City of SACRAMENTO

Illness and Injury Prevention Program (IIPP)

Scope: CITYWIDE

Policy Contact:

Department of Human Resources
Email: humanresources@cityofsacramento.org
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Regulatory References:

California Government Code § 8CCR1509
California Government Code § 8CCR3203

Supersedes:

API #39 –Illness and Injury Prevention Plan (Effective: July 2003)

Revised:

May 2018

City of
SACRAMENTO

Charter Officer Review and Acknowledgement

Citywide Illness and Injury Prevention Program Policy

7/16/18

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7/9/18

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POLICY STATEMENT

The California Labor Code, Chapter 1369, Section 6401.7 and the California Code of Regulations, Title 8, Sections 1509 and 3203 require the City of Sacramento to develop and implement an employee Illness and Injury Prevention Program. This policy establishes that program which applies to all City employees. Failure to comply with this program may lead to employee discipline up to and including termination. Non-compliance may also result in citations and/or monetary fines from the California Occupational Safety and Health Administration (Cal-OSHA).

POLICY

The City of Sacramento strives to maintain a work environment that protects the health of its employees and prevents accidental injury to employees. The Illness and Injury Prevention Program (IIPP) integrates all of the policies and procedures intended to identify and control occupational hazards.

RESPONSIBILITIES

The City Manager is ultimately responsible for establishing and maintaining a safe and healthy workplace. It is the responsibility of Department Directors and Division Managers to implement the IIPP for operations under his or her control.

1. **Department Directors/Division Managers are responsible for:**

    a. Developing department-specific safety policies and procedures including goals and performance achievement measures;

    b. Appointing a Department Safety Representative from exempt management staff;

    c. Providing employee IIPP orientation and job-specific safety training prior to the assignment of employees to hazardous duties;

    d. Posting all health and safety information, such as safety posters and the log of work-related injuries and illnesses (Cal-OSHA Form 300);

    e. Designating management staff responsible for serving on the department safety committee;

    f. Ensuring that each supervisor adheres to adopted policies and procedures and consistently enforces safety rules and regulations; and

    g. Coordinating discipline with the Department of Human Resources, Labor Relations Division for failure to implement and adhere to safe work practices.

2. **Supervisors are responsible for:**

    a. Enforcing safety policies and procedures;

    b. Investigating accidents, injuries and near misses and preparing written documentation;

    c. Evaluating new equipment and procedures and making safety recommendations;

d. Inspecting work areas routinely;

e. Correcting or reporting unsafe conditions to his or her immediate supervisor; and

f. Implementing and documenting the training program designed to instruct employees in safe work practices and specific job duties.

3. Department Safety Representatives have been appointed in some departments but not all. Department Safety Representatives are responsible for:

a. Scheduling department safety committee meetings with management and employee representatives;

b. Preparing written records of the issues discussed at safety committee meetings;

c. Conducting periodic facility safety inspections and recommending appropriate measures for the elimination of unsafe conditions;

d. Periodically updating the Department Director/Division Manager on safety activities with a copy to the appropriate Environmental Health and Safety (EH&S) Specialist; and

e. Meeting with EH&S Office staff to review accident trends and identify preventative measures.

4. Employees are responsible for:

a. Reporting hazardous conditions and equipment to his or her supervisor;

b. Observing all City safety policies, procedures and rules;

c. Using all safety clothing and personal protective equipment (PPE) as required;

d. Attending all general and tailgate safety meetings; and

e. Reporting every injury, accident, and near miss incident to his or her supervisor.

5. The Environmental Health and Safety (EH&S) Officer is responsible for the administration of the City's Safety Program including:

a. Coordinating development and implementation of the City-wide IIPP with all departments and divisions;

b. Maintaining records of employee accidents, injuries, medical records, and baseline biological monitoring;

c. Tracking hazard reports and safety concerns through resolution;

d. Providing statistical reports regarding work-related injuries to Department Directors/Division Managers; and

e. Investigating and reporting to Cal-OSHA serious injuries resulting in hospitalization or fatality and providing recommendations to prevent reoccurrence.

6. **Environmental Health and Safety (EH&S) Specialists are responsible for:**

   a. Assisting the Department Directors/Division Managers with the implementation of the IIPP;

   b. Providing technical assistance on occupational health and safety issues to Department Directors/Division Managers;

   c. Participating in department safety committee meetings;

   d. Assisting the EH&S Officer with the development and administration of the IIPP;

   e. Conducting environmental monitoring of worksites where employees have potential exposure to harmful biological, chemical or physical agents; and

   f. Investigating reports of hazardous conditions, accidents, injuries and near misses as needed.

7. **Safety Committee members, under direction of the Department Directors/Division Managers, are responsible for:**

   a. Representing employees on health and safety issues;

   b. Reviewing investigations of motor vehicle accidents, occupational injuries, illnesses, and exposure to hazardous substances, and where appropriate, submitting suggestions to the Department Safety Representative/Division Manager for prevention of future incidents;

   c. Reviewing or investigating hazard reports brought to the attention of any safety committee member by an employee;

   d. Submitting recommendations to assist in the evaluation of employee safety suggestions; and

   e. Inspecting abated hazardous conditions and providing reports to the Department Safety Representative.

HAZARD CONTROL PROCEDURES

Identified hazardous conditions will be prioritized for correction through consideration of both the potential consequence (severity) and probability (frequency) of an injury or illness occurring. Corrective action for hazard elimination is the responsibility of the Department Director/Division Manager. EH&S Office staff will provide or obtain expert assistance when necessary.

1. **Safety Inspections**

   EH&S Office staff will assist department staff in conducting periodic inspections of all City facilities. Departments engaged in hazardous operations are strongly encouraged to schedule frequent inspections such as monthly, weekly or daily depending on the operation. Safety inspection forms are

available from the EH&S Office. Safety inspection forms are also located on the Department of Human Resources, Risk Management website and on the Simple But Needed (SBN) paperless inspection application. Inspection recommendations will be made to the Department Director/Division Manager and reported to the Department Safety Representative and the appropriate EH&S Specialist.

Supervisors are responsible for the safety of physical conditions in which his or her subordinates work. Each supervisor will make frequent work area inspections. Recommendations for the correction of unsafe conditions will be made through normal channels of authority and procedures.

2. **Hazard Reports**

Every City employee is encouraged to suggest or recommend measures which will eliminate unsafe practices or unsafe physical conditions. Employees are also required to report any hazardous conditions to his or her immediate supervisor and may use the Employee Safety Suggestion Form to document concerns. However, employees have the right to report safety concerns directly to the EH&S Officer or an EH&S Specialist. Confidentiality will be maintained. EH&S staff will also investigate anonymous hazard reports.

Safety suggestions will be processed through regular lines of authority (e.g. chain of command). Those suggestions that cannot be approved or disapproved at the department level will be referred to the EH&S Officer.

3. **Imminent Hazards**

Any condition or practice that may cause death or serious physical harm is considered an imminent hazard. Operations affected by serious hazards must be stopped immediately and reported to the Department Director/Division Manager and the department's EH&S Specialist as soon as possible. The Department Director/Division Manager will ensure that all employees are informed of imminent hazards and that all necessary precautions are taken to prevent injuries or illnesses.

INVESTIGATION OF ILLNESSES AND INJURIES

All work-related injuries, illnesses, vehicle accidents, and injuries or property damage to members of the public on City property or involving City employees or equipment must be reported immediately. In addition, all illnesses or injuries occurring in the workplace and resulting in serious injury, hospitalization or fatality of an employee must be reported immediately to the EH&S Office at 916-808-5278. After hours, contact Sac City 311 (916-264-5011), and ask for a call back from an EH&S Specialist.

1. **Work-Incurred Illnesses and Injuries**

    a. **Employees** are responsible for:

        1. Reporting all work incurred illness, injuries, and near misses, regardless of seriousness, to his or her immediate supervisor before the end of the work shift; and

        2. Securing first aid for minor injuries immediately.

    b. **Supervisors** are responsible for:

        1. Securing further medical treatment for employees, if required, from a City physician or a pre-designated provider;

2. Completing Form WC001, Report of Industrial Injury, for any employee who reports a work-incurred illness or injury and forwarding it to the Department of Human Resources, Workers' Compensation Unit within 24 hours;

3. Providing a DWC 1 Form , Workers' Compensation Claim Form, to the worker within 24 hours of an illness or injury that requires medical treatment;

4. Forwarding the completed DWC1 Form to the Department of Human Resources, Workers' Compensation Unit within 24 hours of receipt from the injured worker;

5. Reporting any serious illness or injury involving hospitalization, loss of consciousness, dismemberment, disfigurement or death to the Department of Human Resources, Workers' Compensation Unit and EH&S Office immediately by phone;

6. Investigating the cause of work-related illnesses and injuries, as well as near misses.

c. Workers' Compensation staff is responsible for:

1. Providing Workers' Compensation benefits as set forth by the California Workers' Compensation laws, as well as the City of Sacramento Charter and Civil Service Board Rules; and

2. Collecting and collating Cal-OSHA 300 Illness and Injury Log data.

d. EH&S Specialists are responsible for:

1. Reporting any work-related injury or illness which requires inpatient hospitalization for a period in excess of 24 hours for other than medical observation or in which an employee suffers a loss of any member of the body or suffers any serious degree of permanent disfigurement. Injury, illness or death caused by the commission of a Penal Code violation, except the violation of Section 385 of the Penal Code regarding equipment proximity to high voltage conductors, or an accident on a public street or highway are exempt from these reporting requirements. Reports shall be made to Cal-OSHA by calling (916) 263 -2800 no longer than eight hours after the employer knows of a death or serious injury;

2. Posting printed copies of the Cal-OSHA 300 Illness and Injury Log; and

3. Working with supervisors to identify measures to prevent illnesses and injuries.

8. Motor Vehicle Collisions

It is the duty of the employee operating a vehicle on City business to immediately notify the Police Department if involved in a collision, no matter how minor. When a City driver or equipment is involved in a collision in another jurisdiction, the driver will call the California Highway Patrol or the local law enforcement agency to make a collision report. When it becomes necessary for a disabled City vehicle to be towed away as a result of a collision, the police officers investigating the collision will make the arrangements for the removal of the vehicle.

Employees are responsible for completing a City of Sacramento Driver's Report of Collision Form (i.e. Blue Border Form) for all vehicle collisions. After the employee and supervisor have signed the collision report form, copies will be distributed as designated. The Employee Transportation Policy also outlines post-collision procedures.

9. Accidents Involving Non-Employees On City Premises

Any City employee who witnesses an incident involving a member of the public or any non-employee's interaction with City employees or property will complete a City of Sacramento Incident/Loss Report Form (i.e. Red Border Form) and distribute it as designated on the form after emergency medical response is provided to the person(s) involved. The City of Sacramento Incident/Loss Report Form will also be completed if a member of the public reports a loss or an injury involving the City.

10. Near Misses

Near misses are defined as unintended events which have the potential for causing personal injury, illness, property damage or environmental impairment. Unsafe working conditions, unsafe employee work habits, improper use of equipment, or use of malfunctioning equipment have the potential to cause work-related injuries. It is every employee's responsibility to report or correct potential incidents immediately. The Safety Near Miss Report (i.e. Yellow Border Form) or a department-specific equivalent form will be provided to report and investigate near misses.

