local or systemic effects following dermal exposure. There is no glove that provides protection against all potential hand hazards and commonly available glove materials provide only limited protection against many chemicals. Therefore, it is important to select the most appropriate glove for a particular application and to determine how long it can be worn and whether it can be reused. It is also important to know the performance characteristics of gloves relative to the specific hazard anticipated such as chemical hazards, cut hazards and flame hazards.

Selection guidelines for gloves for protection against chemical hazards:

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

PERSONAL PROTECTIVE EQUIPMENT (PPE) continued

Hearing Protection

It is the policy of the City of Pittsburgh that employees are required to wear hearing protection when potentially exposed to increased noise levels. Appropriate personal hearing protection devices are made available and issued to employees where exposure may exceed 85dBA as measured in a time weighted average of 8 hours. If you are in doubt of noise levels, wear an approved hearing device - either ear plugs or ear muffs and contact the Department of Personnel Safety Manager for consultation.

Respiratory Protection

Toxic materials can enter the body in three ways: through the gastrointestinal tract, through the skin, and through the lungs. Of these three modes the respiratory system presents the quickest and most direct avenue of entry.

City of Pittsburgh employees shall protect themselves by wearing the appropriate class of respirator for the job they are to perform. The most common class of respirator issued by the city is either air purifying or supply air type. Each employee shall follow their individual department policy for the care, use and maintenance of their respiratory protection. All respirators utilized by City of Pittsburgh employees shall be approved by NIOSH. All employees required to wear a respirator through department policy must complete a medical questionnaire. Information on this program can be obtained from the Department of Personnel Safety Manager.

Employees should contact the Department of Personnel Safety Manager with questions regarding the appropriate class of respirator or the appropriate filter to be used.

High-visibility Apparel

City of Pittsburgh employees shall assure they are adequately visible when working within 50 feet of any roadway and whenever there are employees working in the immediate vicinity of operating motorized equipment.

CONFINED SPACES

A. Purpose/ Scope:

This procedure establishes the minimum acceptable requirements for safe entry into a permit required confined space. This procedure applies to all employees who are required to enter a permit required confined space.

B. Responsibilities:

Department Management

- All departments must identify areas that meet the requirements of a permit required confined space. Upon identifying these spaces, the potential hazards must be assessed and the procedures written below must be followed.
- Responsible for providing the resources necessary to ensure compliance within their department with all requirements of this procedure.
- Responsible for ensuring that the requirements of this procedure are followed whenever entry into a permit required confined space is performed.

CONFINED SPACES continued

Authorized Entrant, Attendant, Entry Supervisor

- All employees whose work is regulated by this section are responsible for ensuring that the provisions of this procedure are followed while performing confined space entry operations.
- The entrant, attendant and entry supervisor shall successfully complete the City of Pittsburgh Confined Space Entry training program.
- The entry supervisor is responsible for ensuring that the entry permit is thoroughly and accurately completed prior to entry. The entry supervisor must sign the permit.

Safety Manager

- Will provide technical support and assistance on risk evaluation, monitoring, training, and personal protective equipment review and selection.
- Will provide assistance to departments in identifying permit required confined spaces and posting as required in this procedure.
- Responsible for providing the City of Pittsburgh Confined Space Entry training program.
- Responsible for auditing entry permits for deficiencies and recommending the proper corrective actions for noted deficiencies.

C. Definition of a Confined Space:

A space that:

1. Is large enough and so configured that an employee can bodily enter.
2. Has limited or restricted means for entry and exit.
3. Is not designed to be occupied for extended periods of time.

Examples of confined spaces include tanks, silos, storage bins, hoppers, vaults, pits, furnaces, tunnels, sewers, pipelines, crawl spaces, process vessels, or underground areas. Tasks performed in confined spaces include cleaning, painting, welding, scraping, repairs, and maintenance.

The first step in developing a confined space program is to determine if there are any confined spaces based on the characteristics listed above. Departments should conduct an assessment to determine if any confined spaces exist, and develop site specific procedures. If the confined space identified requires entry by an employee then a written program is needed. Post "Danger" signs and educate employees on the hazards associated with the confined space and keep unauthorized employees out. Warning signs shall be posted on all entrances to permit required confined spaces. Signs marking permit required confined spaces shall include the following:

DANGER - CONFINED SPACE - ENTRY BY PERMIT ONLY

Definition of a Permit Required Confined Space:

A confined space becomes a permit required confined space if it presents or has the potential for any recognized serious hazard as follows:

- Contains or has the potential to contain a hazardous atmosphere.
- Contains a material that has the potential for engulfing a person in the space.
- Has slanting walls or a sloped floor that tapers to a smaller cross section that could trap or asphyxiate the entrant.
- Contains any other recognized serious safety or health hazard.

CONFINED SPACES continued

D. Training:

No employee shall be assigned tasks requiring entry into a permit required confined space or tasks necessary to support confined space entry unless that employee has successfully completed a Confined Space Entry training course.

Training shall be conducted:

- before the employee is first assigned duties of an entrant, attendant, or entry supervisor;
- when there is a change in the assigned duties;
- when there is a change in permit space operations that presents a hazard about which an employee has not previously been trained;
- When the entry supervisor, department management or Safety Office representative has reason to believe that there are deviations from the permit space entry procedures or that there are inadequacies in the employee's knowledge or use of these procedures.

All employees whose work is regulated by this section must be told which work areas are permit required and that entry into such work areas requires an entry permit. All employees whose work is regulated by this section must be trained on the recognition, evaluation and control of hazardous atmospheres in confined spaces. Training must also be provided on how to recognize the hazards that they may encounter, what to do when a hazardous situation arises and how to control the area to gain an acceptable entry condition.

Designated employees will be trained on how to use the monitoring equipment in order to recognize the difference between hazardous and acceptable atmospheres, and have proper training in the care of the equipment.

If necessary, designated employees may be trained on the proper use of a SCBA. Also training will be conducted on the use of communication equipment that may be used between attendants and entrants.

All employees whose work is regulated by this section will be trained on how to properly complete a confined space permit. All information on the permit will be explained so that the employee filling out the permit understands the purpose of the permit.

E. Rescue:

No person shall enter a confined space for rescue unless certified in confined space rescue and equipped with an SCBA and other necessary rescue equipment. Rescue procedures must be developed before hand in case of emergency. Multiple deaths have occurred in confined spaces when unprepared people try to rescue an entrant. When entrants must work in a space more than 5 feet deep, a fall protection and hoist system must be used in case rescue is needed. Each authorized entrant must wear a body harness and be connected to a decent device upon entry into a space 5 feet or more deep.

A supervisor from the department responsible for the entry will place the city's EMS Rescue team on alert of the entry. The city's EMS Rescue team has received all of the appropriate training for confined space entry rescue. Rescue persons must perform a practical exercise involving a rescue from a representative permit required confined space at least annually. All members of the rescue team must practice performing a rescue utilizing the equipment during this practical exercise. All rescue persons must be trained and qualified to perform first aid and CPR.

CONFINED SPACES continued

F. Hazardous Atmospheres:

- Oxygen Deficiency - The percentage of oxygen for entry into a permit required confined space shall be no less than 19.5% nor greater than 23.5%. If the percentage of oxygen is less than 19.5%, entry into a confined space shall be prohibited until ventilating techniques have increased the oxygen level to a minimum of 19.5%.
- Too Much Oxygen: - If tests indicate that the oxygen level is greater than 23.5%, hot work or work that may produce an ignition source are prohibited until ventilating techniques have reduced the oxygen level to no greater than 21%.
- Fire/Explosion hazard: - Smoking, welding, grinding or unapproved electrical equipment could ignite flammable gases in a confined space. Entry into a permit required confined space for any type of work shall be prohibited when tests indicate the concentration of flammable gases in the atmosphere is greater than 10% of the lower explosive limit. (**NOTE**: It is necessary to determine the oxygen level prior to testing the atmosphere for flammability to make necessary corrections in the flammability measurement)
- Toxicity: - Inhaling toxic substances above their exposure limits can cause illness, suffocation or even death. Entry into a permit required confined space for any type of work shall be prohibited when tests indicate the concentration of toxic material in the atmosphere is greater than the published IDLH (Immediately Dangerous to Life & Health) value.

G. Air Testing and Monitoring:

- Entry into a permit required confined space is prohibited until initial testing of the atmosphere has been performed from the outside and the space is safe for entry.
- The tests performed shall be those for **oxygen content, flammability and toxic atmospheres**. Additional tests will be selected and performed to the satisfaction of the authorized person. Frequency of the monitoring shall be determined by the authorized person based on monitoring results, hazards present and operations being performed. Continuous monitoring must be performed if a hazardous atmosphere is detected.
- **Erroneous readings may result if an oxygen deficient condition exists. You must ventilate the area to increase oxygen content.**
- Monitoring of the atmosphere shall be performed in accordance with the permit. Equipment for continuous monitoring of gases and vapors shall be equipped with an audible alarm that will alert employees when a hazardous condition develops.
- Instruments shall be calibrated in accordance with the manufacturer's guidelines and documented on the permit.
- Monitoring must be throughout the entire depth of the confined space. Documentation must reflect testing of at least 4-foot intervals, to ensure that the space does not contain "pockets" of contamination or oxygen deficiency.
- If any detectable concentrations of flammable vapors are present, all electrical equipment shall comply with the requirements of the NEC article 500 (Hazardous Locations).
- Initial testing of the atmosphere must be performed from the outside of the permit required confined space before ventilation begins to determine what precautions are necessary in purging and ventilating. Testing of remote regions within the space can be performed by the use of probes specifically designed for the equipment.
- Where continuous ventilation is not a part of the operating procedure, the atmosphere shall be tested until continuous acceptable levels of oxygen and contaminants are maintained for three tests at 5-minute intervals.

CONFINED SPACES continued

H. Safety Equipment and Clothing:

- The specific personal protective equipment to be used in the permit required confined space must be identified, selected and documented on the entry permit prior to entry.
- Safety equipment that is required to extract an entrant from a permit required confined space include:
 - ⇒ For all entries: a full body harness with "D" rings and an attached lifeline shall be worn at all times. If the exit opening is less than 18 inches (45 cm) in diameter, then a wrist type harness shall be used in addition to the full body harness.
 - ⇒ When performing a vertical entry greater than 5 feet in depth, mechanical means shall be provided for extraction.
 - ⇒ Personal fall arrest systems shall be provided whenever employees are required to work on elevated areas (4 feet or higher) above ground or grade level when other fall protection devices are impractical.

I. Permits:

- Entry permits shall be completed prior to each entry into a permit required confined space.
- ***All items on the permit must be addressed and all deficiencies must be corrected prior to entry.***
- The signature of the entry supervisor indicates that the issues identified on the permit have been addressed and corrected if necessary.
- Entry permits shall be canceled by the entry supervisor at the completion of the operation, after each shift, or in the event of a city wide emergency that would impair the response of the rescue team.
- Entry permits shall be canceled by writing the word "canceled" on the first page of the permit. The permit may only be canceled after the space has been properly closed off or otherwise secured.
- Canceled permits shall be forwarded to the Safety Office, Room 431 – City County Building, within 48 hours of the operation.
- A safety program representative will evaluate the canceled permits for compliance to standards and procedures. All deficiencies noted shall be corrected prior to subsequent entries.

J. Work Practices:

Before entering a permit required confined space, all employees involved in the task shall participate in a safety briefing. The authorized employee assigned as entry supervisor shall conduct this briefing and review the following:

- Specific requirements for safe entry.
- Location of the nearest first aid equipment.
- Location of the nearest telephone.
- Location of the nearest emergency exit.
- Individual responsibilities.
- All hazards associated with entry.
- Acceptable entry conditions (which include):
 - ⇒ Atmospheres containing between 19.5 - 23.5% oxygen.
 - ⇒ Atmospheres less than 10% of the lower explosive limit (LEL).
 - ⇒ Atmospheres containing toxic materials at levels below published exposure limits.