11. Accident and Near Miss Investigation

Employees will not answer questions or discuss an accident with anyone except:

a. His or her personal and/or union representative;

b. Law Enforcement Officers;

c. Representatives from government entities investigating the accident; or

d. Anyone else as advised by the City Attorney's Office.

The purpose of the supervisor's investigation is to gather information to determine the cause(s) of accidents and near misses in order to prevent recurrences and future incidents.

The Department Director/Division Manager may require an additional investigation of accidents. In general, causes of accidents fall into four general categories: unsafe physical acts by people, unsafe physical conditions, unsafe equipment or use of equipment, and acts of nature.

The EH&S Officer or designee may investigate any accident or near miss involving City employees or property when additional information is deemed necessary to determine cause. Accident investigation reports are confidential.

12. Reports

The EH&S Officer will maintain current accident statistics, and these will be made available to all department managers. Cal-OSHA 300 Logs are available for review in the EH&S Office located at 915 I Street, Fourth Floor. Quarterly updates are available from the Department of Human Resources,

Workers' Compensation Unit at the same address. Annual summaries of the Cal-OSHA 300 Log will be distributed to each department for posting as required by law starting February through April of each year.

EMPLOYEE SAFETY TRAINING

The objective of safety training is to develop employee appreciation for safety and accident prevention as well as the required skills and knowledge to bring about a reduction in the number and severity of illnesses and injuries. All City employees will be trained by his or her supervisor in safe work practices applicable to the performance of his or her work prior to assignment. Tailgate safety topics and refresher training will be provided as required to maintain regulatory compliance.

Each supervisor receives safety training appropriate to the responsibilities of the supervisory position held. Such training will include the basic techniques of accident prevention, accident investigation and safety training. If assigned, Department Safety Representatives will receive training in the responsibilities and techniques of his or her assignments. All training will be documented, and records will be maintained per the Records Retention Policy.

EMPLOYEE COMMUNICATION

The following methods have been established to communicate with employees on matters relating to health and safety.

1. Departments that utilize labor/management safety committees will schedule meetings at least quarterly. Records will be maintained for a period of at least two years and will contain the dates of the meeting, agendas, attendance rosters and summary minutes of the issues discussed. Administrative departments may establish employee communication programs other than a safety committee.

2. Managers and supervisors will encourage employees to report any unsafe or unhealthy conditions that employees discover without fear of reprisal. In some cases, suggestion boxes may be available to provide employee anonymity and encourage prompt reporting of safety concerns. Employees may also communicate suggestions in face-to-face conversations via telephone, through interoffice mail, by completing an Employee Safety Suggestion Form or via email to his or her manager, Department Safety Representative, EH&S Specialist or the EH&S Officer.

3. Employees will be informed of safety rules and Cal-OSHA regulations through the City Safety Training Program.

4. City-wide safety policies and programs are available on the Department of Human Resources, Risk Management intranet web site. Hard copies of the IIPP are available in all departments. Department-specific safety policies and procedures are available from the department.

5. Employees who exhibit exemplary participation in safety training and prevention activities or an outstanding safety record may be rewarded by a Safety Recognition Program.

SAFETY RULES AND REGULATIONS

Department Directors may develop specific safety rules. Such rules are subject to review by the City EH&S Officer. Upon approval, department-specific safety rules will be published for distribution to all affected employees. City-wide safety plans required for regulatory compliance are located in attachments at the end of each section in this document.

The willful violation of City-wide or department safety rules or state regulations may result in employee disciplinary action, under Rule 12 of the Civil Service Board Rules, up to and including termination.

Safety is an integral part of each employee's job. Safety performance should be evaluated in every performance appraisal.

RECORD KEEPING

Departments will maintain records of inspections and hazard reports for at least two years. Records must include the names of those who conducted the inspection, the dates of the inspection, the hazards that were identified and any corrective action that was taken.

Departments will maintain training records per the City's records retention schedule. Training records must include the names of the employees trained, the topics covered in the training, the date of the training, the trainer's identity and signatures of employees who attended. Forms for documentation of training and inspections are available at the EH&S Office or intranet website. Electronic training records are also acceptable.

Departments will maintain Safety Data Sheets (SDS) for chemicals for 30 years unless an inventory, including the identity of the substance, where it was used and when it was used is retained for at least 30 years. The Hazard Communication Program specifies procedures for maintenance of SDS and chemical inventories.

Employee records from medical monitoring and exposure evaluations will be preserved and maintained for the duration of employment plus thirty years. Employees and his or her designated representative have a right to access relevant medical and exposure records.

CITY OF SACRAMENTO REGULATORY COMPLIANCE PROGRAM
TPOIC: INDUSTRIAL TRUCK OPERATOR SAFETY PROGRAM
EFFECTIVE DATE: 3/18
SUPERSEDES: 11/03
SECTION: RCP #1

PURPOSE

To act in accordance with the California Code of Regulations Title 8, Section 3649-3668, Industrial Trucks General Requirements. City employees must be trained before he or she operates an industrial truck.

This program applies to all City of Sacramento employees that operate industrial trucks including forklifts, riding motorized pallet jacks, motorized hand trucks or industrial tractors including wheel or track-type vehicles of more than 20 engine horsepower used in operations such as landscaping, construction services, loading, digging, grounds keeping, and highway maintenance.

PROCEDURES AND REQUIREMENTS

The practical evaluation will be site-specific and includes a driver's test using the actual equipment.

1. The driver must pass the City of Sacramento's "Forklift Practical Examination" (Attachment 3) with a score of 90% or higher.

2. The driver must pass the City of Sacramento's "Forklift Qualification Examination" with a score of 75% or higher.

3. Re-certification is required every three years or whenever any of the described conditions change:

    a. The operator has been observed driving in an unsafe manner;

    b. The operator has been involved in an accident or near-miss accident;

    c. The operator has received an evaluation that reveals the operator is not operating the truck safely;

    d. The operator is assigned to drive a different type of industrial power truck; or

    e. A condition in the workplace changes in a manner that could affect safe operation of the industrial power truck.

4. Forklift drivers shall check the vehicle at the beginning of each shift per Attachment I and report any unsafe conditions to a supervisor or mechanic.

5. Forklift operating rules (Attachment 2) must be posted in areas accessed by operators.

6. Supervisors will ensure that only currently certified operators operate industrial trucks.

City of Sacramento
Forklift Daily Inspection Form
(Attachment 1)

Operator:	Vehicle Number:	Date:
Time of Inspection:	Hour Meter Reading:	

Visual Observations	Satisfactory	Unsatisfactory	Describe Any Unsatisfactory Items
Tires			
Battery Charge			
Fuel System			
Brake Fluid			
Hydraulic Fluid			
Motor Oil			
Forks			
Chains, cables, limit switches			
Cleanliness			
Broken or cracked parts			
Operational Observations			
Steering			
Brake			
Emergency Brake			
Tilt/Lift Operation			
Horn			
Lights			
Back-up Alarm			
Seat Belt			

Forklift Operating Rules
(Attachment 2)

Every Employer using industrial trucks or industrial tow tractors, shall post and enforce a set of operating rules including the appropriate rules listed below. 8CCR:3664(a)

1. Only drivers authorized by the City and trained in the safe operations of industrial trucks or industrial tow tractors shall be permitted to operate such vehicles. Methods shall be devised to train operators in safe operation of powered industrial trucks. Any unauthorized employee operating a forklift truck will be subject to disciplinary action, up to and including termination.

2. Stunt driving, and horseplay are prohibited.

3. No riders shall be permitted on vehicles unless provided with adequate riding facilities.

4. Employee shall not ride on the forks of lift trucks.

5. Employee shall not place any part of his or her body outside the running lines of an industrial truck or between mast uprights or other parts of the truck where shear or crushing hazards exist.

6. Employee shall not be allowed to stand, pass, or work under the elevated portion of any industrial truck, loaded or empty, unless it is effectively blocked to prevent it from falling.

7. Drivers shall check the vehicle at least once per shift. If the vehicle is found to be unsafe, the matter shall be reported immediately to a foreman or mechanic, and the vehicle shall not be put in service again until it has been made safe. Attention shall be given to the proper functioning of tires, horn, lights, battery, controller, brakes, steering mechanism, cooling system, and the lift system of for fork lifts (forks, chains, cable, and limit switches).

8. No truck shall be operated with a leak in the fuel system.

9. Vehicles shall not exceed the authorized or safe speed, always maintaining a safe distance from other vehicles, keeping the truck under positive control at all times and all established traffic regulations shall be observed. For trucks traveling in the same direction, a safe distance is considered to be approximately three truck lengths or preferably a time lapse – three seconds – passing the same point.

10. Trucks traveling in the same direction shall not be passed at intersections, blind spots, or dangerous locations.

11. The driver shall slow down and sound the horn at cross aisles and other locations where vision is obstructed. If the load being carried obstructs forward view, the driver shall be required to travel with the load trailing.

12. Operators shall look in the direction of travel and shall not move a vehicle until certain that all persons are in the clear.

13. Trucks shall not be driven up to anyone standing in front of a bench or other fixed object of such size that the person could be caught between the truck and object.

14. Grades shall be ascended or descended slowly.

a. When ascending or descending grades in excess of 10 % a loaded truck shall be driven with the load upgrade;

b. On all grades the load and load engaging means shall be tilted back if applicable, and raised only as far as necessary to clear the road surface;

c. Motorized hand and hand/rider trucks shall be operated on all grades with the load engaging means downgrade.

15. The forks shall always be carried as low as possible, consistent with safe operations.

16. When leaving a vehicle unattended, either:

a. The power shall be shut off, brakes set, the mast brought to the vertical position, and forks left in the down position. When left on an incline, the wheels shall be blocked; or

b. The power may remain on provided the brakes are set, the mast is brought to the vertical position, forks are left in the down position, and the wheels shall be blocked, front and near.
NOTE: When the operator is over 25 feet away from or out of sight of the industrial truck, the vehicle is "unattended."

17. When the operator of an industrial truck is dismounted and within 25 feet of the truck, which remains in the operator's view, the load engaging means shall be fully lowered, controls neutralized, and the breaks set to prevent movement.

EXCEPTION: Forks on fork-equipped industrial trucks may be in the raised position for loading and unloading by the operator if the forks are raised no more than 42 inches above the same level on which the industrial truck is located, the power is shut off, controls placed in neutral and the brakes set. If on an incline, the wheels shall be securely blocked. Whenever the forks are raised, the operator will remain in the seat of the industrial truck except when the operator is actively loading or unloading materials.

18. Vehicles shall not be run onto any elevator unless the driver is specifically authorized to do so. Before entering an elevator, the driver shall determine that the capacity of the elevator will not be exceeded. Once on an elevator, the power shall be shut off and the brakes set.

19. Motorized hand trucks shall enter elevators or other confined areas with the load forward.

20. Vehicles shall not be operated on floors, sidewalk doors, or platforms that will not safely support the loaded vehicle.

21. Prior to driving onto trucks, trailers and railroad cars, the flooring shall be checked for breaks and other structural weaknesses.

22. Vehicle shall not be driven in and out of highway trucks and trailers at loading docks until such trucks or trailer are securely blocked or restrained and the brakes set.

23. To prevent railroad cars from moving during loading or unloading operations, the car brakes shall be set, wheel chocks or other recognized positive stops used, and blue flags or lights displayed in accordance with applicable regulations by the Public Utilities Commission.

24. The width of one tire on the powered industrial truck shall be the minimum distance maintained from the edge while the truck is on any elevated dock, platform, freight car or truck.

25. Railroad tracks shall be crossed diagonally, wherever possible. Parking closer than 8 ½ feet from the centerline of railroad tracks is prohibited.

26. Trucks shall not be loaded in excess of their rated capacity.

27. A loaded vehicle shall not be moved until the load is safe and secure.

28. Extreme care shall be taken when tilting loads. Tilting forward with load engaging means elevated shall be prohibited except with picking up a load. Elevated loads must not be tilted forward except when the load is being deposited onto a storage rack or equivalent. When stacking or tiering, backward tilt shall be limited to that necessary to stabilize the load.

29. The load-engaging device shall be placed in such a manner that the load will be securely held or supported.

30. Special precautions shall be taken in the securing and handling of loads by trucks equipped with attachments, and during the operation of these trucks after the loads have been removed.

31. When powered industrial trucks are used to open and close doors, the following provisions shall be compiled with:

    a. A device specifically designed for opening or closing doors shall be attached to the truck;

    b. The force applied by the device to the door shall be applied parallel to the direction of travel of the door;

    c. The entire door opening operation shall be in full view of the operator; and

    d. The truck operator and other employees shall be clear of the area where the door might fall while being opened.

32. If loads are lifted by two or more trucks working in unison, the total weight of the load shall not exceed the combined rated lifting capacity of all trucks involved.

33. When provided by the industrial truck manufacturer, an operator restraint system such as a seat belt shall be used.

Industrial Tractor Operating Rules
(Attachment 3)

Every employee who operates an agricultural or industrial tractor shall be instructed in the following procedures and in any other practices dictated by the work environment. Such information shall be provided at the time of initial assignment and at least annually thereafter. Copies of these instructions, printed in a language understood by the majority of the employees, shall be conspicuously posted at a place frequented by the drivers.

EMPLOYEE OPERATING INSTRUCTIONS

1. Securely fasten your seat belt if the tractor has a roll over protection system.

2. Where possible, avoid operating the tractor near ditches, embankments, and holes.

3. Reduce speed when turning, crossing slopes, and on rough, slick, or muddy surfaces.

4. Stay off slopes too steep for safe operation.

5. Watch where you are going, especially at row ends, on roads, and around trees.

6. Do not permit others to ride.

EXCEPTION: to No. 6: The operation of agricultural tractor-mounted personnel transport carriers when used, operated and maintained in accordance with Section 3441(i) of these Orders.

6. Operate the tractor smoothly - no jerky turns, starts, or stops.

7. Hitch only to the drawbar and hitch points recommended by tractor manufacturers.

8. When tractor is stopped, set brakes securely and use park lock if available.

10. Stunt driving or horseplay are prohibited while operating an agricultural or industrial tractor.

Every employee who operates an agricultural or industrial tractor is required to check the tractor prior to operation each day, report any unsafe conditions to a supervisor or mechanic immediately and shall not use the tractor again until it has been made safe.

City of Sacramento
Forklift Practical Examination
(Attachment 4)

The exam may be performed while observing the operator performing his/her daily routine. A special course and time need not be set up for the purpose of completing this portion of the operator's evaluation.

Name: _____ Date: _____ Evaluator: _____ Score: _____

1. Performance of Vehicle Inspection (utilizing the check list)

a.	Properly located & identified all checklist items.	Yes ☐	No ☐	
b.	Demonstrated knowledge of acceptable criteria for checklist items.	Yes ☐	No ☐	

2. Mechanical Controls (*Identified & demonstrated knowledge of all operational controls*)

a.	Starting sequence	Yes ☐	No ☐	
b.	Throttle	Yes ☐	No ☐	
c.	Clutch	Yes ☐	No ☐	
d.	Tilt & Lift	Yes ☐	No ☐	
e.	Steering	Yes ☐	No ☐	
f.	Brakes	Yes ☐	No ☐	
g.	Parking brake	Yes ☐	No ☐	

3. Operation of Truck (demonstrated ability to maneuver vehicle within the normal scope of daily operation)

a.	Uses seatbelt	Yes	No	
b.	Shows good clearance judgment	Yes ☐	No ☐	
c.	Smooth, synchronized operation	Yes ☐	No ☐	
d.	Proper speed for conditions	Yes ☐	No ☐	
e.	Ensures proper clearance *prior* to movement	Yes ☐	No ☐	
f.	Approaches loads squarely	Yes ☐	No ☐	
g.	Carries loads in a manner to ensure best visibility	Yes ☐	No ☐	
h.	Carries loads tilted back and secure against rest	Yes ☐	No ☐	
i.	Keeps load low during transit	Yes ☐	No ☐	
j.	Uses horn properly at junctions & approaching blind areas	Yes ☐	No ☐	
k.	In the event of dock loading, driver ensures trailer is chocked & dock boards are secure *prior* to entering trailer	Yes ☐ ☐	No ☐ ☐	
l.	Keeps to right in the event of two-way traffic	Yes ☐	No ☐	
m.	Allows a safe following distance	Yes ☐	No ☐	
n.	Stacks load straight	Yes ☐	No ☐	
o.	Checks load weight *prior* to loading	Yes ☐	No ☐	
p.	Check load security on pallets *prior* to loading	Yes ☐ ☐	No ☐ ☐	

Each item marked with a yes is worth 4 pints with a possible total of 100 points.

The operator must pass with a score of 90 points or higher.

CITY OF SACRAMENTO REGULATORY COMPLIANCE PROGRAM
TOPIC: ERGONOMICS PROGRAM
EFFECTIVE DATE: 05/19/2009
SUPERSEDES: 03/03
SECTION RCP: #2

PURPOSE

Repetitive Motion Injuries (RMIs) are musculoskeletal injuries objectively identified and diagnosed by a licensed physician. This regulatory compliance program provides procedures to minimize RMIs through worksite evaluations, adoption of control measures and training of employees. This program complies with the California Code of Regulations (CCR) Title 8, Section 5110, and the Ergonomics Standard.

PROCEDURES

1. Worksite Evaluations

a. Where more than one RMI is reported for the same job, process or operation, EH&S Specialists will provide worksite evaluations per the procedure listed in Attachment A. Both office and field ergonomics evaluations are available;

b. The evaluation identifies potential exposures and determines the most appropriate methods for the City to control or minimize these exposures;

c. All evaluations are documented, and records can be reviewed at the Risk Management office. Attachment B is an example of an Ergonomic Evaluation Documentation Form;

d. Potentially exposed employees will be informed of the potential exposures and trained in the City's control measures.

2. Control of Exposures Which Have Caused RMI

a. Division Managers are responsible for correcting exposures that have caused RMIs or to minimize the exposure to employees to the extent feasible;

b. The following engineering and administrative controls will be considered when determining how to eliminate or minimize employee exposures. All reasonable, cost-effective engineering or administrative controls should be employed to minimize repetitive motion injuries such as:

1. Engineering Controls - workstation redesign, adjustable fixtures, tool redesign; and

2. Administrative Controls - job rotation, work pacing, alternative work breaks.

c. If engineering and administrative controls cannot reasonably eliminate or minimize exposures, personal protective equipment (PPE) will be used to minimize exposure to the extent feasible (e.g. anti-vibration gloves).

3. Injury Reporting

a. Employees are encouraged to report all suspected RMIs or symptoms and other ergonomic concerns to his or her supervisor or EH&S Specialist.

4. Training

a. Scope of Training

Employees with ergonomic exposures, including managers and supervisors, will receive training which includes the following topics:

1. A description of the City's ergonomic program;
2. Types of exposures which have been associated with RMIs;
3. The symptoms and consequences of injuries caused by repetitive motion;
4. The importance of reporting symptoms and injuries to the City; and
5. The methods which may be used to minimize RMIs including information on Attachment C.

b. Frequency of Training

Training is provided to potentially affected employees as follows:

1. Initial training was provided as part of the implementation of this ergonomics program;
2. General ergonomics as well as field ergonomics awareness training is offered to employees upon hiring and as needed thereafter. Training is available through City University, via on-line or from EH&S Specialists;
3. EH&S Specialists incorporate training into worksite evaluations;
4. Training is offered to all potentially exposed employees given new job assignments for which training has not previously been received;
5. Attachment C provides self-guided training.

Workstation Modification Procedure
(Attachment A)

1. After the employee and the supervisor have attempted the basic adjustments described in Attachment C, the supervisor will request a formal ergonomic evaluation from the Environmental Health and Safety Office (808-5278). The employee should be encouraged to share his or her concerns with the EH&S Specialist.

2. The Environmental Health and Safety Specialist will notify the Division Manager before scheduling the ergonomic evaluation.

3. The EH&S Specialist will meet with the employee and evaluate the workstation with the employee.

4. The employee's workstation will be evaluated for ergonomic soundness, efficiency and all-around safety. Only valid ergonomic improvements and unsafe conditions will be noted.

5. If there is a Workers' Compensation claim and the employee's physician has ordered an ergonomic evaluation, the physician's request should be sent to the Workers' Compensation Unit. Workers' Compensation staff will then coordinate the ergonomic evaluation with the EH&S Specialist to ensure that the physician's specifications are met as prescribed in the treatment plan.

6. The EH&S Specialist will send the workstation evaluation report to the employee, the supervisor and the Workers' Compensation Unit (if there is a claim). The procedure for correcting the employee's workstation is as follows:

    a. The supervisor reviews the report, approves the recommendations, or promptly notifies the EH&S Specialist of any concerns;

    b. The supervisor will forward the approved equipment recommendations to the applicable department and person responsible for ordering the equipment;

    c. This person will place the equipment order. This purchase is to be charged to the department's account like any other office supply or equipment purchase;

    d. Once the item(s) are received, it is the responsibility of the employee or the employee's supervisor to contact Facilities Maintenance and coordinate the assembly or installation of any items requiring lifting, tools or furniture moving. No one else is to move or manipulate heavy items or try to install furniture components;

    e. After the item(s) are installed, it is the employee's responsibility to contact the EH&S Specialist for any final adjustments and verify that the employee is informed of how the new item(s) function.

7. If the employee believes the modifications do not correct the problem, it is his or her responsibility to contact his or her supervisor and report the concern. The supervisor should notify the EH&S Specialist.

Ergonomic Evaluation Documentation Form
(Attachment B)

Evaluation Performed For: _____

Work Location: _____

Date of Evaluation: _____

Observations:

_____

_____

_____

_____

_____

_____

_____

_____

Recommendations:

_____

_____

_____

_____

_____

_____

_____

_____

Date Recommendations Completed: _____

Computer Workstation Ergonomic Checklist
(Attachment C)

Ergonomics is the applied science of designing equipment and procedures to reduce operator fatigue and discomfort. Simple adjustments to the work area and work habits can prevent repetitive motion injuries from working at a computer.

GOOD POSTURE IS THE KEY

Good posture is the basis of good workstation ergonomics and is the best way to avoid a computer-related injury.

1. Make sure you can comfortably reach the keyboard with your wrists as flat as possible (not bent up or down) and straight (not bent left or right).