CONFINED SPACES continued

NOTE: The existence of the following conditions will prevent routine confined space entry:

- **Entry into an atmosphere Immediately Dangerous to Life or Health (IDLH).**
- **Entry into an atmosphere > 10% of the lower explosive limit (LEL).**
- **Entry into an atmosphere which contains < 19.5% oxygen or > 23.5% oxygen.**
- **Entry into an atmosphere that contains exposure to a known carcinogen in excess of accepted health and safety standards.**

These prohibitions to confined space entry are not permitted to be circumvented unless:

- Notification of the condition is provided to the Safety Manager.
- The scope of the job or task and the necessity to enter is provided to and reviewed by the Safety Manager.
- Approval for entry is given by the Safety Manager concurrent with the entry supervisor's agreement to follow the procedures specified for safe entry and subsequent work.
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Duties of the Authorized Entrant:

- Know the hazards that may be faced during entry, including signs or symptoms and consequences of the exposure.
- Properly use protective equipment to maintain safe working conditions.
- Communicate with the attendant as necessary to enable the attendant to monitor entrant status and to enable the attendant to alert entrant of the need to evacuate the space, if necessary.
- Alert the attendant if any warning sign or symptom of exposure to a dangerous situation is recognized, or when a prohibited condition is detected.
- Exit from the permit space as quickly as possible if: (1) an order to evacuate is given by the attendant or entry supervisor, (2) the entrant recognizes a warning of a dangerous situation, (4) detects a prohibited condition or (5) the evacuation alarm on the monitoring equipment is activated.

Duties of the Attendant:

- Know the hazards that may be faced during entry, including signs or symptoms and consequences of the exposure.
- Be aware of the possible behavioral effects of hazard exposure to authorized entrants.
- Continuously maintain an accurate count of authorized entrants in the space.
- Remain outside the entry space until relieved by another attendant or the work is completed.
- Communicate with authorized entrants as necessary to monitor entrant status and to alert entrants of the need to evacuate the space.
- Monitor activities inside and outside of the space to determine if it is safe for entrants to remain. Order the entrants to evacuate the space under any of the following conditions: if the attendant detects a prohibited condition, if the attendant detects any behavioral effects in the entrant.
- Summon rescue and other emergency personnel as soon as the attendant determines that the authorized entrant needs additional assistance to escape from the confined space.
- Warn the unauthorized person that they must stay away from the permit space; advise the person that they must exit immediately if they have entered the space inform the authorized entrants and the entry supervisor if unauthorized persons have entered the permit space.

CONFINED SPACES continued

Duties of the Entry Supervisor:

- Know the hazards that may be faced during entry, including signs or symptoms and consequences of the exposure.
- Verify by checking that the appropriate entries have been made on the permit, that all tests specified by the permit have been conducted and that all procedures and necessary equipment specified by the permit are in place before endorsing the permit and allowing the work to begin.
- Verify that all entrants and attendants are knowledgeable of their duties and responsibilities to perform the entry in accordance with this procedure.
- Terminate the entry and cancel the permit when the work on the permit is completed or if a situation arises that is dangerous to the authorized entrant(s).
- Verify that the rescue services are available and that the means for summoning them are operable.

K. Ventilation:

- Atmospheric testing and continuous ventilation must be conducted to ensure the presence and continuance of a safe atmosphere for entrants.
- Ventilation and/or purging may be required prior to entry, during the work being conducted and possibly after the work has been completed.
- Ventilation should be used continuously during entry unless continuous ventilation could increase the risk to the entrants. The method used and frequency of testing must be determined by the entry supervisor based on the results of atmospheric testing, the potential or existing hazards, the work being performed and the internal design of the space.
- During ventilation and/or purging the blower controls, as well as all other ignition sources, must be at a safe distance from the contaminated air if flammable atmospheres are a potential.
- Atmospheric tests shall be made as often as necessary to ensure that a safe atmospheric level is maintained.
- General ventilation may be used (with caution) for distributing contaminants from a local generation point throughout the workspace for maximum dilution. However, special precautions shall be taken to include a method for providing respirable air to each worker in the space.
- Local exhaust ventilation shall be provided when general ventilation is not effective due to restrictions in the confined space or when high concentrations of contaminants occur in the breathing zone of the workers from a single emission source (welding, painting, chemical cleaning).
- Exhaust systems must be positioned in such a manner to protect workers in the surrounding area from contaminated air and/or to prevent a flammable atmosphere from coming in contact with an ignition source.
- If a space contains a flammable atmosphere above 10% of the LEL (Lower Explosive Limit), the space shall be purged with an inert gas prior to ventilation. Air monitoring must be performed outside of the space during purging to ensure that unacceptable levels of contamination are not present as a result of the displacement.

NOTE: Respiratory protection may be needed, in addition to ventilation controls, based on air monitoring analysis.

CONFINED SPACES continued

L. Energy Isolation:

Energy isolation and lockout/tagout procedures will be specific for each permit required confined space entry. The permit required confined space will be completely isolated from all other systems by using one of the following techniques:

- Physical disconnection.
- Blanking off all lines.
- By double block and bleed.

Blanks used to seal off lines shall:

- Be capable of withstanding the maximum working pressure or load of the line (with a minimum safety factor of 4).
- Be provided with a gasket on the pressure side to ensure a leak proof seal if evidence of leaking is present, and be made of a chemically compatible material.
- In addition to blanking, pumps and compressors serving these lines shall be locked out to prevent accidental activation.
- Mechanical isolation of moving parts must be achieved by utilizing a method that will eliminate inadvertent or unexpected activation. Such methods may include disconnecting linkages or removing drive belts or chains.
- Other forms of stored energy (e.g. hydraulic, pneumatic) must also be bled or otherwise isolated to prevent accidental release.
- Shutoff valves serving the permit required confined space shall be locked in the closed position and tagged for identification using the City of Pittsburgh procedure for the Control of Hazardous Energy (Lockout/Tagout).

M. Cleaning Activities:

Procedures and processes used to clean the inside of a permit required confined space shall be reviewed and authorized by the entry supervisor. **All chemicals used in a confined space must be approved by a Safety Program representative and local exhaust ventilation must be used if the agent will contribute to or cause hazardous atmospheric contamination.**

Initial cleaning shall be performed from outside of the confined space if at all possible.

N. Tools and Equipment:

Equipment and tools to be used in a confined space shall be inspected and meet the following requirements:

- Portable electric tools, equipment, and lighting shall be equipped with a ground fault circuit interrupter (GFCI).
- All electrical cords, tools and equipment shall be of heavy duty type construction and inspected for visually detectable defects before use in a confined space.
- All lighting and equipment, used in permit required confined spaces where flammable liquids / gases are present, shall be of explosion proof design (NEC - Article 500). It shall also be approved by Underwriter's Laboratories, (Class 1, Division 1 or Class 1, Division 2), for use in the presence of flammable or potentially flammable atmospheres and, where necessary, be equipped with guards.

CONFINED SPACES continued

- Electric cords shall not hang lighting, unless specifically designed for that purpose. The illumination of the work area shall be sufficient to provide safe work conditions. **Under no circumstances will matches or open flames be used for permit required confined space illumination.**
- Cylinders of compressed gases shall not be taken into confined spaces. Exempt from this rule are cylinders that are part of self-contained breathing apparatus, emergency egress bottles, or resuscitation equipment. Only hose lines and components designed specifically for compressed gas and working pressure shall be used. Such systems shall have a pressure relief valve located outside of the confined space.
- Ladders shall be adequately secured or of a permanent type.
- Scaffolding and staging shall be properly designed to carry maximum expected load (safety factor of 4), shall be equipped with traction type planking, and meet the requirements of 29 CFR 1910.28.
- Communications equipment and/or strategies shall be provided to ensure effective, continuous communication between the entrant and the attendant.
- Barriers shall be provided to ensure protection of the entrant from external hazards.

O. Contractor Work:

City employees contracting out permit required confined space work must ensure that contractors are qualified through training and adhere to the provisions of this procedure or use their own equally effective procedure. Specifically, the city employee contracting the work must:

- Ensure that the contractors follow the provisions of this procedure.
- Inform the contractor that the workplace contains permit spaces and that entry into permit spaces is allowed only through compliance with this procedure.
- Apprise the contractor of the elements, including the hazards identified in the space.
- Apprise the contractor of any precautions that have been implemented for the protection of individuals in or near permit spaces where contract personnel will be working.
- Coordinate entry operations with the contractor when both City and contractor personnel will be working in or near permit spaces.
- Debrief the contractor at the conclusion of entry operations regarding specific hazards confronted during the entire operation.
- Review the specific entry procedure, the equipment/supplies to be used, and the work to be completed with the Safety Manager. Procedures and equipment / supplies must be approved by the Safety Manager prior to entry.

CITY OF PITTSBURGH
CONFINED SPACE ENTRY PERMIT

GENERAL INFORMATION

Space to be entered:	Date:
Permit valid from (date & time) :	Permit valid to (date & time)*
Job Location:	
Purpose of the entry:	
Describe Material in Confined Space:	
Work Planned:	

*No longer than 8 hours

CHECKLIST

Item	yes	n/a	Comments
All gas/liquid lines isolated			
Electrical/pneumatic/hydraulic systems locked-out			
Grounding/bonding cables in place			
Has exposure to toxic materials been identified*			
Ground fault interrupters operational			
Equipment approved for explosive atmosphere			
Ignition sources removed/isolated			
Will hot work be performed and has a hot work permit been completed			
Respiratory equipment and breathing supply operational			
Protective clothing identified and in use			
Safety harnesses/lifelines operational			
Fire suppression equipment available			
Rescue breathing supply available			
Ventilation equipment in use (all entries)			
Special warning/caution signs in use			
Communications available - describe method used			

*specify substances

TESTING RECORD

	Acceptable	results/ time	results/ time	results/ time	results/ time	results/ time
Oxygen level	19.5 - 23%					
Flammability	<10% lel/ffi					
H ₂ S	<10 ppm					
CO	<35 ppm					
Other *	*					
Initials of tester						
Time of test		am pm				

*specify

CONFINED SPACE ENTRY PERMIT

RESPIRATORY EQUIPMENT

SCBA (available for all entries)
air line with egress bottle
full face air-purifying*
half face air purifying*

PERSONAL PROTECTIVE EQUIPMENT

fully encapsulating suit +
chemical protective suit +
work uniform

*specify cartridge type +specify type - Check Permeation Rates & monitor contact time

EYE PROTECTION

chemical splash goggles
face shield
safety glasses

EXTREMITY PROTECTION

hard hat
gloves +
disposable foot coverings +
steel toed/steel shank safety boots

+specify type - Check Permeation Rates & monitor contact time

OTHER PROTECTION

hearing protection
full body harness (for all entries)
life line (for all entries)
communication aids(for all entries)+

EMERGENCY AND RESCUE EQUIPMENT

fire extinguisher #
SCBA #
mechanical extraction +
first aid supplies #

+specify type #specify location

EMERGENCY SERVICES

Agency	Internal #	External #
Police	911	911
Fire	911	911
Hospital	911	
EMS	911	
Safety Office	2403, 2383	412-590-4323 pager
General Services	2330	

Location of nearest telephone	
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PERSONNEL ASSIGNED

Name	Signature	Duties
		Entry leader
		Attendant
		Entrant

Signature indicates that all of the information listed above is accurate and the space is safe for entry

Issued by :	Signature:	Date:
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CITY OF PITTSBURGH
THIS PERMIT IS VALID FOR 8 HOURS ONLY

HOT WORK PERMIT

Introduction:

This procedure establishes the minimum acceptable requirements for the completion of hot work, as defined by OSHA CFR 1910.252, for City of Pittsburgh employees and contractors.

Hot work is defined as any operation that is not part of a fixed process or equipment that requires gas or electric welding, cutting, grinding, brazing or similar spark producing operation. This does not apply to permanent hot work areas; fire safety in these areas is the responsibility of the department supervisor.

Responsibilities:

- The department supervisor is responsible for ensuring that approval for hot work is given by authorized department representative(s) based on the requirements set forth in the Hot Work Permit.
- The department supervisor is responsible for ensuring that only qualified individuals perform hot work.
- The department supervisor is responsible for ensuring that permits are being completed by City of Pittsburgh employees and contractors as required by this procedure.
- The department supervisor is responsible for authorizing all hot work within the areas of his/her responsibility.
- The department supervisor is responsible for monitoring the fire alarm system during hot work.
- The department supervisor or designee is responsible for auditing hot work jobs to ensure compliance with this procedure and standards.
- Any qualified employee that is to conduct hot work is responsible for ensuring that all items listed on the Hot Work Permit have been adequately addressed prior to conducting any hot work operation. This includes the use of appropriate PPE (face, hand and cotton or flame retardant clothing).
- All qualified employees are responsible for reporting any fires immediately to 911.
- The Safety Manager or designee is responsible for training department representatives in the provisions of the hot work program.

Requirements:

- Training will be provided by the Safety Manager or designee on the appropriate use of the Hot Work Permit and all provisions and applications of this procedure.
- The attached Hot Work Permit must be completed by the individual(s) performing the operation and authorized by the department supervisor trained in the provisions of the hot work program.
- A Hot Work Permit must be completed prior to any hot work being performed.
- Permits must be posted in the area of the hot work for the duration of the hot work operation.
- Completed permits must be returned to the Department of Personnel Safety Office after completion of the job.
- Contractors working on site must comply with the requirements of the permit.

**CITY OF PITTSBURGH
HOT WORK PERMIT**

Completed permit must be displayed in the work area

Department/Company: _____

Date authorized: _____ Location of Work: _____

Object to be worked on: _____

Description of work: _____

Can operation be performed outdoors? Yes* No + *Must still complete permit if outdoors.

+consider redirecting operation outdoors

FIRE WATCH (to be maintained for 30 minutes after completion of operation): (circle one answer)

Person Responsible: _____

Fire extinguisher available: Yes

Fire Extinguisher suitable for class of fire: Yes

Type of extinguisher: Class A B C D

Location of extinguisher: _____

Responsible person trained in its use: Yes

Location of nearest alarm: _____

AREA (within 35 feet of operation): (circle one answer)

Floor swept clean of combustibles: Yes No Not Applicable

Combustible materials and flammable liquids removed: Yes No Not Applicable

*if not, are materials covered with flameproof covers: Yes Not Applicable

Floor/wall openings or cracks guarded: Yes No Not Applicable

*if guarding is not possible, this permit extends to areas below/adjacent to operation

Walls/Ceilings free from combustibles: Yes No Not Applicable

LEL measured and less than 10%: Yes No Not Applicable

Conductive heat hazards eliminated: Yes No Not Applicable

EQUIPMENT

Cutting and/or welding equipment in good repair: Yes No Not Applicable

Pipes, vessels, hollow spaces, cavities or containers purged: Yes No Not Applicable

Piping systems blanked or disconnected: Yes No Not Applicable

Equipment free from combustibles: Yes No Not Applicable

Ducts/Conveyor systems shut down to prevent sparks from traveling to distant combustibles:

Yes No Not Applicable

SPECIAL PRECAUTIONS:

Permit expires: Date: _____ Time: _____ (One shift, per work crew)

Person performing work: _____

Signature

Authorization granted: _____

City of Pittsburgh Authorized Representative

Final Inspection: **To be completed by Fire Watch** Date: _____ Time: _____

Conducted By: _____

CAUTION: If sprinkler system exists do not perform Hot Work in areas in which the sprinkler system has been impaired without approval of the Safety Manager.

OFFICE SAFETY

A. Introduction:

An office is like any other work environment in that it may present potential health and safety hazards. Most of these, however, may be minimized or eliminated by designing jobs and work places properly and by taking into account differences among tasks and individuals. Inadequate environmental conditions, such as noise, temperature and humidity may cause temporary discomforts and should be addressed upon recognition.

B. How to Avoid Injury:

The following precautions represent just a cross section of possible ways to reduce hazards present during office activity:

- Every employee should be responsible to see that his/her own desk and work area is **clean and orderly**. Pick up items that may be strewn around.
- Always maintain a **clear path of travel** through walkways and in storage rooms.
- Be aware of tripping hazards such as loose or threadbare floor coverings.
- Be **extra cautious** when you come up to a door that can be opened in your direction. Take care when pushing open such a door.
- Haste when walking around and between desks can result in bruises and falls. Slow down when coming to “blind” corners.
- Keep electrical and computer cords out of aisle ways. Tape them down if necessary or use cord runners to prevent tripping hazards.
- All file, desk and table drawers shall be kept closed when not in use. Never open more than one file drawer at a time.
- **Do not overload** the top drawers of filing cabinets. If unfamiliar with filing cabinets, test the drawers and be careful not to pull them out to full extension. There may not be a locking device on inexpensive or older models. Store heavy items in lower drawers.
- Office tables, desks and chairs must be **maintained in good condition** and free from sharp corners, projecting edges, wobbly legs, etc.
- Tilting chairs can be hazardous when improperly used and care should be taken to assure that they are in good working condition. Do not tilt back in chairs that are not designed for this purpose.
- Never use chairs, desks or other office furniture as a makeshift ladder. When necessary, always use a stepladder. **Don't overreach** or lose your balance.
- Keep the blades of paper cutters closed when not in use. Store in a readily accessible location below waist level. Keep the blade of a utility knife covered.
- Keep hands, ties and dangling jewelry clear of electronic and mechanical equipment.
- Paper cuts can be painful and annoying. Use a sponge or other wetting devices for envelopes. Use rubber finger guards when working with stacks of paper.
- Learn how to operate all office machines correctly and safely. Follow instructions for use.
- Do not pile files, boxes and other materials so high that they can fall. Do not store heavy items on high furniture such as filing cabinets.
- **Clean up any spills**, such as coffee, immediately, especially if the spill is on the floor or on electrical equipment such as copiers or computers.
- When moving office equipment (example: desks and filing cabinets) **ask for help** and/or use a dolly. Keep fingers and toes out of the way to prevent crushing.

OFFICE SAFETY continued

C. Noise:

Noise can be defined very simply as unwanted sound. Whether a sound is classified as noise or not depends mostly on personal preferences. For noise in offices, the most common effects are interference with speech communication, annoyance, and distraction from mental activities. If the task requires a great deal of mental concentration, noise can be detrimental to performance.

Reducing noise

Many unexpected noises cannot be controlled, as when someone accidentally drops something. For many of the annoying sounds in the office environment, the following measures are useful for reducing the effects of noise:

- Select the quietest equipment if possible.
- Properly maintain equipment, such as lubrication and tightening of loose parts that can cause noise.
- Locate loud equipment in areas where its effects are less detrimental.
- Use barriers, walls or dividers to isolate noise sources. Use of acoustically treated materials can absorb noise that might otherwise travel further. Rubber pads to insulate vibrating equipment can also help to reduce noise.
- Enclose equipment, such as printers with acoustical covers on housings.
- Schedule noisy tasks at times when it will have less of an effect on the other employees in the office.

D. Electrical Safety:

Be sure all electrical equipment is grounded and the cord is in good condition. If a machine causes a shock or starts smoking, unplug it if possible and report immediately to your supervisor. When not in use, check that coffee pots and any other heat generating electrical appliances are shut off or unplugged. Electrical appliances must be designed and used in accordance with Underwriters Laboratories (UL) requirements.

Electric cords should be examined on a routine basis for fraying and exposed wiring. Particular attention should be paid to connections behind furniture, since files and bookcases may be pushed tightly against electric outlets, severely bending the cord at the plug.

Use of extension cords:

- Extension cords shall only be used in situations where fixed wiring is not feasible.
- Extension cords shall be kept in good repair, free from defects in their insulation. They will not be kinked, knotted, abraded or cut.
- Extension cords shall be placed so they do not present a tripping or slipping hazard.
- Extension cords shall not be placed through doorways having doors that can be closed and thereby damage the cord.

E. Housekeeping:

Good housekeeping is an important element of injury prevention in offices. Poor housekeeping may lead to fires, injuries to personnel, or unhealthful working conditions.

Passageways in offices must be free and clear of obstructions. Proper layout, spacing and arrangement of equipment, furniture and machinery are essential.

All aisles within the office should be clearly defined and kept free of obstructions.

OFFICE SAFETY continued

Chairs, files, bookcases and desks must be repaired or replaced if they become damaged. Filing cabinet drawers should always be kept closed when not in use. Heavy files should be placed in the bottom file drawers.

Materials stored within supply rooms must be neatly stacked and readily reached by adequate aisles. Care should be taken to stack materials so they will not topple over. Under no circumstances should materials be stacked within 18 inches of ceiling fire sprinkler heads.

Materials shall not be stored so that they project into aisles or passageways in a manner that could cause persons to trip or could hinder emergency evacuation.

F. Computer Workstations:

Complaints concerning musculoskeletal problems are frequently heard from computer operators. Most common are complaints relating to the neck, shoulders, and back. Others concern the arms and hands and occasionally the legs.

Certain common characteristics have been identified and associated with increase risk of musculoskeletal problems while using a computer with monitor. These include:

- Design of workstation.
- Nature of task.
- Repetitiveness of the job.
- Degree of postural constraint.
- Work pace, and work/rest schedules.
- Personal attributes of individual workers.

The key to comfort is in maintaining the body in a relaxed, natural position. The ideal work position is to have the arms hanging relaxed from the shoulders. If a keyboard is used, arms should be bent at right angles at the elbow, with the hands held in a straight line with forearms and elbow close to the body. The head should be in line with the body and slightly forward.

Display Screens – (VDT):

When work is conducted at a computer, the top of the display screen should be at, or just slightly below, eye level. This position allows the eyes to view the screen at a comfortable level, without having to tilt the head or move the back muscles.

Control glare at the source whenever possible; place VDT so that it is parallel to direct sources of light such as windows and overhead lights, and use window treatments if necessary. Keep the screen clean.

Chairs:

The chair is usually the most important piece of furniture that affects user comfort in the office. The chair should be adjusted for comfort, making sure the back is supported and that the seat pan is at a height so that the thighs are horizontal and feet are flat on the floor. An ergonomically sound chair requires four degrees of freedom – seat pan tilt, backrest angle, seat height and backrest height. Operators can then vary the chair adjustments according to the task. In general, chairs that are easily adjustable permit the most flexibility to support an individual's preferred sitting posture.

OFFICE SAFETY continued

Armrests on chairs are recommended for most office work except where they interfere with the task. Intermittently resting arms on armrests is a very effective way to reduce arm discomfort. Armrests should be sufficiently short and low to allow workers to get close enough to their work surfaces.

Working Height:

The work surface height should fit the task. The principle is to place the surface height where the work may be performed in such a manner as to keep arms low and close to the body in relation to the task. If the working height is too high, the shoulders or the upper arms have to be lifted to compensate, which may lead to painful symptoms and cramps at the level of the neck and shoulders. However, if the working height is too low, the back must be excessively bowed, which may cause backache. Generally, work should be done at about elbow height, whether sitting or standing. If you have questions about the correct working height of your workstation please contact the Department of Personnel, Safety Manager for an evaluation.

Work/Rest Schedules:

One solution for stress and fatigue is to design the computer operator's work so that tasks requiring concentrated work at the computer terminal are alternated with non-computer based tasks throughout the day. If continuous work at the computer is a must then a short break to stand up, stretch or change position should be taken at least once each hour to allow muscles to rest.

Other Solutions:

Additional measures that will aid in reducing discomfort while using a computer include:

- Use a soft touch on the keyboard and keep your shoulders, hands and finger relaxed.
- Use a document holder positioned at about the same plane & distance as the screen.
- Rest your eyes by occasionally looking off into the distance.

G. Office Lighting:

Different tasks require different levels of lighting. Areas in which intricate work is performed, for example, require greater illumination than warehouses. Lighting needs vary from time to time and person to person as well. One approach is to use adjustable task lighting that can provide needed illumination without increasing general lighting.

Task lamps are very effective to supplement the general office light levels for those who require or prefer additional light. Some task lamps permit several light levels. Since task lamps are controlled by the individual, they can accommodate personal preferences.

H. Indoor Air Quality:

The topic of indoor air quality and pollutant levels within office environments is very complex. The complexity arises from various factors including:

- Office buildings frequently undergo building renovations such as installation of new carpet, modular office partitions and painting. Offgassing from such things as paints, adhesives, sealants, office furniture, carpeting, and vinyl wall coverings is the source of a variety of irritant compounds.
- In most cases, these chemical contaminants can be measured at levels above ambient (normal background) but far below any existing occupational evaluation criteria.
- Many of the health symptoms that appear are vague and common both to the office and home environment.
- In general, very little data on pollutant levels within office environments is available.