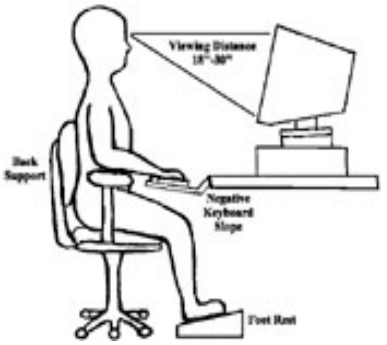
2. Make sure that the angle formed at your elbows (between the inner surface of the upper arm and the forearm) is at least 90 degrees to avoid nerve compression at the elbow.

3. Make sure that your upper arms and elbows are close to the body and relaxed when you use the mouse. Avoid over-reaching!

4. Make sure you sit back in your chair and that you have good back support. Also check that your feet can rest flat on the floor or on a footrest.

5. Make sure your head is as straight as possible.

6. Make sure your posture feels relaxed.



THE IDEAL POSITION FOR TYPING

The ideal computer workstation includes the following features:

1. The top of your screen should be at eye level or slightly below.
   If you wear bifocals, your screen may need to be even lower.

2. Your keyboard should be at a level so your elbows are at or near a 90-degree angle.

3. There should be a straight line from your elbows to your fingertips.

4. Feet should rest on the floor or footrest.

5. Your knees should form a 90-degree angle. Avoid crossing your legs.

6. Use a footrest if necessary or change the angle of your knees from time to time throughout the day.

7. Change your position periodically throughout the day.

ARRANGE A "USE ARC"

1. Make sure those items you use most frequently are closest to you, so that you can reach the items conveniently and comfortably.

2. Make sure you are centered at the keyboard. Move the keyboard so that the "B" key is centered on your mid-line.

3. Make sure your phone is close if you frequently use it.

4. Do not cradle the phone with your shoulder. Use a headset if you need to use the computer while on the phone.

TAKE FREQUENT BREAKS

Ergonomic experts agree that it is a good idea to take frequent, brief rest breaks.

1. Eye breaks - Looking at a computer screen for a long period causes changes in how your eyes work such as blinking less often and thus exposing more of the eye surface to air. Every 15 minutes or so, briefly look at a distant object for a minute or two, preferably something more than 20 feet away. This lets your eye muscles relax. Also, blink your eyes rapidly for a few seconds to refresh the tear film and clear dust from the surface of your eyes.

2. Micro-breaks - Most typing is done in bursts rather than continuously. Between these bursts of activity, rest your hands in a relaxed, flat, straight position. Try standing to answer the phone to give your body a chance to move.

3. Rest breaks - Every 30 to 60 minutes, take a brief rest break. Stand up, move around, get a drink of water, or look out a window. Doing something different allows you to rest and exercise different muscles, and you will feel less tired.

4. Exercise breaks - There are many stretches and gentle exercises you can do to help relieve muscle fatigue. You should do these every one to two hours.

CITY OF SACRAMENTO REGULATORY COMPLIANCE PROGRAM
TOPIC: HAZARD COMMUNICATION PROGRAM
EFFECTIVE DATE: 03/18
SUPERSEDES: 12/10 and 03/03
SECTION: RCP #3

PURPOSE

This program provides City of Sacramento employees with information about hazardous chemicals to which they may be exposed at work. This includes container labeling and other forms of warning, safety data sheets and employee training. This program meets the regulatory requirements of Title 8, California Code of Regulations 5194.

PROCEDURES AND REQUIREMENTS

1. Hazardous Substance Inventory

a. Each department head will ensure there is an annual dated inventory of all hazardous chemicals present in his or her workplace. These chemicals will be identified by the product identifier referenced on the appropriate Safety Data Sheet (SDS). Attachment A contains a list of definitions for terms in this regulatory compliance program;

b. The hazardous chemicals inventory is to remain current and all future products must be included at or before the time of use;

c. In areas where there are multi-department employees or where City employees work with outside contractors, a pre-work conference will be held to discuss the hazardous chemicals to be used;

d. An annual dated inventory shall be kept and archived to substantiate when products were in use. Current inventories will be kept with the SDS. Attachment B is an example of a chemical inventory.

2. Labels and Other Forms of Warning

a. Each Department Head will ensure that each container of hazardous chemicals in the workplace is labeled, tagged or marked with the following information:

1. Product identifier;

2. Signal word, either danger or warning;

3. Hazard statement(s);

4. Pictogram(s);

5. Precautionary statement(s); and

6. Name address, and telephone number of the manufacturer, importer or other responsible party.

b. Employees must not remove or deface any of the manufacturers labels or warnings;

c. Secondary containers will be labeled with a label that contains either:

1. Equivalent information to the manufacturer's label placed on the original container; or

2. Product identifier and words, pictures, symbols, or combination, which provide at least general information regarding the hazards of chemicals. When used with other information immediately available to employees under the hazard communication program, these identifiers will provide employees with the specific information regarding the physical and health hazards of the hazardous chemicals.

3. Safety Data Sheets (SDS)

a. Each Department Head will ensure that his or her division obtains SDSs for each hazardous chemical on his or her inventory list. SDSs must be available in a central location, which is easily accessible to all employees during work hours. Remote locations which use or store hazardous chemicals should have SDSs available on site, but the main office SDS will suffice if information is immediately available by phone. Electronic access and other alternatives to maintaining paper copies of the safety data sheets are permitted if no barriers to immediate employee access in each workplace are created by such options;

b. Employees are required to follow instructions and precautions of the SDS, unless otherwise directed in a tailgate meeting or by the Safety Office;

c. If the SDS is not provided by the manufacturer, the Department Head shall do the following:

1. Send a written request to the manufacturer within seven working days from the date of the employee request;

2. Provide a copy of the written request to the employee requesting the SDS;

3. Notify the employee within 15 days of the receipt of the SDS;

4. Notify the Director of the State Department of Industrial Relations if a response has not been received from the manufacturer within 25 working days from the date of the request.

d. Whenever a new or revised safety data sheet is received that contains new information indicating significant increased risks to, or measures necessary to protect, employee health as compared to those stated on previously provided ones, the information must be shared with employees within 30 days after receipt.

4. Employee Training

a. The Department Head will ensure that employees are provided with information and training on hazardous chemicals in his or her work area at the time of his or her initial assignment, whenever a process changes, and whenever a new hazard is introduced into his or her work area. The information and training will consist of the following:

1. An overview of the Cal-OSHA regulation;

2. The requirements of this program;

3. The operations in the work area where hazardous chemicals are present;

4. The location and availability of this written program, the inventory of hazardous chemicals and the SDSs;

5. The methods and observations that may be used to detect the presence or release of a hazardous chemicals in the work area;

6. The physical and health hazards of the chemicals in the work area and the necessary protective measures that must be implemented;

7. An explanation of the labeling system and the SDS, and how the employees can obtain and use the appropriate hazard information;

8. How to reduce or prevent exposure to hazardous chemicals using engineering controls, work practices and or through the use of personal protective equipment;

9. Steps the department has taken to reduce or prevent exposure; and

10. Emergency and first aid procedures.

b. Employees have the right:

1. To personally receive information regarding hazardous chemicals to which he or she may be exposed;

2. For his or her physician or collective bargaining agent to receive information regarding the hazardous chemicals to which the employee may be exposed; and

3. Not be subject to discharge or discrimination due to exercising these rights.

c. Each Department Head will ensure that employees are initially trained in the elements of this program. The chemical hazards will be discussed in the regular periodic tailgate meetings prior to the use of the hazardous chemicals.

d. All initial and subsequent training will be documented as required by the City's IIPP. The documentation will include a brief description of the training, date, name(s), and signature(s).

5. Contract Work

a. When it is necessary for an outside contractor to perform work at the City of Sacramento, it shall be the responsibility of the project manager to inform the contractor of the identity of any hazardous chemicals to which the contractor's employees may be exposed. The project manager will obtain a signed receipt of having provided this information at the pre-job conference. The procedure for informing the contractor will include the following:

1. Providing the hazardous chemical inventory for the area where the work is being performed to the contractor; and, advising the contractor of the labeling system;

2. Making the SDSs of the identified hazardous chemicals in a designated work area available to the contractor;

3. Making the contractor aware of the appropriate protective measures taken by employees in a designated work area; and

4. It is also the responsibility of the project manager to determine if the contractor will be using any hazardous chemicals and, if so, to take appropriate actions to ensure the protection of the City's employees.

6. Hazardous Non-Routine Tasks

Prior to starting work on hazardous non-routine tasks, every affected employee will be given information by the supervisor about the hazardous chemical(s) to which he or she may be exposed. Such information will include, but not limited to, specific hazards associated with the chemical(s), protective measure (e.g. personal protective equipment, work practices, engineering controls, etc.), and emergency procedures.

Definitions
(Attachment A)

Chemical
Any substance, or mixture of substances.

Classification
Identification of relevant data regarding the hazards of a chemical to ascertain whether a chemical is hazardous and to what degree.

Combustible Liquid
Any liquid having a flashpoint greater than 199.4° F (93°C).

Common Name
Any designation or identification such as code name, code number trade name, brand name or generic name used to identify a substance other than by its chemical name.

Container
Any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank, tank truck, or the like that contains a hazardous substance. For purposes of this program, pipes or piping systems are not considered to be containers.

Exposure or Exposed
Any situation arising from work operation where an employee may ingest, inhale, absorb through the skin or eyes, or an otherwise a hazardous substance.

Hazard Category
The division of criteria with each hazard class. These categories compare hazard severity within a hazard class.

Hazard Class
The nature of the physical or health hazards. Examples: flammable solid, carcinogen, oral acute toxicity.

Hazard Statement
A statement assigned to a hazard class and category that describes the nature of the hazard(s) of a chemical, including, where appropriate, the degree of hazard.

Hazardous Chemical
Any chemical which is classified as a physical hazard or health hazard, simple asphyxiate, combustible dust, pyrophoric gas, or a hazard not otherwise classified.

Health Hazard
Any chemical in which acute or chronic health effects may occur in the exposed employees. These include substances, which are carcinogens, reproductive toxins, irritants, corrosives, and sensitizers.

Label
Any written, printed, or graphic material displayed on or affixed to containers of hazardous substances.

Label Elements
The specified pictogram, hazard statement, signal word and precautionary statement for each hazard class and category.

Mixture
A combination or a solution composed of two or more substances in which they do not react.

Physical Hazard
A chemical that is classified as posing one of the following hazardous effects: explosive, flammable, oxidizer, self-reactive, pyrophoric, self-heating, organic peroxide, corrosive to metal, gas under pressure, combustible liquid, water-reactive, or in contact with water emits flammable gas.

Pictogram
A composition that may include a symbol plus other graphic element, such as a border, background pattern, or color, that is intended to convey specific information about the hazards of a chemical.

Precautionary Statement
A phrase that describes recommended measures that should be taken to minimize or prevent adverse effects resulting from exposure to a hazardous chemical, or improper storage or handling.

Safety Data Sheet (SDS)
Written or printed material provided by the manufacturer concerning a hazardous substance.

Signal word
A word used to indicate the relative level of severity of hazard and alert the reader to a potential hazard on the label. The signal word used in the section are “danger” and “warning” is used for the less severe.

NFPA
The National Fire Protection Association

Secondary Container
Any container other than the one produced by the manufacturer.