OFFICE SAFETY continued

Guidelines or standards for permissible personal exposure limits to pollutants within office buildings are very limited. If you have concerns about the indoor air quality of your office, contact your supervisor who will contact the Department of Personnel Safety Manager for an evaluation (See page 10 of this manual for more information).

I. Chemical Safety:

All office employees shall participate in maintaining compliance to the Pennsylvania Worker and Community Right to Know Law by attending a training session within their department. Each office employee must be made aware of all hazardous materials they may contact in their work area. A hazard communication program is available, on the intranet and through the Department of Personnel Safety Office (See page 40 of this manual for more information) that includes:

- A written program.
- Material Safety Data Sheets (MSDS) for each hazardous substance used.
- Specific safe handling, use and disposal.
- Employee training.

J. Medical Emergencies:

All City employees are to dial 911 if they need urgent medical assistance.

Please direct comments or questions regarding this office safety document to the Safety Manager.

HOUSEKEEPING

It is the responsibility of all employees to ensure that the work environment is clean, orderly and free from obstruction. This will help to maintain a clear path for the employee to work and for pedestrian travel through the work area and significantly reduce the risk of injury and fire.

Housekeeping Practices:

- Place all trash or unwanted debris in approved trash containers.
- Machinery and equipment must be free of unnecessary material or hangings.
- Stock material must be properly stacked and arranged.
- Place all tools and materials in areas that are secure and out of the way of pedestrian traffic.
- Aisles must be provided to work areas, fire extinguishers and emergency exits.
- Aisles must be free from clutter and debris.
- Surfaces of floors must be safe and suitable to work on (clean, dry, & free from oil and grease).
- Buildings must have adequate lighting and have walls and windows that are reasonably clean for operations and free from unnecessary hangings.
- Stairs must be clean, free from materials, well lighted, provided with adequate hand rails and stair treads and maintained in good condition.

Housekeeping for City Owned and Operated Vehicles:

- Keep all vehicle passenger compartments clean and free of unnecessary articles and debris.
- Keep all loose tools, fire extinguishers, safety equipment, etc. secured at all times while transporting them in passenger compartments or utility compartments.
- Clean up all liquid spills immediately. Use sand or "oil dry" if appropriate. Once absorbed the sand and other absorbent must also be removed from the spill site.

Report all housekeeping issues to your supervisor, as timely reporting can prevent an injury.

WORK ZONE SAFETY

A. Introduction

City employees working on roads and highways work in a unique environment. This environment can consist of hazards related to their specific duties complicated by the movement of a variety of vehicle traffic. Some examples of these operations are: traffic control, forestry activities, solid waste trucks, construction equipment, public works vehicles, fleet maintenance repair vehicles, police, fire and emergency medical services.

B. General Information

Many city employees work in proximity to a variety of work related vehicles and public motor vehicle traffic. Employees working on foot are exposed to the risk of being struck by passing traffic or work equipment if they do not use safe work practices and are not visible to motorists or equipment. Employees may work in conditions of low lighting, low visibility, inclement weather and may have duties in congested areas related to high traffic volume and speeds.

The City of Pittsburgh, with the assistance of all affected employees, will incorporate, to the best of its ability, the following items that NIOSH has identified as measures dealing with work zone injury prevention:

- Work zone layout.
- Use of temporary traffic control devices.
- Motorist education and speed enforcement.
- Flagger duties.
- High-visibility apparel.
- Illumination of the work zone.
- Developing and implementing internal traffic control plans.
- Accountability and coordination at the work site.
- Equipment operation and maintenance.
- Safe equipment operation around workers on foot.
- Worker training.
- Data and recordkeeping.

Many of these issues are just beginning to surface and be identified by governmental groups. The Federal Highway Administration (FHA) has developed a Manual of Uniform Traffic Control Devices (MUTCD) which focuses on the interaction between the road user and the work zone. Other involved governmental agencies include the Occupational Safety and Health Administration (OSHA) and the National Institute for Occupational Safety and Health (NIOSH).

It is imperative that all employees utilize safe work practices and follow all department policies related to work zone safety.

LIFTING, HANDLING, STORING MATERIALS

A. Introduction

Many occupations in the city require employees to manually lift objects of different weight. Whether you lift only occasionally or regularly, using the following guidelines will help prevent a painful and possibly serious back injury.

Take a moment to plan the lift. Size up the object and look at the path of travel that you will take. Make sure that you have a clear path of travel.

Always use mechanical lifting equipment when available and practical.

B. Six Rules to Lift Easily and Safely

1. Feet – Place one foot alongside the object and other behind the object. This gives you stability and thrust.
2. Back – Keep you back straight and use sit down position.
3. Chin – Tuck in your chin so the neck and head continue the straight back line formed by your neck.
4. Palms – Get a good grip on the object. Avoid using only your fingertips.
5. Arms & Elbows – Place the load close to your body with your arms and elbows tucked into the sides of body.
6. Bodyweight – Position yourself so that the weight of your body is centered over your feet.

C. Other Lifting Rules

When an object is heavy, awkward, bulky, or you are in doubt, always get help. Lifting loads that are too heavy by yourself can cause you to experience an injury.

Do not twist your body when lifting an object.

Do not hold loads too far away from your body.

Do not reach over your shoulders to lift and object.

Do not lift an object with your back rounded and your legs straight.

Do not lift an object from an unbalanced position. That is lifting from one knee or lifting over another object.

D. Storing Materials

When stacking objects, make sure the stack is neat, straight and stable.

Do not store heavy or awkward objects on the highest shelf.

Maintain all storage areas in a neat and orderly condition and with a clear aisle for pedestrian travel.

FORKLIFT/ HIGHLIFT/ FRONT LOADER SAFETY

A. Introduction

This section is applicable to all motorized equipment that has the capability to move items. This includes all forklifts, highlifts, front loaders and mobile elevators. All forms of this type of equipment will be referred to as “forklift” in this standard. The use and operation of all of this equipment shall be in a safe and prudent manner to protect the operator, passengers, pedestrians, and property of the City of Pittsburgh.

B. Requirements

Incorrect or careless “forklift” operation can cause serious accidents and even death. Only trained, authorized employees are permitted to operate “forklifts”. Departments with operations requiring the use of “forklifts” must make sure that employees receive detailed training specific to the vehicle used on that particular job before operating it. Training subject matter must include “forklift” types and their differences, uses, designs, limitations, parts and inspection procedures, safe loading, unloading, operation parking and refueling procedures. Employees who are required to use a “forklift” but receive “forklift” training prior to employment with the City of Pittsburgh are required to be re-trained before operating a “forklift” in one of our facilities.

C. Hazards of “forklifts”:

“Forklifts” often steer with the rear wheels and can tip easily. Operators or nearby employees can be injured or killed if a “forklift” tips over, falls off a loading dock, collides with or drops a load on equipment, a vehicle or another person. Other “forklift” hazards include operator injuries caused by jumping on and off a “forklift” and fires by improper refueling or recharging.

D. Safety Guidelines for “forklift” Operations:

- No passengers or riders on the “forklift”.
- “Forklifts” must be inspected – tires, brakes, steering, horn, forks, etc., before use each day or shift.
- The “forklift” operator must wear a seatbelt.
- Horseplay during “forklift” operation is prohibited.
- Keep arms, hands, and legs inside the truck.
- Beware of surface holes, uneven patches and overhead clearances.
- Don’t drive up to a person standing in front of a bench or any fixed object.
- Obey speed limits.
- Drive in the assigned lane or on the right.
- Yield the right of way to pedestrians.
- Sound the horn at intersections.
- Stay at least three truck lengths behind the vehicle in front of you.
- Slow down for turns.
- Stop before going in reverse.
- Don’t pass at intersections or blind spots.
- Under no circumstances is an employee permitted to ride directly on the truck’s forks or in a bucket.

SPILLS or SLICK SURFACES

Slips, trips and falls are the leading cause of injury for City of Pittsburgh employees. Many employees are injured each year because they fall on exterior walking surfaces. Take care when walking on wet surfaces, on snow, or on ice; pay attention and be aware of your footing. Walk slowly, shorten your steps and avoid sudden turns and twists. Plan your route to avoid hazardous areas.

If you cause a spill of a non-hazardous substance protect the area and be responsible for its cleanup. In the event a hazardous substance is spilled, immediately notify your supervisor and comply with the cleanup or evacuation recommendations of the manufacturer of the material.

Be proactive in correcting slip, trip and fall hazards. If you discover an unreported spill protect the area and notify your supervisor. If you see holes or dangerous cracks in a walking surface, contact your supervisor or the Safety Office to attempt to get the situation fixed.

MACHINERY AND MACHINE GUARDING

A. Introduction

The Machine Guarding Program is designed to protect employees from hazards of moving machinery. All hazardous areas of a machine shall be guarded to prevent accidental "caught in" situations.

B. Requirements of Employees

- Inspect the machine prior to use.
- Do not remove machine guards unless equipment is locked and tagged.
- Replace machine guards properly.
- Report machine guard problems to your supervisor immediately.
- Do not operate equipment unless guards are in place and functional.
- Only trained authorized employees may remove machine guards.

C. Definition of Terms

- **Guards:** Barriers that prevent employees from contact with moving portions or parts of exposed machinery or equipment which could cause physical harm to employees.
- **Enclosures:** Mounted physical barriers which prevent access to moving parts of machinery.
- **Point-of-Operation:** The area on a machine or item of equipment, where work is being done and material is positioned for processing or change by the machine.
- **Power Transmission:** Any mechanical parts which transmit energy and motion from a power source to the point-of-operation. Example: Gear and chain drives, cams, shafts, belt and pulley drives and rods. NOTE: Components which are seven feet or less from the floor or working platform shall be guarded.
- **Nip Points:** In-running machine or equipment parts, which rotate towards each other, or where one part rotates toward a stationary object.
- **Shear Points:** the reciprocal (back and forth) movement of a mechanical part past a fixed point on a machine.
- **Reciprocating:** Reciprocating motions are produced by the back and forth movements of certain machine or equipment parts. This motion is hazardous, when exposed, offering pinch or shear points to an employee. A fixed enclosure such as a barrier guard is an effective method against this exposure.

MACHINERY AND MACHINE GUARDING continued

- **Transverse Motions:** Transverse motions are hazardous due to straight line action and in-running nip points. Pinch and shear points also are created with exposed machinery and equipment parts operating between a fixed or other moving object. A fixed or hinged guard enclosure provides protection against this exposure.
- **Cutting Actions:** Cutting action results when rotating, reciprocating, or transverse motion is imparted to a tool so that material being removed is in the form of chips. Exposed points of operation must be guarded to protect the operator from contact with cutting hazards, being caught between the operating parts and from flying particles and sparks.
- **Shearing Action:** The danger of this type of action lies at the point-of-operation where materials are inserted, maintained and withdrawn. Guarding is accomplished through fixed barriers, interlock, remote control placement (two-hand controls), feeding or ejection.

D. Machine Guarding Requirements

- Guards shall be affixed and secured to the machine where possible.
- A guard shall not offer an inherent accident hazard.
- If the employee can move over, under, around or through to make contact with the equipment part and become injured the equipment is not properly guarded.
- The point-of-operation of machines whose operation exposes an employee to injury shall be guarded.
- Revolving drums, barrels and containers shall be guarded by an enclosure that is interlocked with the drive mechanism.
- When the periphery of fan blades is less than seven feet above the floor or working level, the blades shall be guarded with a guard having openings no larger than ½ inch.
- Machines designed for a fixed location shall be securely anchored to prevent walking or moving. Example: drill presses, bench grinders, etc.