Example of Chemical Inventory
(Attachment B)

Chemical Name	Manufacturer	Amount	Comments
33 glazing	DAP	1 X 32 fl. oz.	
3M electrical 4-way	3M Electronic Products	1 X 10.75 oz. aerosol	part no. 1605
3M scotch grip 1357	3M Ind. Tape and Spec.	1 X 32 fl. oz.	adhesive; part no. 62-1357-6530-3
acetylene (dissolved) cylinders	Sierra Airgas	4 X 125 cf cylinders	
acetylene cylinders	Sierra Airgas	4 X 7 cf; 5 X 125 cf	(916)454-9353
acrylastic 510	Davlin Coatings	1 X 5 gal.	prop 65
Aerokroil	Kano Labs.	2 X 10 oz. aerosol	(615)833-4101
airco nozzle dip	Airco	1 X 16 fl. oz.	part no. 0-108-16
allo cutting lubricant	Pathlord, Ltd.	1 X 500 g	
ammonia inhalants	Zee Medical	1 package	part no. 2601
argon cylinder	Sierra Airgas	1 X 250 cf cylinder	
argon/CO2 cylinder	Sierra Airgas	1 X 250 cf cylinder	
bacharach fyrite solution (red for CO2)	Bacharach	1 X 2 oz.	(412)963-2000
basalite concrete mix	Union Camp Corporation	3 X 80 pounds	
betco pH 7 neutral cleaner	Betco	1 X 1 gal.	
bleach (All Pure Chemical brand)	All Pure Chemical	1 X 1 gal.	
bleach (Lucky brand)	Nat'l Procurement and Logistics	1 X 1 gal.	5.25% sodium Hypochlorite
boraxo TMT	Dial	2 X 5 pounds	part no. 2561
bostik never seez	Bostik	1 X 8 oz.	(580)777-0100
bostik RTV silicone sealant	Bostik	6 X 10.3 fl. oz.	used throughout
brake kleener	Curtis Industries	1 X 19.75 oz. aerosol	part no. 83997
brazo welding/brazing flux	All-State Welding Products	1 X 1 pound	(800)638-1647
butyl rubber caulk	Sherwin-Williams	4 X 10.5 fl. oz.	
calgon c-3 refrigeration oil	Calgon	1 X 1 gal.	part no. 43031
calgon c-4 refrigeration oil	Calgon	2 X 1 gal.	part no. 43041
chemsearch gex (lubricant)	Chemsearch	1 X 14 oz. aerosol	(800)527-9921; flammable
chemsearch hy-zinc	Chemsearch	9 X 16 oz. aerosol	(800)527-9921
citrachief cleaner	Apache Enterprises	1 X 1 gal.	alkaline; (916)422-1118
CO (90.8 ppm) balance nitrogen cylinder	Sierra Airgas	1 X 250 cf cylinder	
coil rite	Stewart Hall	1 X 1 gal.	non-acid cleaner

CITY OF SACRAMENTO REGULATORY COMPLIANCE PROGRAM
TOPIC: FIRE PREVENTION PROGRAM
EFFECTIVE DATE: 05/20/2010
SUPERSEDES: 08/03
SECTION: RCP #4

PURPOSE

The City of Sacramento Fire Prevention Program applies to all City employees and emphasizes fire prevention and safety. This is accomplished by maintaining compliance with applicable fire and life safety codes and standards, and through the establishment of good fire safety work habits. Refer to your facility's emergency action plan for more details on evacuation procedures.

RESPONSIBILITIES

1. **Risk Management Division**

    a. The Risk Management Division developed the City of Sacramento's Fire Prevention Program and encourages departments to establish good fire safety work practices;

    b. Environmental Health and Safety (EH&S) staff will provide training on the proper use of portable fire extinguishers and fire safety work practices;

    c. EH&S staff will provide expertise and assistance to City departments in the development of specific procedures and evacuation plans and to assist in evacuation drills as needed.

2. **Departments**

    a. In accordance with API #39 (Illness and Injury Prevention Program), Department Managers will ensure that his or her employees are provided necessary training and maintain training documentation;

    b. Department Managers will enforce City-wide policies and procedures;

    c. Department Managers will investigate and take appropriate action on all reported safety and health complaints.

3. **Employees**

    a. All employees will familiarize themselves with the policies and procedures related to fire protection and prevention;

    b. All volunteers, staff, visitors, vendors and contractors will abide by the City of Sacramento's Fire Prevention Program;

    c. Employees should report all safety concerns to his or her immediate supervisor. If this is not possible, he or she should notify the EH&S Office at 808-5278.

PROCEDURES AND REQUIREMENTS

1. General Fire Safety Requirements

a. Housekeeping

1. All stairwells (in and under), exits, and passageways to and from exits must be kept free of all obstructions at all times. This includes, but is not limited to furnishings, decorations, combustible or flammable objects;

2. Fire doors must be kept closed at all times unless they are held open by an approved device interconnected to the fire alarm system;

3. Flammable and combustible materials present in work areas should be limited to quantities required for the work to be done that day or should not exceed one gallon (total) except when in safety cans it may be up to two gallons (total). Any amount in excess of one gallon in regular containers or two gallons in safety cans must be placed in an NFPA Code 30 storage cabinet at the end of each work day;

4. Material must not obstruct sprinkler heads or be piled around fire extinguishers, fire alarm pull stations, or sprinkler and standpipe control valves. To obtain proper distribution of water, a minimum of 18 inches of clearance is required below sprinkler deflector;

5. Dispose of all trash as soon as possible in trashcans or dumpsters. Waste materials must never be piled in corridors or stairwells while awaiting removal;

6. Electrical panels must not be blocked. They should have 18 inches of clearance on both sides and 36 inches in front of panel. A working space of not less than 30 inches (762 mm) in width, 36 inches (914 mm) in depth and 78 inches (1981 mm) in height must be provided in front of electrical service equipment. Where the electrical service equipment is wider than 30 inches (762 mm), the working space must not be less than the width of the equipment. No storage of any materials shall be located within the designated working space.

2. Electrical Appliances

a. Coffee makers and all other appliances with exposed heating elements should never be left unattended while in operation. They should be unplugged after each use and stored only after they are cool enough to touch. Ensure that such appliances are operated away from combustible materials such as paper, curtains, trash containers, etc.;

b. Appliances must bear the label of the Underwriters Laboratory, Factory Mutual or other recognized national testing agency, indicating they are approved for safe operation;

c. Electrical appliances must never be connected to extension cords;

d. Employees should not modify or try to repair any electrical outlet.

3. Fire Identification, Notification and Emergency Evacuation

a. Identification and Notification

1. If anyone smells or sees smoke or fire, they must immediately activate the alarm to evacuate the building by using the nearest pull station or other means. Even if the fire is known to be small, the alarm must be activated immediately. All building occupants must be familiar with fire alarm pull station locations and/or evacuation procedures in their facility;

2. After the alarm has been sounded and the fire has been reported to the Fire Department, an attempt should be made to extinguish or isolate the fire if it is small (no larger than a small trash can) and if it can be extinguished without risking injury. Portable fire extinguishers are available for use by trained staff;

3. The building manager or designee should tell fire personnel the exact location of the fire and other pertinent information.

b. Evacuation

1. The primary concern in the event of a fire is to evacuate everyone from the building as quickly as possible when the fire alarm sounds. To accomplish this, occupants must be prepared in advance for quick and orderly evacuation. Annual training and drill will be conducted with all personnel to explain, in detail, evacuation procedures. All new employees must be trained when they start work;

2. If time and conditions permit, close all doors and windows (do not lock doors, unless for security purposes). The floor or area manager is responsible for doing this and may place post-it notes on the doors to indicate that the area is all clear per the facility emergency action plan;

3. When on floors above ground level, always use stairways to exit the building (NEVER USE ELEVATORS);

4. Once outside, stay clear of doors, sidewalks and roadways. Immediately report to designated meeting spot to check in with the coordinator (person taking roll call);

5. Do not wander away from meeting area. This may cause confusion and result in firefighters entering a burning building to search for someone who has already evacuated the building;

6. Fire Department personnel or Building Manager will let the building occupants know when it is safe to reenter the facility;

c. Evacuation of Individuals with Disabilities

1. If anyone is unable to make his or her way downstairs, they should obtain assistance from other individuals who are familiar with his or her disability. Preplanning is essential;

2. If no one can assist the employee or occupant down the stairs safely, proceed to the stairwell and inform other evacuees that rescue is needed and to inform the fire department or building manager immediately. Someone should stay in the stairwell with this person. Stairwells are designed to provide protection from smoke and fire. Doors to these areas must be kept closed to afford this protection. Two people should be assigned to persons who are not able to exit the stairwell. One person will stay in the stairwell with the person requiring assistance and the other will report to the coordinator who and where the people are in the stairwell. Employees should not try to assist others in going down the stairs as this may result in serious injury and the endangerment of others. The fire department personnel will assist those requiring assistance if they believe they are unsafe in the stairwell and need to be evacuated;

3. While waiting, the people in the stairwell should position themselves so that their faces are as close to the floor as possible since smoke rises first and most of the available oxygen is near the floor. If smoke becomes too dense to breathe, place clothing or some other heavy cloth over the nose and mouth to filter as much smoke as possible until help arrives. If you enter a stairwell that has been compromised by smoke, you should go to another stairwell. If you are unable to do so, you should go to an office or other safe area that is free of smoke and fire. Seal the room off as much as possible by sealing the area under the door, air vents and any other areas that will allow for the passage of smoke. Contact the Dispatch Department (911) and inform them of where you are located.

d. Portable Fire Extinguishers

1. Portable fire extinguishers are selected and placed based on hazard classification, occupancy and the nature of the materials subject to the fire. Most fire extinguishers at the City of Sacramento are all-purpose ABC extinguishers.

2. Types

1. Fires are classified according to the nature of the material subject to fire. Fire extinguisher classification corresponds to these groups:

Class A	fires consisting of ordinary combustibles, such as wood, paper, some plastics, and textiles, where a quenching and cooling action of the extinguishing agent is required
Class B	fires consisting of flammable liquid and gas, such as oil, gasoline, paint, acetone, or grease
Class C	fires involving electrical wiring and electrical equipment where dielectric non-conductivity of the extinguishing agent is required
Class D	fires consisting of combustible metals, such as magnesium, potassium, powdered aluminum, zinc, sodium, titanium, zirconium, and lithium, where a material specific extinguishing agent is required

3. Inspections are as follows:

    1. Monthly – all fire extinguishers are inspected by department on a monthly basis;

    2. Annual – all City fire extinguishers have a set inspection date, which requires that a certified service provider inspect and/or service these extinguishers annually.

4. Fire extinguisher use – if a fire extinguisher is used for any reason, it must be reported to Facilities Management, so it can be replaced with a charged extinguisher. It is recommended to notify the Fire Department after using the fire extinguisher to have them verify the fire is completely extinguished.

4. Holiday Fire Safety Guidelines

a. These fire safety guidelines must be used when decorating for holidays or special occasions:

    1. All decorations, such as garland, artificial trees, wreaths, tinsel, and streamers must be labeled as "fire-proof," "fire resistant" or "flame-proof." All holiday lighting should bear a testing laboratory seal of approval;

    2. Never use lights on metallic trees;

    3. Natural trees, wreaths and greens are prohibited in public buildings;

    4. The use of lit candles is prohibited in all buildings;

    5. Holiday lights must not be left unattended;

    6. Decorations must be arranged in a manner not to obstruct exits, emergency lighting, exit signs, corridors, fire extinguishers, manual pull stations or any other fire equipment;

    7. Straw, hay, corn stalks, dried flowers or bamboo, and other similar combustibles are prohibited as decorations inside facilities;

    8. Helium balloons are prohibited in some facilities, such as the City Hall Complex, because they may trigger the fire alarm system.