E. General Requirements for Machine Guards

- Guards must prevent hands, arms or any part of an employee's body from making contact with hazardous moving parts. A good safeguarding system eliminates the possibility of the operator or other employee from placing parts of their bodies near hazardous moving parts.
- Employees should not be able to easily remove or tamper with guards. Guards and safety devices should be made of durable material that will withstand the conditions of normal use and must be firmly secured to the machine.
- Guards should ensure that no objects can fall into moving parts. An example would be a small tool which is dropped into a cycling machine which could easily become a projectile that could injure others.
- Guard edges should be rolled or bolted in such a way to eliminate sharp or jagged edges.
- Guards should not create interference that would hamper employees from performing their assigned tasks quickly and comfortably.
- Lubrication points and feeds should be placed outside the guarded area to eliminate the need for guard removal.

F. Training

All employees shall be provided training in the hazards of machines and the importance of proper machine guards. Machine safety and machine guarding rules will be thoroughly explained as part of the department specific new hire orientation program and annually as refresher safety training.

LADDERS

A. Introduction

Often the use of ladders is viewed as a simple task. By observing some basic safety techniques you may prevent a fall which could injure or even disable you or a fellow worker.

B. Basic Ladder Safety

- Before using any ladder always check the entire ladder for cracks, breaks, loose nuts and bolts, broken rungs, or other defects.
- Ladders must always be set on firm, level surface prior to use.
- Use both hands while climbing a ladder.
- Ladder manufacturers recommend we use the following safe climbing method:

Left foot up - left hand up - Right foot up right - hand up, and use the same method for climbing down the ladder. Always keep three points of contact on a ladder. This means either 2 hands and 1 foot or 2 feet and one hand.

- Always ascend and descend while facing the ladder.
- Never overextend your reach from the side of the ladder.
- Never throw tools to a person on a ladder or drop tools from the ladder.
- Straight ladders must have a non-slip base consisting of shoes and or spikes on the bottom of the ladder. If these are not available someone should hold the ladder at the bottom and the top must be tied off.
- Do not use a ladder that has been painted. The steps or rungs may become slippery creating a fall hazard.
- Damaged ladders must be repaired to comply with the manufacturer specification. If the ladder cannot be properly repaired to its original specifications it must be destroyed.
- Straight ladders should be placed at an angle where the distance between the bottom of the ladder and the vertical support is one/fourth of the spans.
- When using a ladder in an area containing vehicle or pedestrian traffic always place highly visible traffic control devices and ensure there is a second employee stationed at the foot of the ladder to divert traffic or pedestrian flow.
- All ladders must meet the specifications of the ANSI standard that regulates the type of ladder being used. For example: wood, metal or fixed.

HAZARD COMMUNICATION - PA WORKER & COMMUNITY RIGHT TO KNOW ACT

A. Introduction

This Hazard Communication Program provides detailed employee safety and health information regarding hazardous substances. It contains guidelines and instructions for receipt, use and storage of chemicals and complies with the Pennsylvania Worker and Community Right-to-Know Act.

B. Responsibilities

Department Management:

- Conduct immediate corrective action for deficiencies in relation to this program.
- Make this program available to employees or their designated representative.
- Provide specific chemical safety training for employees.
- Ensure chemicals are received, properly used, stored and labeled in accordance with his program.
- Ensure up-to-date MSDS are readily accessible to all employees on all shifts.

Purchasing:

- Obtain, from the manufacturer, MSDS for chemicals purchased from retail sources.

Department of Personnel – Safety Manager and designee:

- Monitor the effectiveness of the Hazard Communication program.
- Conduct an annual audit of the program.
- Monitor employee training to ensure effectiveness.
- Keep management informed of necessary changes.
- Ensure MSDS are available as required.
- Monitor operations for proper use, storage and labeling of chemicals.

Employees:

- Comply with the chemical safety requirements of this program.
- Report any problems with storage or use of chemicals.
- Immediately report spills of suspected hazardous materials.
- Use only those chemicals for which you have been trained.
- Use chemicals only for specific assigned tasks.

C. General Program Requirements

This Hazard Communication Program (HAZCOM) has been developed based on OSHA, State of Pennsylvania Department of Labor and Industry (DLI) and City of Pittsburgh requirements and consists of the following elements:

- Posting requirements.
- Recordkeeping.
- Identification of hazardous materials: Material Safety Data Sheets, Labeling.
- Employee training.

HAZARD COMMUNICATION - PA WORKER & COMMUNITY RIGHT TO KNOW ACT continued

D. Posting Requirements

The following will be posted in the worksite:

- Pennsylvania Employee Workplace Notice.
- Hazardous Substance Survey Form (HSSF).
- This written program.

E. Recordkeeping

The following are requirements for recordkeeping:

- Medical records including exposure data shall be maintained and kept for 30 years or more.
- Employee access to medical records – Employee can request a copy, in writing, of their medical records and a copy shall be provided within 15 business days.
- Documentation of employee training is obtained for: annual training, new hire training, the introduction of new substances.
- Documentation of training includes: date of the training session, names of employees attending training, name(s) of trainer.

Request for Hazard Communication documentation by governmental agencies or emergency response entities:

- Information and documentation regarding the City of Pittsburgh Hazard Communication Program will be provided to governmental agencies such as the Pennsylvania Department of Labor and Industry or in case of a request by an emergency response organization.

F. Identification of Hazardous Materials

Hazardous materials in the workplace must be identified and inventoried by completing the Hazardous Substance Survey Form (HSSF) (Appendix I) annually. The HSSF also serves as a departmental work list.

Labels

All containers holding hazardous chemicals must be labeled with the identity of the chemical and the appropriate hazard warning. Note: this labeling requirement applies to “secondary containers” (i.e. containers holding materials transferred from labeled manufacturer containers). Labeling is necessary to communicate to the employee the hazard and how to protect themselves. Labeling is necessary in regard to the use of portable containers, storage tanks and piping. Labels for hazardous substances are keyed to the respective MSDS through the chemical or common name.

Material Safety Data Sheets: (MSDS)

A material safety data sheet is an important tool for the employee to use. If the material that the employee is about to use has been determined to have a harmful health or physical effect it will have an MSDS provided with it from the manufacturer. The employee can use the MSDS to gain information on the material that they are about to use in order to use it properly and protect themselves.

- Material safety data sheets (MSDS) are provided for the materials listed on the HSSF.

HAZARD COMMUNICATION - PA WORKER & COMMUNITY RIGHT TO KNOW ACT continued

- MSDS are readily accessible to all employees in their workplace and contain the following information:
 1. Identity of the material as found on the label, including manufacturer's name.
 2. Chemical and common names.
 3. CAS number of each hazardous ingredient.
 4. Physical data.
 5. Fire explosion and reactivity data.
 6. Health hazards (potential health risks).
 7. Potential routes of entry.
 8. Signs and symptoms of exposure- Medical conditions aggravated by exposure.
 9. Mandated or recommended exposure limits.
 10. Carcinogenic ingredients (by OSHA, NTP, or IARC).
 11. Handling precautions.
 12. Personal protective equipment requirements.
 13. Spill/ clean-up procedures.
 14. Control measures (i.e. engineering, administration).
 15. First aid.
 16. Date of MSDS preparation and revision.
 17. Name, address, and emergency phone number of the author of the MSDS.

G. Employee Training

Employees receive annual training, department specific new hire training and training when new materials are introduced into the workplace. New employees are trained within 120 days of hire.

HAZCOM training will include information on the following:

- The content of this Hazard Communication Program and location of the written program.
- Persons and departments responsible for maintaining and providing access to Hazard Communication data and records information.
- Employee rights of access to data and record information. This includes the ability to obtain their medical records upon termination.
- Location(s) of hazardous materials.
- Properties of hazardous materials.
- Chemical and common names of hazardous materials.
- Acute and chronic effects.
- Symptoms arising from exposure.
- Potential for flammability, explosivity and reactivity.
- Appropriate emergency treatment.
- Appropriate personal protective equipment (PPE) and conditions for safe use.
- Emergency procedures for spills, leaks, fires or other accidents.

An evaluation of training will be conducted by competency testing, which where appropriate may be verbal, practical or in writing.

Methods of training include various forms including lectures, audio-visual materials, hands-on, group discussion and walk through.

Section VI—Health Hazard Data

Route(s) of Entry	Inhalation?	Skin?	Ingestion?
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Health Hazards (*Acute and Chronic*)

Carcinogenicity	NTP?	IARC Monographs?	OSHA Regulated?
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Signs and Symptoms of Exposure

Medical Conditions
 Generally Aggravated by Exposure

Emergency and First Aid Procedures

Section VII—Precautions for Safe Handling and Use

Steps to Be Taken in Case Material Is Released or Spilled

Waste Disposal Method

Precautions to Be Taken in Handling and Storing

Other Precautions

Section VII—Control Measures

Respiratory Protection (*Specify Type*)

Ventilation	Local Exhaust	Special
	Mechanical (<i>General</i>)	Other

Protective Gloves	Eye Protection
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Other Protective Clothing or Equipment

Work/Hygienic Practices

FIRE EXTINGUISHERS

Each department will have the appropriate type, size and number of fire extinguishers available on their premises. Employees should become familiar with the location of the fire extinguishers in their work area. The fire extinguishers must be wall mounted in an area of easy access and must be marked in a highly visible manner. Access to extinguishers must be unobstructed at all times.

All fire extinguishers must be inspected annually. It is the responsibility of the individual department to have this inspection completed for extinguishers that are located within their work area. The Department of Public Works – Facilities Maintenance is responsible for all extinguishing devices located in the hallways of the City County Building. Other buildings and departments must concur with the City-County Co-op contract for Fire Extinguishers, Spec #6632 (expires 7/31/13) delineating *ABCO Fire Prevention* as the city's resource in regard to fire extinguisher inspection.

ABCO Fire Prevention
412-373-7730

HAND, ELECTRIC AND PNEUMATIC PORTABLE TOOLS

A. Introduction

Hand and power tools are a common part of our everyday lives and are present in many city departments. These tools help us to easily perform tasks that otherwise would be difficult or impossible. However, these tools can be hazardous and have the potential for causing severe injury when used or maintained improperly. Special attention toward hand and power tool safety is necessary in order to reduce or eliminate these hazards.

B. General Safety Precautions

Five basic safety rules can help prevent hazards associated with the use of hand and power tools:

- Keep all tools in good condition with regular maintenance.
- Use the right tool for the job.
- Inspect tools for safe condition prior to use and do not use damaged tools.
- Operate all tools in accordance with the manufacturer's instructions.
- Most tools require the use of personal protective equipment (PPE). Ensure that you and employees nearby don the correct PPE for the job and tools being used.

Other Safety Precautions:

- Review the job for potential safety hazards and utilize appropriate precautions.
- Do not remove safety guards or operate tools without safety guards.
- Protect all tools from unnecessary damage especially during use and when stored.
- Utilize safe work practices to protect all employees working nearby.
- Any tool that is damaged or malfunctioning is to be immediately tagged and removed from service. Report all unsafe tools to your supervisor immediately.
- Tools shall be inspected at regular intervals and be repaired in accordance with the manufacturer's specifications.
- Compressed air shall not be used for cleaning purposes except where pressure is reduced to 30 psi and only when appropriate equipment, such as glasses with side shields are used.
- Employees who use hand and power tools and who are exposed to the resulting hazards such as particulates, mists, or vapors must utilize the respective personal protective equipment.

HAND, ELECTRIC AND PNEUMATIC PORTABLE TOOLS continued

C. Hand Tools

Hand tools are tools that are powered manually. They include anything from axes to wrenches. The greatest hazards posed by hand tools result from misuse and improper maintenance.

Some examples:

- Using a screwdriver as a chisel may cause the tip of the screwdriver to break and fly, hitting the user or other employees.
- If a wooden handle on a tool such as a hammer or an axe is loose, splintered, or cracked, the head of the tool may fly off and strike the user or other employees.
- A wrench must not be used if its jaws are sprung, because it might slip.
- Impact tools such as chisels, wedges, or drift pins are unsafe if they have mushroomed heads. The heads might shatter on impact, sending sharp fragments flying.

Appropriate personal protective equipment, e.g., safety goggles, face shields, gloves, etc., should be worn due to hazards that may be encountered while using portable power tools and hand tools.

Floors shall be kept as clean and dry as possible to prevent accidental slips with or around hand tools.

Sparks produced by iron and steel hand tools can be a dangerous ignition source around flammable substances. Where this hazard exists, spark-resistant tools made from brass, plastic, aluminum, or wood will provide for safety.

D. Power Tools

Power tools can be hazardous when improperly used. There are several types of power tools, based on the power source they use: electric, pneumatic, liquid fuel, hydraulic, and powder actuated.

The following general precautions should be observed when operating a power tool:

- Never carry a tool by the cord or hose.
- Never disconnect it from the receptacle by abruptly pulling on the cord.
- Keep cords and hoses away from heat, oil, and sharp edges.
- Disconnect tools when not in use, before servicing and when changing accessories such as blades, bits and cutters.
- Those employees observing the work should be kept at a safe distance away from the work area.
- Secure work with clamps or a vise, freeing both hands to operate the tool.
- Avoid accidental starting. Do not hold a finger on the switch button while carrying a tool that is plugged in.
- Tools should be maintained with care. They should be kept sharp and clean for the best performance. Follow instructions in the user's manual for lubricating and changing accessories.
- Always keep good footing & maintain good balance while operating a powered hand tool.
- The proper apparel should be worn. Loose clothing, ties, or jewelry can become caught in moving parts.
- All portable electric tools that are damaged shall be removed from use and tagged "Do Not Use".

HAND, ELECTRIC AND PNEUMATIC PORTABLE TOOLS continued

E. Guards

Hazardous moving parts of a power tool need to be safeguarded. For example, belts, gears, shafts, pulleys, sprockets, spindles, drums, fly wheels, chains, or other reciprocating, rotating, or moving parts of equipment must be guarded.

Machine Guards, as necessary, must be provided to protect the operator and others from the following:

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

Safety guards must never be removed when a tool is being used. For example, portable circular saws must be equipped with guards. An upper guard must cover the entire blade of the saw. A retractable lower guard must cover the teeth of the saw, except when it makes contact with the work material. The lower guard must automatically return to the veering position when the tool is withdrawn from the work.

F. Electric Tools

Employees using electric tools must be aware of several hazards. Electrical shocks, which can lead to injuries such as heart failure and burns are among the major hazards associated with electrical powered tools. An electrical shock can also cause the user to fall off a ladder or other elevated work surface and be injured due to the fall.

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

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

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

G. Powered Abrasive Wheel Tools

Powered abrasive grinding, cutting, polishing, and wire buffing wheels create special safety problems because they may throw off flying fragments.

Before an abrasive wheel is mounted, it should be inspected closely and sound or ring tested to be sure that it is free from cracks or defects. To test, wheels should be tapped gently with a light non-metallic instrument. If they sound cracked or dead, they could fly apart in operation and so they must not be used. A sound and undamaged wheel will give a clear metallic tone or "ring".

HAND, ELECTRIC AND PNEUMATIC PORTABLE TOOLS continued

To prevent the wheel from cracking, the user should be sure it fits freely on the spindle. The spindle nut must be tightened enough to hold the wheel in place, without distorting the flange. Follow the manufacturer's recommendations. Care must be taken to assure that the spindle wheel will not exceed the abrasive wheel specifications.

Due to the possibility of a wheel disintegrating (exploding) during start-up, the employee should never stand directly in front of the wheel as it accelerates to full operating speed.

Portable grinding tools need to be equipped with safety guards to protect workers not only from the moving wheel surface, but also from flying fragments in case of breakage.

Power grinder safety precautions:

- Always use eye protection.
- Turn off the power when not in use.
- Never clamp a hand-held grinder in a vise.
- Never use a cutting wheel (1/8 inch or thinner) for grinding.

H. Pneumatic Tools

Pneumatic tools are powered by compressed air and include chippers, drills, hammers and sanders. There are several dangers encountered in the use of pneumatic tools. The main one is the danger of getting hit by one of the tool's attachments or by some kind of fastener being used with the tool. Eye protection is required and face protection is recommended for employees working with pneumatic tools. Working with noisy tools, such as jackhammers, requires proper, effective use of hearing protection.

When using pneumatic tools, employees are to check to see that they are fastened securely to the hose to prevent them from becoming disconnected. A short wire or positive locking device attaching the air hose to the tool must be used and will serve as an added safeguard.

A safety clip or retainer must be installed to prevent attachments, such as chisels on a chipping hammer, from being unintentionally shot from the barrel.

Screens must be set up to protect any nearby workers from being struck by flying fragments around chipper, riveting guns, staplers, or air drills.

Compressed air guns should never be pointed toward anyone. Users should never "dead-end" it against themselves or anyone else.

I. Liquid Fuel Tool

Fuel powered tools are usually operated with gasoline. The most serious hazard associated with the use of fuel powered tools comes from fuel vapors that can burn or explode and also give off dangerous exhaust fumes. The employee must be careful to handle, transport and store gas or fuel only in approved flammable liquid containers, according to proper procedures for flammable liquids. **SMOKING IS NOT PERMITTED when using or refueling these types of tools.**

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

HAND, ELECTRIC AND PNEUMATIC PORTABLE TOOLS continued

J. Powder-Actuated Tools

Powder-actuated tools operate like a loaded gun and should be treated with the same respect and precautions. In fact, they are so dangerous that only specially trained employees must operate them.

Powder-Actuated Tool Safety:

- These tools should not be used in an explosive or flammable atmosphere.
- Before using the tool, the worker should inspect it to determine that it is clean, that all moving parts operate freely, and that the barrel is free from obstructions.
- The tool should never be pointed at anybody.
- The tool should not be loaded unless it is to be used immediately. A loaded tool should not be left unattended, especially where it would be available to unauthorized persons.
- Hands should be kept clear of the barrel end. To prevent the tool from firing accidentally, two separate motions are required for firing: one to bring the tool into position, and another to pull the trigger. The tools must not be able to operate until they are pressed against the work surface with a force of at least five pounds greater than the total weight of the tool.
- Suitable eye and face protection is essential when using a powder-actuated tool.
- If a powder-actuated tool misfires, the employee should wait at least 30 seconds, and then try firing it again. If it still will not fire, the user should wait another 30 seconds so that the faulty cartridge is less likely to explode, and then carefully remove the load. The defective cartridge should be put in water.
- The muzzle end of the tool must have a protective shield or guard centered perpendicularly on the barrel to confine any flying fragments or particles that might otherwise create a hazard when the tool is fired. The tool must be designed so that it will not fire unless it has this kind of safety device.
- All powder-actuated tools must be designed for varying powder charges so that the user can select a powder level necessary to do the work without excessive force.
- If the tool develops a defect during use it should be tagged and taken out of service immediately until it is properly repaired.

Powder-Actuated Tool Fasteners

When using powder-actuated tools to apply fasteners, there are some precautions to consider. Fasteners must not be fired into material that would let them pass through to the other side. The fastener must not be driven into materials like brick or concrete any closer than 3 inches to an edge or corner. In steel, the fastener must not come any closer than one-half inch from a corner or edge. Fasteners must not be driven into very hard or brittle materials that might chip or splatter, or make the fastener ricochet. An alignment guide must be used when shooting a fastener into an existing hole. A fastener must not be driven into a spalled area caused by an unsatisfactory fastening.

K. Hydraulic Power Tools

The fluid used in hydraulic power tools must be an approved fire-resistant fluid and must retain its operating characteristics at the most extreme temperatures to which it will be exposed. The manufacturer's recommended safe operating pressure for hoses, valves, pipes, filters, and other fittings must not be exceeded.

HAND, ELECTRIC AND PNEUMATIC PORTABLE TOOLS continued

L. Jacks

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

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

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

Proper maintenance of jacks is essential for safety. All jacks must be inspected before each use and lubricated regularly. If a jack is subjected to an abnormal load or shock, it should be thoroughly examined to make sure it has not been damaged.

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

CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT)

A. Introduction

This procedure establishes the minimum acceptable requirements for the lockout and tagout of machinery and equipment. The purpose is to protect all employees during machine and equipment servicing and maintenance where the unexpected start up or release of stored energy could occur and cause injury.

B. Responsibilities

Department Management

- Responsible for ensuring that this procedure and the equipment specific lockout/tagout procedures are adhered to, without deviation, whenever applicable.
- Responsible for providing the resources necessary (including equipment specific procedures, training, equipment, etc.) to comply with this procedure.
- Determine the employee(s) who are authorized to engage in lockout/ tagout procedures. Only those employees will be permitted to utilize lockout/ tagout equipment after they have been properly trained.
- Ensure that lockout/ tagout requirements are followed when individuals are exposed to unexpected energization or start up including:
 - ⇒ Guards or safety devices are removed from equipment.
 - ⇒ Servicing equipment or machinery.
 - ⇒ An employee must place a body part where it may be caught by moving machinery.
 - ⇒ Contact with any form of energy is possible (including electrical, hydraulic, pneumatic, chemical, etc.).
 - ⇒ Confined space entries are performed.
- Ensure that employees use only color coded locks and approved tags provided for the purpose of locking and tagging out equipment.

CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT) continued

Safety Manager

- Responsible for reviewing all equipment specific lockout/ tagout procedures to ensure that they contain all required elements.
- Perform routine audits on authorized employees who are performing lockout/ tagout to ensure compliance with the procedures & training required by the energy control program.
- Ensure that affected employees have been informed of basic hazards and the requirements to become authorized persons.
- Provide lockout/ tagout training for employees.
- Responsible for tracking, organizing, and keeping accurate files on all lockout/ tagout training conducted.

Employees

- All employees whose work is regulated by this section must comply with the established procedures on controlling hazardous energy sources. (Note: only authorized employees are permitted to perform energy isolation activities)
- Responsible for the equipment issued to them such as locks, lock devices, keys, and tags.
- An employee shall not attempt to operate any switch, valve, or other energy isolating device when it is locked out or tagged out.
- Employees working in the area of machinery or equipment affected by this policy but not authorized to utilize lockout/ tagout procedures will be responsible for notifying their immediate supervisor of any situation requiring lockout/ tagout.

C. Definitions

- Authorized Employee – A person who locks out machines or equipment in order to perform servicing or maintenance on that machine or equipment. An affected employee becomes an authorized employee when that employee's duties include performing servicing or maintenance that exposes him/her to potentially hazardous energy.
- Affected Employee – an employee whose job requires him/her to operate or use a machine or equipment or work in an area in which servicing or maintenance is being performed under lockout.
- Energy isolating device – a mechanical device that physically prevents the transmission or release of energy.

D. Requirements

Equipment specific lockout/ tagout procedures must be followed during the following situations or in the presence of the following conditions:

- Prior to any activity with a potential for release of hazardous energy in which an individual may be exposed. (Ex. Repair, adjustment, cleaning, disassembly, or lubrication activities)
- A piece of equipment has been found to be unsafe to operate and its use could cause injury due to the defect.
- Entry into a confined space where energized equipment or systems may endanger the safety of the worker(s). (Note: marked permit required confined spaces shall not be entered without receiving the Confined Space Entry training program and following the Confined Space Entry procedures)
- Installation or removal of equipment in which the unexpected energization or start up may endanger individual(s).

CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT) continued

Equipment Specific Procedures:

- Energy control procedures must be developed for each piece of equipment that utilizes energy sources other than plug and pull. Equipment specific procedures must be available within each work area for use by all authorized employees. The equipment specific procedure must follow the format as described in Appendix A of this procedure.

Equipment:

The following equipment will be available, through the department in order to effectively utilize lockout/ tagout procedures.

- Locks with one key only, for the individual responsible for the application of a lock. All spare keys for lockout/ tagout will be discarded. All locks utilized for lockout/ tagout will be red in color.
- Multiple lock hasps will be utilized when lockout procedures require multiple lock application.
- Warning tags are to accompany the placement of each lock. Every lock or multiple lock clasps must be accompanied by an identification tag. The tag will not be removed except by the employee who placed it on the machine or equipment at the completion of the work requiring the lockout procedure.
- Breaker lockout devices will be available for all different breaker styles.
- Valve lockout devices will be available for all different styles of valves.
- Equipment to cut or break chain, locks, or hasps (lock cutters, hack saws, etc.) must be available if any emergency required the removal of a lockout device and the key is not available.