CITY OF SACRAMENTO REGULATORY COMPLIANCE PROGRAM
TOPIC: BLOODBORNE PATHOGEN CONTROL PROGRAM
EFFECTIVE DATE: 05/19/09
SUPERSEDES: 03/01/93
SECTION: RCP # 5

PURPOSE

This written regulatory compliance program provides procedures to reduce the likelihood of exposure to and/or transmission of infectious bloodborne pathogens during the performance of duties by City of Sacramento employees. This program complies with the California Code of Regulations (CCR) Title 8, Section 5193, Bloodborne Pathogens. Bloodborne pathogens include, but are not limited to, Hepatitis B (HBV), Hepatitis C (HCV) and Human Immunodeficiency Virus (HIV).

Departments may develop, implement and maintain additional written procedures and guidelines (e.g. Standard Operating Procedures, General Orders, and Manual of Operations) to eliminate or minimize employee exposure to bloodborne pathogens and other infectious diseases as needed. A copy of these procedures and this exposure control plan must be accessible to employees who may have occupational exposures. Employees are required to follow these procedures to control potential occupational exposures to infectious diseases by utilizing universal precautions (i.e. body substance isolation procedures) to reduce exposure to potentially infectious materials. Work practice controls must be in writing and comply with the minimum requirements of CCR 8 Section 5193 (d).

1. Exposure Determination

Employees who may be exposed to blood or other potentially infectious materials (OPIMs) include the following:

1. Employees who may be exposed to blood or OPIMs during performance of his or her job duties;

2. Employees whose primary assignment includes rendering of first aid on a regular basis (e.g. police officers, firefighters, lifeguards, etc.);

3. Employees who in the course of his or her duties cleaning public areas may come in contact with OPIMs.

Employees must follow the procedures listed in the table below for any occupational exposures:

Incident Level	Incident Description	Action to Be Taken
1.	Close proximity to potentially infectious materials or person.	Complete first report of Injury Form (WC001) and check exposure box.
2.	Contamination of clothing equipment and/or unprotected skin contact.	Wash body parts, equipment and/or clothing thoroughly. Complete first report of injury form (WC001) and check exposure box.
3.	True exposure involving contact with a person's bodily fluids through non-intact skin, needle stick or mucous membranes.	Seek medical attention immediately. Complete first report of injury form (WC001) and DWCI. Notify designated Medical Officer or Environmental, Health and Safety (EH&S) Office.

2. Exposure Control and Post-Exposure Procedures

The following exposure control practices are the minimum requirements for this Blood Bourne Pathogen Exposure Control Plan. Employees also must comply with any department-specific policies and procedures.

a. Hygienic Work Practices

1. Hand-washing facilities are generally readily available to employees;

2. If hand-washing facilities are not feasible, antiseptic hand cleaner will be provided and hands must be washed with soap and warm water as soon as possible after exposure;

3. Hands must be cleaned as soon as possible after removal of gloves or other personal protective equipment (PPE);

4. Hands and any other skin must be washed with soap and water as soon as possible following contact with blood or OPIM. Mucous membranes must be flushed with water.

b. Hepatitis B Vaccination (pre-exposure)

1. The Hepatitis B vaccine series is available to all employees who may have occupational exposure to bloodborne pathogens. The series is available to all affected employees at no cost after they have received the required training. This should occur within 10 working days of initial assignment;

2. If an employee declines the Hepatitis B vaccine, they must complete and sign a declination form;

3. Employees who sign the statement of declination may revoke the declination at any time by contacting the City's Environmental Health & Safety (EH&S) Office and agreeing to accept the Hepatitis B vaccination.

c. Personal Protective Equipment (PPE)

1. PPE such as, but not limited to, gloves, gowns, face shields, masks, eye protection, and mouthpieces or pocket masks will be made available to employees;

2. Appropriate PPE must be used when there is likelihood of occupational exposure;

3. PPE will be made available in appropriate sizes;

4. Disposable (single use) gloves must be worn when it can reasonably be anticipated that an employee may have hand contact with blood or OPIM when performing CPR and/or first aid. Gloves shall be replaced as soon as possible once contaminated, torn, or punctured. Hypoallergenic gloves or similar alternatives must be made available to those employees who are sensitive to the gloves normally provided. Disposable gloves must not be washed or decontaminated for re-use;

5. Masks and eye protection must be worn whenever splashes, sprays, splatters, or droplets of infectious materials may be generated, and eye, nose or mouth contamination can be reasonably anticipated.

d. Housekeeping

1. Any area that may come in contact with OPIM must be maintained in a clean and sanitary condition. All counter tops, work surfaces and floors must be disinfected at least daily by using an Environmental Protection Agency (EPA) approved disinfectant or a 1:10 bleach to water solution that is mixed fresh and not more than 24 hours old;

2. Protective coverings on equipment must be removed and replaced as soon as possible when they become obviously contaminated;

3. All pails, bins and cans intended for reuse which have a likelihood of becoming contaminated with blood or OPIM must be lined with red biohazard bags and properly disposed of;

4. Broken glassware, which may be contaminated, must be picked up by a mechanical method (not by hand) (e.g. using pliers, tweezers, and tongs) and disposed of in designated hard-walled waste containers.

e. Contaminated Sharps

1. All contaminated sharps must be disposed of immediately in red labeled or color-coded "sharps" containers displaying the biohazard symbol. These containers are portable, closeable, sealable, leak resistant and, once sealed, are incapable of being re-opened without great difficulty;

2. All sharps containers must be easily accessible to work area, kept closed unless adding sharps, kept upright, replaced routinely, and not allowed to be filled to level greater than 2/3 total capacity;

3. Disposal of regulated waste will be in compliance with state and local regulations.

f. Laundry

1. Contaminated laundry must be handled as little as possible and only with proper PPE (e.g. gloves);

2. Contaminated laundry must be placed in color-coded (i.e. red biohazard) bags that prevent soak through or leakage of fluids to the exterior;

3. Disposal of regulated waste will be in compliance with state and local regulations.

g. Post-Exposure Evaluation and Follow-up

1. Following a report of an exposure incident, a confidential medical evaluation and follow-up must be made immediately available to the exposed employee with the City's medical services provider. Post-exposure evaluation and follow-up for bloodborne pathogens exposure is also available to all employees who have had exposure incidents;

2. The supervisor will document the route(s) of exposure, and the circumstances under which the exposure incident occurred by completing the First Report of Injury Form (WC001). The supervisor must also notify the department's Designated Officer or the City's EH&S Office;

3. The supervisor must identify and document the source individual, unless it is established that identification is infeasible or prohibited by state or local law. If possible in accordance with state law, the source individual's blood will be tested, and the results documented and made available to the exposed employee. The employee will also be informed of the laws related to disclosure;

4. Post-exposure treatment will be provided if medically indicated. The full hepatitis B vaccination series will be made available within 24 hours to all unvaccinated first aid providers who have rendered assistance in any situation involving presence of blood or OPIM regardless of whether or not a specific exposure incident has occurred. The employee will receive health care professional's written opinion within 15 days;

5. Counseling and medical follow-up for reported illnesses will be provided.

3. Hazard Communication and Training

a. Signs and Labels

1. Biohazard labels must include the word "biohazard." Labels must be fluorescent orange or orange-red in color with contrasting black lettering. Labels must be attached to containers of regulated medical waste or other OPIM. Red bags or red containers may be substituted for labels except for sharp containers or regulated waste red bags.

b. Training

1. Annual training is required for employees who have occupational exposure to bloodborne pathogens and infectious diseases. All training must be documented. As required by the Bloodborne Pathogen Standard training must at least include the following elements:

    1. A copy of and an explanation of the Bloodborne Pathogen Standard;
    2. The City's Bloodborne Pathogen Exposure Control Plan;
    3. Department-specific procedures;
    4. Epidemiology and symptoms;
    5. Modes of transmission;
    6. Risk identification;
    7. Methods of compliance;
    8. Decontamination and disposal procedures;
    9. Use and care of personal protective equipment (PPE);
    10. Hepatitis B vaccination series;
    11. Emergency actions;
    12. Exposure incidents;
    13. Post-exposure procedures;
    14. Signs and labels; and
    15. Be interactive with questions and answers.

4. Record Keeping and Plan Review

a. Training Records

1. Training records must be maintained by the department for a minimum of three years. Training records must include the following:

    1. The dates of the training;

    2. The contents or a summary of the training;

    3. The names and qualifications of the persons conducting the training; and

    4. The names, job titles and signatures of all persons attending the training.

b. Medical Records

1. Medical records must be maintained for at least the duration of employment plus 30 years. They are to be kept confidential unless there is written consent from the employee to disclose information. These records must include the following:

    1. The name and social security number of the employee;

    2. A copy of the employee's Hepatitis B vaccination status including a copy of the employee's declination form or the dates of the Hepatitis B vaccinations; and

    3. A copy of all results from examinations, medical testing and follow-up procedures and including any written opinions provided to employer by a healthcare professional and/or a copy of the information provided to the healthcare professional.

c. Sharps Injury Log

1. A sharps injury log must be maintained by Workers' Compensation for a minimum of five years from the date the exposure incident occurred. Each exposure incident must be recorded within 14 working days of the date of the incident. The log must be maintained in such a manner as to protect the confidentiality of the injured employee. The log must include the following information, if known or reasonably available:

    1. Date and time of exposure incident;

    2. Type of brand of sharp involved in the exposure incident;

3. A description of the exposure incident, which must include the job classification of the exposed employee, the department or work area where the exposure occurred, the procedure that the exposed employee was performing at the time of the incident, how the incident occurred, and the body part involved in the exposure incident;

4. If the sharp had engineered sharps protection or not, whether the protection was activated, and if the injury occurred before, during or after the activation of the mechanism; and

5. The injured employee's opinion as to whether and how such an engineered protection mechanism may have prevented the injury as well as if any engineering, administrative or work practice control may have prevented the exposure or injury.

d. Plan Review

This Bloodborne Pathogen Exposure Control Plan and any department-specific procedures will be reviewed at least annually or when any of the following conditions exist:

1. When new or modified tasks and procedures affect occupational exposure are developed;

2. When changes in technology that reduce or eliminate exposure to bloodborne pathogens become available;

3. When new or revised employee positions with occupational exposures are identified;

4. When the review and evaluation of exposure incidents indicate changes are needed; and

5. When information indicating the Bloodborne Pathogen Exposure Control Plan is deficient in any area are identified.

Definitions
(Attachment A)

Blood
Human blood, human blood components, and products made from human blood.

Bloodborne Pathogens
Pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include, but are not limited to Hepatitis B virus (HBV) Hepatitis C virus (HCV) and Human Immunodeficiency Virus (HIV).

Contaminated
The presence or the reasonably anticipated presence of blood or other potently infectious materials on a surface or an item.

Decontamination
The use of physical or chemical means to remove, inactivate or destroy bloodborne pathogens on a surface or item to the point where they are no longer capable of transmitting infectious particles and the surface or item is rendered safe for handling, use, or disposal.