Preparation for Shutdown:

- In preparation for lockout, an initial survey must be made to locate and identify all energy isolating devices, to be certain which switch, valve or other energy isolating devices apply to the equipment to be locked out. More than one energy source may be involved.
- Before an authorized employee turns off a machine or piece of equipment, the authorized employee must have knowledge of the type and magnitude of the energy to be controlled and the methods or means to control the energy.
- Notify employees verbally, (and in writing if applicable), in the area that a lockout will be used as well as where and when it will be applied.

Machine or Equipment Shutdown and Isolation:

- All affected employees shall be notified that a lockout system is going to be utilized and the reason for it, before the locks are applied.
- If the machine or equipment is operating - shut it down by the normal stopping procedure.
- Physically locate and operate the switch, valve or other energy isolating devices so that the equipment is isolated from its energy sources and apply adequate hardware.

CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT) continued

Lockout/Tagout Application:

- Refer to the Equipment Specific Lockout/ Tagout procedure for that piece of equipment.
- Inspect the equipment and identify all isolating devices. Determine which switch, valve, or energy isolating device controls each energy source.
- De-energize (achieve a zero energy state) and lockout all equipment and systems relating to the potential release of hazardous energy.
 1. Shut off all electrical power at the source. Safely release stored energy in inductive or capacitive circuits.
 2. Place a lock and tag on the control for the energy source. The device or equipment must accept a locking device. Note: the lock may need to be placed on a supplied lockout device (valve corner, breaker control, chain, etc.)
 3. Place a tag on the lock with the following identification:
 - The name of the person who placed it.
 - The date the tag was affixed.
 4. Bleed off all hydraulic/ pneumatic pressure and turn off all supply valves.
 5. Lower or block any moving or suspended parts to prevent its travel or cycling.
 6. Shut off all fuel, water, steam, or other chemical feed lines.
 7. Perform a lockout effectiveness check to ensure de-energization by testing the equipment. Ensure that no one can be injured by start-up before testing.

Note: If more than one employee will be working on the equipment, each employee must be in control of each energy source by affixing their own lock on a multiple lock hasp or by utilizing an employee lock box.

8. The employee attaching the lock/tag will carry the only available key to the affixed lock.
9. When equipment or machinery is to be restored to normal operations, check the area around the machines or equipment to insure that no one is exposed.
10. Inform all affected persons that the lockout devices will be removed. Include the time in which the equipment will be re-energized.
11. After all equipment and employees are clear, remove all lockout and tagout equipment. Operate the energy isolating devices to restore energy to the machine or equipment.
12. The lock(s) and tag(s) are to be removed by reversing the steps. Only the individual(s) who placed the devices in service are permitted to take them out of service.

Contractors:

- Outside contractors must be informed of the City of Pittsburgh lockout/tagout program if they will be working in the area where lockout/ tagout applies. The contractor must comply with the provisions of the city lockout/ tagout program or have a program that provides equal protection.
- Contractors will be responsible for identifying and supplying any required equipment needed to comply with the city lockout/ tagout program.

CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT) continued

Multiple Lock Requirements:

- If more than one employee is required to lockout equipment, each employee will place his or her lock on the energy isolating device(s).
- When an energy-isolating device cannot accept multiple locks, a multiple lock hasp or lockout box is to be used.
- If a single lock is used in place of a multiple lock hasp, the key is to be placed in a lockout box or cabinet that allows the use of multiple locks to secure it.
- Each employee will then use their personal lock to secure the box or cabinet and will remove their lock in the reverse order when it is permitted to take them out of service.

Removal of locks by others:

- If the employee who placed the lock or tag is not available to remove it, the lock may only be removed by the supervisor, foreman or department manager after all attempts to contact the employee have been exhausted or with the employee's approval.
- The procedure for removal of the device must provide equivalent protection as would removal of the device by the employee who attached it.
- The supervisor, foreman or department manager must verify that the employee who attached the device is not in the facility. After the lock has been removed, the employee who originally placed the lock must be advised, prior to starting the next shift or when that employee returns to work, that the lock has been removed.

Testing or Positioning Machines and Equipment:

In situations where lockout tagout devices need to be temporarily removed from the energy isolating devices and the machine or equipment needs to be energized to test or position that machine or equipment, the following sequence of procedures must be followed:

1. Clear the machine or equipment of tools and other nonessential materials.
2. Remove employees from the machine or equipment area.
3. Remove locks and tags.
4. Energize and proceed with testing or positioning.
5. De-energize all systems.
6. Re-apply energy control measures.
7. Proceed as with any other lockout/ tagout procedures.

De-energization Involving Multiple Shifts:

If de-energization involves multiple shifts, a "pass down" of energy isolation must be performed as follows:

1. Authorized employee(s) on the current shift shall inform authorized employee(s) on the succeeding shifts on which equipment has been isolated.
2. The current shift authorized employee(s) shall ensure that all personnel are clear from exposure to the release of hazardous energy.
3. The current shift's authorized employee(s) shall remove their lock(s) and tag(s) from the energy isolating device(s).
4. Immediately after the removal, the succeeding shift shall isolate the energy to the equipment by following the equipment specific lockout/ tagout procedure.

CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT) continued

E. Training

Authorized employees must be trained in the following:

- Recognition of hazardous energy sources
- Types and magnitude of hazardous energy in the workplace
- Methods, devices and procedures used to lockout, verify lockout and otherwise control hazardous energy on all pieces or types of equipment (including plug and pull equipment)
- Procedures for removing locks and returning a machine or piece of equipment to operation.
- Transfer of lockout responsibilities.
- Group lockout procedures.

Affected employees must be trained in the following:

- Recognize when energy control procedures are being implemented and
- Understand the purpose of the procedures and the importance of not attempting to start up or use the machine/equipment that has been locked out.

- All training must be documented. The Department of Personnel Safety Office will maintain all documentation.

F. Annual Audit

- At least annually, the equipment specific procedures for each department will be audited by a department supervisor.
- The department supervisor will conduct random inspections as a part of the department hazard assessment, to ensure the completion of equipment specific lockout/ tagout procedures.
- The audit will ensure that the provisions of this procedure cover the requirements set forth by the OSHA standard (1910.147) for controlling hazardous energy sources.
- This audit will be completed by reviewing the equipment specific procedure. The inspection will ensure that all energy sources are accounted for and properly controlled for each piece of equipment. In addition the department supervisor's inspection of this program will ensure that training has been conducted for all affected and authorized employees
- The department supervisor will certify this audit in writing. The department supervisor will certify the inspection on the attached audit form (Appendix B). If changes to any procedure are warranted, the change(s) should be noted under the comments section of the audit form. The audit form shall then be stored within the department and a copy sent to the Department of Personnel Safety Office.

LOCKOUT/TAGOUT (LO/TO) EQUIPMENT SPECIFIC PROCEDURE FORMAT (Total Shutdown)

Purpose: This procedure establishes the minimum requirements for the lockout and tagout of energy isolating devices in order to achieve the total shutdown of the equipment described below.

Scope: Applies to *insert machine or equipment this document refers to. Be specific.*

Procedural Responsibility: Only individuals certified as Authorized persons in Lockout/Tagout Training of this equipment are permitted to perform activities required by this procedure.

Safety Considerations:

- 1) Only individuals certified in Lockout/Tagout Training of this equipment are permitted to perform activities required by this procedure.
- 2) Additional PPE
- 3) Sources of Energy

ENERGY SOURCE / TYPE	MEANS OF ISOLATION
1.	•
2.	•
3.	•

Details of Procedure:

A. Tools, Material, and Equipment Required: (Provide a specific list).

B. Lockout Tagout for Total Shutdown

Step	Actions
1.	Prepare for Shutdown.
2.	Notify affected personnel.
3.	Shutdown Equipment.

C. Lockout Effectiveness Check

WARNING

- If the equipment can be activated, **STOP!!** Contact the area supervisor immediately. Do not proceed until the problem is corrected.
- Verify that equipment will not operate by:
 - If any electrical work is to be done, verify with a voltmeter that all input power phases are at zero potential.

D. Removal of Locks and Tags for Start-Up

Step	Actions
1.	Remove all non-essential tools, material or parts from the immediate area of the equipment.
2.	Verify that all guards and safety devices have been reinstalled and the machine is in safe operating condition.
3.	Notify all affected and related authorized personnel that the equipment will no longer be in a Lockout/Tagout condition
4.	
5.	

- Document any necessary follow up

LO/TO AUDIT FORM

LO/TO AUDIT FORM		
DATE: _____		
LO/TO PROCEDURE: _____		
AREA/EQUIPMENT: _____		
AUDITOR(S)	PERSONNEL AUDITED	DEPT.
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
RETRAINING REQUIRED? YES <input type="checkbox"/> NO <input type="checkbox"/>		
RETRAIN WHOM? _____		
RETRAIN FOR WHAT REASON? _____		
RETRAIN FOR WHAT REASON? _____		
AUDITOR'S COMMENTS:		
RETURN COMPLETED AUDIT FORMS TO THE SAFETY OFFICE (Room 431-CCB)		

FALL PROTECTION

A. Introduction

The purpose of this fall protection procedure is to prevent employees from falling off, onto, or through working levels and to protect employees from being struck by falling objects. This procedure applies to all City of Pittsburgh employees, contractors, and visitors.

B. Responsibilities

Department Management

- Responsible for insuring that this procedure is implemented and adhered to, without deviation, whenever applicable.
- Responsible for providing the resources necessary (including training, equipment, etc.) to comply with this procedure.
- Ensure that affected employees are aware of the provisions of this procedure and are trained prior to assignment to tasks affected by this procedure.
- Responsible for the identification of fall hazards and activities requiring fall protection within the department.
- Enforce the use and selection of proper fall protection equipment whenever required.
- Responsible for continual observational safety checks of work operations and the enforcement of this safety procedure.

Safety Manager

- Assist management and employees with instructions on the requirements of fall protection.
- Ensure that affected employees have been informed of relevant hazards and specified procedures during training sessions.
- Assist the department to arrange initial fall protection training for new employees as necessary.

Employees

- Responsible to bring to the attention of management any unsafe or hazardous conditions or acts that may cause injury to either themselves or any other employees.
- Comply with the established procedures to prevent falls.
- An employee shall not attempt to perform any work activity that involves the potential for falling without addressing these procedures.

Contractors

- Outside contractors must be informed of this fall protection procedure if they will be working in an area where fall protection is required as detailed in this plan.
- Contractors will be responsible for identifying and supplying any required equipment needed to comply with this fall protection procedure.

FALL PROTECTION

C. Requirements

Fall Protection Procedure:

This Fall Protection Procedure addresses the use of conventional fall protection and identifies the following specific activities that require such fall protection. Work activities where fall protection is needed include – (fall protection must be appropriate to the application):

- Requirement for Working on Aerial Lifts - all working surfaces on lifts are to have standard railings on all open sides AND all occupants tied off at all times as detailed in this procedure, “Personal Fall Protection Systems”. The area immediately beneath the working aerial lift is to be demarcated and labeled “caution men working above” and designated as a hard hat area while inside the marked area.
- Requirement for Unprotected Sides - Every working/walking area with unprotected sides six or more feet above adjacent floor or ground level shall be guarded by a standard rail consisting of a top rail, intermediate rail, and posts. A standard rail shall have a vertical height of 42 inches from the upper surface of the top rail to the working/walking surface. The top rail shall be smooth surfaced, rigid, and be of strength to withstand at least 200 pounds of top rail pressure. The intermediate rail shall be approximately halfway between the top rail and the working/walking surface. Posts or railing anchors shall be constructed to withstand a load of at least 200 pounds applied in any direction. Railings shall be provided with a toeboard whenever; 1) a person can pass beneath the open sides, 2) there is moving machinery or, 3) there is equipment with which falling materials could create a hazard. Toeboards shall be 4 inches in vertical height from its top edge to the level of the working/walking surface. Toeboards shall be secured with not more than ¼ inch clearance above the working/walking surface. Where standard railings are not practical Personal Fall Protection Systems must be used as detailed in this procedure.
- Stairs having four or more risers shall be equipped with standard stair railing or standard handrails with a vertical height of not more than 34 inches but not less than 30 inches from the upper surface of the top rail to the surface of the tread in line with the face of the riser at the forward edge of the tread. Standard hand railing shall be provided on at least one side of closed stairways and on the open sides of all exposed stairways and stair platforms. Runways shall be guarded by a standard railing on all open sides four feet or more above floor or ground level. All scaffolds are to be equipped with standard railings on all open sides four feet or more above floor or ground level.
- Requirement for Floor Openings - all working surfaces including ladderways, floor openings, hatchways and chute floor openings, pits and trap door floor openings, wall openings, manhole floor opening, and every floor hole into which a person can accidentally walk shall be guarded with a standard railing constructed as detailed in the “Requirement for Unprotected Sides” or guarded with a cover of standard strength. For accessing manholes and floor hatches, a perimeter barrier six feet around the opening is required and must be maintained. Every opening six or more feet above adjacent floor or ground level shall be guarded by a standard rail or equivalent on all open sides. Railings shall be provided with a toeboard whenever, beneath the open sides, a person can pass, there is moving machinery or there is equipment with which falling materials could create a hazard.