Engineering Controls
Controls that isolate or remove the bloodborne pathogens hazard from the workplace (e.g. such as sharps disposal containers, needleless systems and sharps with engineered sharps injury protection.

Engineered Sharps Injury Protection
A physical attribute built into a needle device used for withdrawing body fluids, accessing a vein or artery, or administering medications or other fluids which effectively reduces the risk of an exposure incident by a mechanism such as barrier creation, blunting, encapsulation, withdrawal or other effective means; or a physical attribute built into any other type of needle device, or into a non-needle sharp which effectively reduces the risk of an exposure incident.

Exposure Incident
A specific eye, mouth, other mucous membrane, non-intact skin, or parenterneal contact with blood or other potentially infectious materials that results from the performance of an employee's duties.

Occupational Exposure
Reasonably anticipated skin, eye, mucous membrane, or potential contact with blood or other potentially infectious materials that may result from the performance of an employee's duties.

OPIM
Other potentially infectious materials including these human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, any other body fluid that is visibly contaminated with blood such as saliva or vomitus, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids, such as emergency response.

Parenterneal Contact
Piercing mucous membranes or the skin barrier through such events as needle sticks, human bites, cuts, and abrasions.

Personal Protective Equipment (PPE)
Specialized clothing or equipment worn or used for protection against a hazard (e.g. gloves, masks, goggles, face shields, etc.). This does not include general work clothes (e.g. uniforms, pants, shirts).

Regulated Waste
Waste that is liquid or semi-liquid blood or OPIM; contaminated items that contain liquid, semi-liquid or dried-blood which are capable of releasing these materials when handled or compressed; contaminated sharps, pathological or microbiological wastes containing blood or OPIMs, or medical waste regulated by Health and Safety Code Sections 117600 through 118360.

Sharps
Any object used or encountered that can be reasonably anticipated to penetrate the skin or any other part of the body, and to result in an exposure incident, including, but not limited to, needle devices, broken glass and exposed ends of dental wires.

Universal Precautions
An approach to infection control where all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, HCV and other bloodborne pathogens.

CITY OF SACRAMENTO REGULATORY COMPLIANCE PROGRAM
TOPIC: CONFINED SPACE OPERATIONS PROGRAM
EFFECTIVE DATE: 9/13/10
SUPERSEDES: N/A
SECTION: RCP #6

PURPOSE

This written regulatory compliance program specifies requirements to be followed by City employees assigned to perform permit-required and non-permit required confined space operations. The safety requirements for proper identification, assessment and entry into confined spaces identified as permit-required confined spaces are compliant with the California Code of Regulations (CCR) Title 8, Sections 5156-5158 (8CCR5156-5158) and must be strictly adhered to. Cal-OSHA compliant department-specific procedures may be applied for emergency operations conducted by the Sacramento Fire Department. Definitions of terms used in the Cal-OSHA regulations are listed in Attachment A.

1. **Evaluations and Classifications**

   a. Workplace Evaluation

      1. The Division Manager or designated person for each division will identify and evaluate known and potential confined spaces associated with division operations;

      2. The Division Manager or designated person for each division will prepare an inventory list of known confined space locations, types, and/or tasks;

      3. This evaluation and inventory list will be reviewed and updated annually.

   b. Confined Space Classifications

      Confined spaces are defined as locations that:

      1. Are large enough and so configured that an employee can bodily enter and perform assigned work;

      2. Have limited or restricted means for entry or exit; or

      3. Are not designed for continuous employee occupancy;

      4. Non-permit confined spaces are defined as confined spaces that do not contain or have the potential to contain any atmospheric hazards capable of causing death or serious physical harm;

      5. Permit-required confined spaces are defined as locations that:

         1. Contain or have the potential to contain a hazardous atmosphere;

2. Contain a material that has the potential for engulfing an entrant (e.g. liquid, soil);

3. Contain inwardly converging walls or a floor that slopes downward and tapers to a smaller cross-section where an entrant could be trapped or asphyxiated; or

4. Contain any other recognized serious safety or health hazard or have the potential for rapid change in work environment (e.g. unsafe temperature, electrical shock, hazardous chemicals).

2. **Responsibilities**

a. Environmental Health and Safety (EH&S) will:

1. Serve as a resource and support for confined space issues;

2. Maintain, revise, and distribute this program to appropriate departments;

3. Assist in developing and presenting confined space safety training; and

4. Assist departments in any additional specialty air monitoring, testing and selection of respiratory protection equipment.

b. Departments will:

1. Identify all operations that potentially involve confined space entry;

2. Determine if the confined space is a permit-required confined space;

3. Maintain a current inventory list of all known permit-required confined space locations, types, and/or tasks;

4. Ensure that a warning sign or label (temporary or permanent) is attached to the entry points of all known, permit-required confined spaces; and

5. Ensure only trained personnel are assigned to confined space operations (e.g. attendant, entrant, or entry supervisor positions) and follow all aspects of this program prior to allowing any employee to enter the confined space.

All permit-required confined spaces which are labeled must be posted. Signs will have languages similar or equal to:

DANGER
PERMIT-REQUIRED CONFINED SPACE
DO NOT ENTER UNLESS AUTHORIZED AND PROPER EQUIPMENT IS PRESENT

6. Whenever possible, permit-required confined spaces will be posted with permanent signage. Remote locations permit-required confined spaces (e.g. maintenance holes, vaults, etc.) may be temporarily posted during entry operations;

7. Ensure only trained personnel are assigned to confined space operations (e.g. attendant, entrant, or entry supervisor positions) and follow all aspects of this program prior to allowing any employee to enter the confined space.

c. Entry Supervisors will:

1. Function as the on-site work supervisor having the authority and responsibility to determine if acceptable entry conditions exist and to authorize entry into a permit-required confined space;

2. Remain on-site at the location of permit-required confined space entry operations at all times that employees are in a confined space unless duties are transferred to another qualified employee in the event that he or she must leave the worksite; and

3. Determine the appropriate type of communication system (e.g. radio, voice, etc.) to be used during confined space operations.

d. Attendants will:

1. Be assigned for all permit-required confined space operations at the entry to the confined space;

2. Know the hazards as well as the signs and symptoms of exposure associated with the assigned confined space entry operation, including the behavioral effects of hazard exposure;

3. Continuously maintain awareness of authorized entrants' activities, including an accurate count of entrants;

4. Remain outside the permit-required confined space until relieved by another authorized attendant;

5. Communicate with authorized entrants and monitor their activities;

6. Alert the authorized entrants when evacuations is necessary;

7. Summon rescue and emergency services (i.e. call 911) if authorized entrants need assistance to escape from permit-required confined space;

8. Warn against and prevent unauthorized entry into the permit-required confined space;

9. Inform the entry supervisor if unauthorized entry occurs; and

10. Perform non-entry rescues, as necessary, utilizing extraction equipment (i.e. the retrieval system or self-rescue).

e. Entrants will:

1. Follow all rules and instructions;

2. Report any accidents, injuries, or work-related problems to the supervisor; and

3. Follow job assignments as authorized entrant and/or attendant.

PROCEDURES

1. Job Planning

All potential confined spaces must be evaluated to determine if these spaces should be classified as a non-permit or permit-required space. Non-entry options for performing the work should be considered. All spaces will be considered permit-required confined spaces until the pre-entry procedures demonstrate otherwise. The following information must be obtained and evaluated prior to performing entry operations by a trained confined space entrant or supervisor.

a. Nature, type and size of the permit-required confined space including a means of exit and ventilation;

b. Hazardous sources of energy that will require lockout/tag out (e.g. isolation);

c. Chemical hazards in the permit-required confined space including hazardous atmospheres, sludge, scale, sewer grass, chemical, etc.;

d. Physical hazards including electrical, noise, heat stress, slip, trip, fall, etc.;

e. Reason for entry (i.e. nature of operations);

f. Equipment to be operated for ventilation, lighting, cleaning, air monitoring, emergency extraction, etc.;

g. Anticipated duration of the job, work crew size, etc.;

h. Determination of the appropriate type of communication system to be used during operations.

2. Air Monitoring

The air inside confined spaces must always be tested, from outside the space, and before entry into any confined space. As a minimum, the air must be tested for percent oxygen content (OXY %), percent Lower Explosive Limit (LEL %) atmospheres, and parts per million of carbon monoxide (CO) and hydrogen sulfide (H2S). Additional tests may also be specified. (Refer to Attachment B.)

a. A trained entrant or supervisor will ensure that pre-entry atmospheric testing is performed, and results are recorded on the non-permit validation form (Attachment C) or confined space entry permit (Attachment D);

b. Representative atmosphere tests will be taken from at least three (3) different levels and locations, or approximately every four feet including corners and low spots;

c. Air monitoring equipment will be maintained and calibrated following the manufacturers' recommendations by an appropriately qualified person.

3. **Non-Permit Space Entry Procedure**

For classification as a non-permit confined space, the only hazards that may be present are limited means of entry/exit or that the space is not designed for continuous human occupancy. Non-permit entry into confined spaces may be allowed only when initial air monitoring confirms a non-hazardous atmosphere. (Refer to Attachment B.)

a. A trained confined space entrant or supervisor will:

    1. Conduct air monitoring to verify a non-hazardous atmosphere;

    2. Verify no hazards that could produce serious injuries exist; and

    3. Use the confined space non-permit entry validation form to document the pre-entry evaluation (Attachment C).

b. Mechanical ventilation may be used to reduce air contamination for non-permit entry (Yellow Zone, Attachment B). If mechanical ventilation is necessary to eliminate air contaminants, an attendant, two-way communication and continuous ventilation are required for non-permit confined space entry operations;

c. If initial air contamination is hazardous (Orange Zone, Attachment B) a permit is required.

4. **Permit Required Confined Space Entry Procedures**

Pre-entry evaluation will assess the size of the permit-required confined space, entry/exit access, chemical hazards, air quality, and work to be performed.

a. The entry supervisor must obtain the job planning information, conduct air monitoring and initiate an individual confined space entry permit for each space to record information obtained in the pre-entry evaluation (Attachment D);

b. When necessary (e.g. unusual conditions, hazardous atmospheric conditions or any significant safety concern), the entry supervisor should review the confined space entry permit with the Division Manager, EH&S staff or designated person prior to signing off on the permit before work begins;

c. The entry supervisor must review the confined space entry permit with the job site employees;

d. The confined space entry permit must be posted at the entrance to the confined space during all entries authorized by the permit;

e. The entry supervisor will ensure that all testing, ventilation, communication, lighting, barriers, ladders, and personal protective equipment required for an authorized entry is available, in good condition, and is used as required. All lighting must be explosion proof;

f. Prior to and during authorized entry, the entry supervisor must ensure the following:

1. The permit-required confined space is posted, and unauthorized entry is prohibited;

2. All hazards have been identified, evaluated and mitigated as needed;

3. Acceptable entry conditions have been reviewed (Attachment B);

4. The permit-required confined space is isolated. Note: some spaces cannot be isolated (e.g. wet wells with no isolating valves or large mains);

5. The permit-required confined space is properly ventilated;

6. The work area and confined space entry locations are marked and isolated to provide pedestrian, vehicle and/or other hazard barriers;

7. Material Safety Data Sheets (MSDS) will be posted for chemicals used in confined spaces. Supervisors should brief entrants and attendants on the content of SDS.

g. The conditions in the permit-required confined space must remain acceptable for entry throughout the entire authorized entry. Air-monitoring will be conducted continuously and results recorded every 15 minutes;

h. Permit-required confined spaces will be continuously ventilated during all entry operations to reduce to, or remain below, specified atmospheric levels of contaminants;

i. Ventilation will be positioned to blow air into, or pull air out of, the confined space as specified by the entry supervisor;

j. Ventilation will be continued for an adequate period of time before testing and entry, as well as at all times during entry;

k. The entry supervisor will assign at least one attendant outside the permit-required confined space to monitor the authorized entrant(s) and will review job tasks and safety responsibilities with both attendants and authorized entrants.