FALL PROTECTION continued

- Requirement for Roof Edges - A control zone must be established where access is limited to 6 feet from the edge of all roof edges. If activity involves working within this six foot control zone then Personal Fall Protection Systems must be used as detailed in this procedure.

D. Hazard Identification

- It is the responsibility of the individual using fall protection equipment to know how to properly use the equipment and tools prior to working with such equipment.
- Work areas should be kept clear and free from obstructions, and good housekeeping and safe work practices should be followed. Factors such as slippery surfaces, poor lighting, electrical hazards, and moving mechanical parts shall be considered and addressed prior to commencing work.
- Employees are required to wear personal fall protection when working at unprotected heights of 6 feet or more, when another fall protection system is not provided. It should be noted that falls from lower levels can be just as dangerous as high level falls.

E. Engineering Controls

- Engineering methods or controls shall be used to eliminate a specific fall hazard. Controls such as guardrails, scaffolds, and aerial platforms are considered to be an effective means of protection from falling.
- When engineering controls are not feasible or do not safely eliminate or control the hazard, other forms of fall protection must be used.

F. Personal Fall Protection Systems

- Personal fall arrest systems are passive systems that prevent a worker from falling onto another level. The basic fall arrest system required for City of Pittsburgh employees includes anchorage, shock absorbing lanyard, and a full body harness.
- Anchorage is a secure point of attachment for a fall arrest system and must be independent from the means supporting or suspending a worker. Anchorage must be able to support a weight of at least 5000 pounds for each worker attached. The anchorage should be located at a height that reduces free fall 6 feet or less. The anchorage should also be located so that if a free fall occurs, an attached worker will not collide with it or contact any lower level hazard.
- A lanyard connects the body harness to a deceleration device, lifeline or anchorage. Lanyards are short flexible lines with connectors at each end made of rope, high tensile strength webbing, or steel cable. Lanyards and lifelines must have a minimum breaking strength of 5000 pounds. A lanyard needs to be attached to the anchorage point in a way that does not reduce its strength. This must be done with a locking snap-hook or D-ring. A locking snap-hook or D-ring has a positive locking mechanism and a spring loaded keeper that does not allow the keeper to open under pressure without someone first releasing the mechanism. Two snap-hooks or D-rings shall not be attached together.
- A full body harness is made of straps secured around the thighs, pelvis, waist, chest and shoulders. The full body harness is attached to a lanyard or lifeline at the D-ring in the center of the back near shoulder level or above the head. In a fall arrest, a full body harness distributes the impact throughout the body, putting less stress on the body and permitting better circulation. A full body harness also keeps the body suspended upright while waiting for a rescue. Body belts do not offer these advantages and shall not be used as a personal fall protection system.

FALL PROTECTION continued

Tie-off procedures - The tie-off point to a lifeline or anchorage should be at or above the D-ring on the back of the workers full body harness. This will reduce the free fall distance. Tie-off is the act of connecting, directly or indirectly, to an anchorage point. A tie-off using a knot in the lanyard or lifeline at any location can drastically reduce the strength of the line and is not permitted. A tie-off around "H" or "I" beams can also reduce the strength of the line. A webbing lanyard or wire cord lifeline should be used around beams to protect the lanyard or lifeline from the sharp edges of the beam. A lanyard must be utilized where a free fall distance must not exceed 6 feet. Deceleration distance during a fall must not exceed 3.5 feet

Other fall protection devices may include:

- Vertical Lifelines - If used must have a separate line for each worker.
- Horizontal Lifeline - If used must be installed and used under the supervision of a trained and qualified person.
- Self-Retracting Lifeline - If used must have a separate retractor for each user.
- Before using a personal fall protection system, the user shall know the limits of the equipment, know proper anchoring and tie-off techniques, know the methods of use, and know proper equipment inspection and storage.

G. Inspection

- Fall protection devices must be inspected before and after each use. Harnesses, belts and lanyards shall be examined for mildew, wear, damage, and deterioration. Anchor points, snap rings, D-rings, scaffolding, and guardrails shall be inspected for damage that could affect their efficiency. Defective or damaged parts must be taken out of service immediately, tagged and management personnel notified.
- Personal fall protection systems that have been used to arrest a fall must not be used again unless they are inspected by a qualified person who determines that they are undamaged and able to be reused. Equipment shall be stored in a clean area away from strong sunlight and extreme temperatures which could degrade the materials.

H. Training

- Initial fall protection training will be conducted for all City of Pittsburgh employees who must perform work requiring the use of fall protection. Police, Fire and EMS receive the appropriate training through their specific state or nationally certified curriculum.
- A representative of the Department of Personnel Safety Office is available to assist department management in arranging for training on the use of personal fall protection systems. This informal training is a requirement prior to anyone using a fall protection device and will include: equipment requirements, inspection procedures, proper storage, proper anchorage and tie-off procedures, and limits of equipment.

HOW TO REPORT AN INJURY

All work related injuries or illnesses must be reported to your immediate supervisor and 1-800-633-1197 within 24 hours of the occurrence. In addition, incidents of a “near miss” nature must be reported to your immediate supervisor within 48 hours of the incident.

A. Steps to Report an Injury:

- If you are in a life threatening emergency situation, you should immediately seek medical treatment. Arrangements should be made to notify UPMC WorkPartners at **1-800-633-1197** and your supervisor as soon as possible.
- If the injury is not life threatening, report the injury to your supervisor and immediately call **1-800-633-1197** to report the work-related injury.

B. Medical Treatment:

- If your work related injury is not life threatening you must seek medical treatment with one of the designated panel providers. If you do not utilize the medical providers listed on the panel provider list you may be responsible for payment of any treatment.
- Within 24 hours of your report of injury, an employee of UPMC WorkPartners will contact you to ask a few questions to begin processing your claim. UPMC will inquire about your condition to be sure that you are receiving medical treatment as necessary.
- UPMC WorkPartners will also finish setting up your claim, complete the state Employer’s Report of Injury form and send a copy of this form to your home and union office if applicable.
- UPMC WorkPartners will also contact your supervisor within 24 hours to advise him/her that you have reported a work-related injury. Your supervisor will be asked to provide additional information about the injury.

C. Forms to Complete:

- Report your injury and work status to your supervisor as soon as possible and complete the Workman’s Compensation forms that discuss the City of Pittsburgh program.
- Your supervisor will also direct you to complete a City of Pittsburgh Work Injury Report Form for your specific department. Return the copies as per the instructions on the bottom of the report form.
- You must also complete any forms that are specifically required by your department.
- Your department is required to investigate the injury and complete an Incident Investigation Form. This form is to be completed by the department manager, supervisor or foreman.

INJURY INVESTIGATION

A. Purpose

Supervisors must investigate all injuries and near miss incidents involving employees of the City of Pittsburgh. All investigations will be conducted to find the “root” cause. Based on the “root” cause analysis, corrective actions and will be established to aid in injury reduction.

Injury and incident investigations shall be used to find facts. Because of the importance in finding facts all investigations and associated paper work shall be completed and submitted within 72 hours of the injury or incident. All injuries and near misses shall be investigated thoroughly.

Department management will assign the responsibility of conducting the injury investigation to department supervisors, foreman or department safety representatives. The names of those responsible for completing the injury investigation shall be clearly communicated. It is the discretion of the Safety Office to conduct a formal injury investigation.

B. Definitions

Near Miss: unplanned event that does not result in injury but may result in property damage.

“Root” Cause: single event or events that caused the injury or property damage.

C. Requirements

1. Reporting Injuries

- Any time a work related injury occurs, the city employee is required to report the injury immediately to their supervisor, and to UPMC WorkPartners by calling **1-800-633-1197**.
- Upon appropriate treatment, the employee will then complete a City of Pittsburgh Work Injury Report form.

2. Reporting Near Miss Incidents

- Near miss incidents shall be reported to the department supervisor within 24 hours of the occurrence. If necessary a Health and Safety Action Needed Report shall be completed and a copy submitted to the supervisor and the Department of Personnel Safety Office.

3. Injury and Near Miss Investigation

- Conduct the investigation within 24 hours of the incident occurring. Whenever possible speak with the person or persons involved.
- Study and determine “root” causes of the injury or incident.
- Develop corrective actions, assign responsible persons and due dates.
- Follow up to ensure corrective actions have been completed.
- Complete Incident Investigation form and return to the Department of Personnel Safety Office within 72 hours.

City of Pittsburgh Injury Investigation Form

(Sections 1, 2, & 3 to be completed by person conducting investigation)

SECTION 1

Name of Injured: _____ Employee Number: _____

Dept./Location where injury occurred: _____ Job Assigned: _____

SECTION 2

Date of Incident: _____ Time of Incident: _____ Type of Injury: _____

Date/Time reported: _____ To Whom: _____

Specific Location of Incident: _____

Supervisor at Time of Incident: _____

SECTION 3

Describe how incident occurred (list events leading up to the incident)

List causal factors (events and conditions contributing to the incident)

CORRECTIVE ACTIONS (To be completed by Direct Supervisor)

Action Required	Responsible Party	Date Due
_____	_____	_____
_____	_____	_____
_____	_____	_____

Investigated by: _____ Title: _____

Department: _____ Date: _____

Signature of Department Manager _____

*Complete all information above and Return to the Safety Office within 72 hrs of the Injury.

Follow-up, as necessary, completed by the Safety and Injury Prevention Program

Action Completed	Date Completed
_____	_____
_____	_____

Follow up performed by: _____

Department: _____ Date: _____

cc: Department File
Supervisor
Safety –Injury Prevention

- _____ Fatality
- _____ Lost Work Day/ # of Days
- _____ Restricted Activity
- _____ Medical Only
- _____ Property Damage
- _____ Near Miss

BLOODBORNE PATHOGENS AND INFECTIOUS DISEASE

This portion of the safety manual exists as a stand alone program manual. Please reference the City of Pittsburgh Infectious Disease Control Program - Exposure Control Manual.

Call the Department of Personnel Safety Manager at 412-255-2403 for a copy.

V. VIOLATION OF SAFETY RULES

Employees will be made aware of the content of the City Safety Policy, the City Safety Manual, all safety work rules and specific safe work practices of their respective department. Employees will be responsible to comply with all safety work rules and safe work practices as required by their department and the City Safety Policy and the City Safety Manual.

Compliance and enforcement are the responsibility of all employees. First line supervisors must ensure that all employees perform their jobs in accordance with their specific department safety rules and the precepts set forth in this document.

Disciplinary action will be taken for violation of safety work rules and specific safe work practices of the respective department or for violation of the City Safety Policy or standards within the City Safety Manual; in accordance with the City of Pittsburgh Disciplinary Manual for Supervisors. In egregious cases, discharge from employment may be justified even where an employee has no prior disciplinary record. In other cases, discipline should be utilized to reinforce safety rules and supervisor instruction. Such action may, in fact, prevent future injury to that employee.

All Supervisors should follow the "Guidelines for Deciding To Take Disciplinary Action" located on page 3 of the City of Pittsburgh Disciplinary Manual for Supervisors.

The City generally utilizes five (5) levels of discipline.

Level 1	Oral Warning
Level 2	Written Warning
Level 3	One-(1) day suspension
Level 4	Three-(3) day suspension
Level 5	Five-(5) day suspension, pending discharge