5. **Control of Hazardous Substances and Energy**

The entry supervisor will verify that all sources of hazardous substances or energy are deactivated, de-energized, are restricted from operation (locked-out and tagged-out) and are verified as de-energized prior to authorizing employee entry.

a. Any machinery or other hazard that is electrically, mechanically, chemically, hydraulically, or pneumatically supplied must be de-energized and locked out prior to entry. Pneumatically and hydraulically supplied machinery or hazards must be depressurized, and the air supply disconnected, locked out and/or tagged out;

b. Where applicable, any pipes, ducts or drains, which could introduce dangerous chemicals, pressure or water into the confined space, must be disconnected, blanked or capped. As an alternative, two consecutive shut-off valves can be closed and tagged out. Whenever possible, at least one valve should be chained and locked into the closed position;

c. Any drain valves for the confined space must be locked into the open position and tagged.

6. **Safety Harnesses, Lifelines and Extraction Equipment**

A lifeline and full body harness will be used for all permit-required confined space entry operations unless the retrieval equipment would increase the overall risk of entry or would not contribute to the rescue of the entrant. The lifeline must be attached to a retrieval system or a fixed anchor.

A retrieval system (i.e. safety harness, lifeline and extraction device) will be used for all permit-required confined space entry operations into vertical spaces more than five feet deep. The purpose of the retrieval system is to affect non-entry rescue by the attendant in the event of a confined space emergency and to act as fall protection.

Extraction devices are primarily intended for top entry situations.

7. Shift Changes

In the event of a shift change, the initial shift personnel will exit the confined space and the existing confined space entry permit will be canceled. The shift going on-duty will follow all procedures for initial entry into a permit-required confined space. The on-duty shift entry supervisor will initiate, complete and authorize a new confined space entry permit.

8. Permit Completion Procedure

a. When the operation is complete or terminated, the authorized entrant(s) will be immediately removed from the permit-required confined space and the confined space entry permit canceled by the entry supervisor by checking the canceled box on the permit. The permit will be cancelled if any condition not allowed by the confined space entry permit arises in or near the permit-required confined space;

b. Problems encountered during entry will be noted on the confined space entry permit;

c. Following completion of each job, the confined space entry permit(s), or a copy, will be filed with the Division Manager or designated person;

d. All canceled permits will be retained for at least one year (12 months) after cancellation.

9. Respiratory Protection

Consult with your supervisor to further evaluate hazards for any air contamination that cannot be eliminated with ventilation. Consult with EH&S staff prior to using any respiratory protection equipment in a confined space. Air purifying filter cartridge respirators do not provide protection and cannot be used in oxygen deficient atmospheres (refer to Attachment B).

10. Emergency Procedures

Preparation is essential for dealing effectively with emergency situations:

a. The entry supervisor will identify how fire/rescue/paramedic services can be summoned by locating the nearest operating telephone and/or radio. The telephone and/or radio must be tested to make sure they are operating properly. The exact worksite address, cross-streets, or location where the person summoning help can be met must also be identified;

b. The attendant must be prepared at all times to act in the event of an emergency and must always be prepared to call for help. The entry supervisor and/or attendant will have immediate access to telephone or two-way radio for the purpose of requesting emergency rescue services;

c. The entry supervisor will maintain verbal communication with the attendant at all times during the entry operations;

d. The attendant must **never** enter the confined space to attempt rescue. The attendant will attempt non-entry rescue **only** by requesting the entrants to evacuate and/or activating the extrication equipment;

e. The attendant or entry supervisor will contact the Fire Department (732-0100 to connect to 911 from a cell phone) to request emergency aid. When calling for help, the following information must be furnished:

    1. Caller's name and call back phone number;

    2. Address and exact location of the confined space; and

    3. Nature of the emergency including the number of workers affected, any known hazards, and the events leading up to the emergency.

f. When emergency personnel arrive on-scene, the entry supervisor and/or attendant will:

    1. Update the rescue personnel;

    2. Have the confined space entry permit available for review; and

    3. Assist as requested.

TRAINING REQUIREMENTS

1. Any employee that enters a confined space (authorized entrant), serves as a stand-by (attendant), or supervises a job involving a confined space (entry supervisor), must receive training;

2. No employee may be assigned to evaluate the hazards of a potential confined space or work in a permit-required confined space job until trained;

3. New employee initial training will be provided on an as-needed basis by the Division Manager or designated person;

4. Employees will not be eligible for confined space work unless they attend all training lectures, participated in all training exercises and demonstrate proper use of test instruments, personal protective clothing and equipment, lifeline, harness, extraction device, ventilators and other related equipment;

5. The Division Manager or designated person, in association with the qualified trainer, will verify that the training requirements have been satisfied. Certification will be documented and include the following:

    a. Employee name;

    b. Date of certification; and

    c. Name (and initials or signature) of the trainer.

6. Training will cover the following topics:

    a. Hazards of confined space operations;

    b. Differences between non-permit and permit-required confined space;

    c. The content of this regulatory compliance program;

    d. The Cal-OSHA permit-required confined space standard;

    e. Use of the confined-space entry permit;

    f. Conditions prohibiting safe entry;

    g. Duties of the entry supervisor, attendant, and authorized entry workers;

    h. Use of test instruments, lifeline, harness, extraction device and personal protective clothing and equipment; and

    i. Emergency and rescue procedures.

7. Training will be updated:

    a. Whenever there is a change in entry procedures;

b. Whenever new hazards have been identified or there are inadequacies in an employee's knowledge and/or the use of these procedures;

c. As needed based on changes to regulations and/or procedures; and/or

d. Annual refresher training.

PROGRAM EVALUATION

1. Requirements

   a. The City of Sacramento Confined Space Operations Program will be re-evaluated annually and updated as needed.

      1. The EH&S staff will be responsible for initiating and documenting the annual program review;

      2. Entry Supervisors may participate in each annual review.

   b. Annual program review will include the following:

      1. Review of canceled confined space entry permits for the last 12 months;

      2. Review of the non-permit and permit-required confined space location/task inventories;

      3. Training records;

      4. Any known and/or documented confined space safety incidents; and

      5. Air monitoring instrument, retrieval system, safety and other equipment condition, maintenance usage, etc.

Definitions
(Attachment A)

Acceptable Entry Conditions
Environmental conditions inside a permit-required confined space where there are no atmospheric components potentially hazardous to health or safety.

Attendant
A person designated to remain outside one or more permit-required confined spaces to monitor the authorized entrants and performs all attendants' duties assigned on the entry permit.

Authorized Entrant
An employee who is authorized by the employer to enter a permit required confined space.

Buddy System
At least two persons equipped with approved respiratory equipment shall be on the job and communication shall be maintained between both or all individuals present.

Blanking or Blinding
The absolute closure of a pipe, line, or duct by the fastening of a solid plate (such as a spectacle blind or skillet blind) that completely covers the bore and that is capable of withstanding the maximum pressure of the pipe, line, or duct with no leakage beyond the plate.

Confined Space
A space that is a) large enough and so configured that an employee can bodily enter and perform assigned work; b) has limited or restricted means for entry or exit; and c) is not designed for continuous employee occupancy such as tanks, silos, vats, vessels, boilers, compartments, ducts, sewers, pipelines, vaults, bins, tubs and pits.

Double Block and Bleed
The closure of a line, duct, or pipe by closing and locking or tagging two in-line valves and by opening and locking or tagging a drain or vent valve in the line between the two closed valves.

Emergency
Any occurrence or event internal or external to the permit-required confined space that could endanger entrants, or any condition not permitted on the entry permit including any failures of hazard control, monitoring, communication or lighting equipment.

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

Entry
The action by which a person passes through an opening into a permit-required confined space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.

Entry Permit (permit)
The written or printed document containing specific information that is provided by the entry supervisor to allow and control entry into a permit space.

Entry Supervisor
The person responsible for determining if acceptable entry conditions are present at a permit space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry as required.

Hazardous Atmosphere
An atmosphere that has the potential to cause death, incapacitation, impairment of ability to self-rescue, acute illness or delayed illness that can result in injury from one or the combined effects of the following causes:

1. Flammable gas, vapor, or mist in excess of 10 percent of its lower explosive limit (LEL);

2. Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent;

3. Atmospheric concentration of any substance for which a permissible exposure limit is published and which could result in employee exposure in excess of that permissible exposure limit (e.g. carbon monoxide greater than 25 ppm, or hydrogen sulfide greater than 10 ppm) or any other atmospheric condition that is immediately dangerous to life or health. (**Note**: Flammable gases may also be toxic. Decreased oxygen levels may be caused by displacement of oxygen by a toxic substance.)

Hot Work Permit
The written authorization to perform operations capable of providing a source of ignition as per the City of Sacramento's Regulatory Compliance Program No. 11.

Immediately Dangerous to Life or Health (IDLH)
Any condition that poses an immediate or delayed threat to life or that would cause irreversible adverse health effects or that would interfere with an individual's ability to escape unaided from a permit space.

Inerting
The displacement of the atmosphere in a permit space by a noncombustible gas to such an extent that the resulting atmosphere is noncombustible.

Isolation
The process by which a permit-required confined space is removed from service and completely protected against the release of energy and material into the space by such means as: blanking or blinding; misaligning or removing sections of lines, pipes, or ducts; a double block and bleed system; lockout or tag out of all sources of energy; or blocking or disconnecting all mechanical linkages.

Line Breaking
The intentional opening of a pipe, line, or duct that is, or has been, carrying flammable, corrosive, or toxic material, an inert gas, or any fluid at a volume, pressure, or temperature capable of causing injury.

Non-permit Required Confined Space
A confined space that does not contain or have the potential to contain any atmospheric or other hazard capable of causing death or serious physical harm.

Oxygen-deficient Atmosphere
An atmosphere containing less than 19.5 percent oxygen by volume.

Oxygen Enriched Atmosphere
An atmosphere containing more than 23.5 percent oxygen by volume.

Permit-required Confined Space
A confined space that has one or more of the following characteristics:

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

Permit-required Confined Space Program
The City of Sacramento's overall program for controlling and, where appropriate, for protecting employees from permit space hazards and for regulating employee entry into permit spaces, also known as Regulatory Compliance Program Number 6.

Permit System
The written procedure for preparing and issuing permits for entry and for returning the permit space to service following termination of entry.

Prohibited Condition
Any condition in a permit space that is not allowed by the permit during the period when entry is authorized.

Rescue Service
The personnel designated to rescue employees from permit spaces.

Retrieval System
The equipment (including a retrieval line, chest or full-body harness, wristlets, if appropriate, and a lifting device or anchor), used for non-entry rescue of persons from permit spaces.

Testing
The process by which the hazards that may confront entrants of a permit space are identified and evaluated.

Ventilating
The process where clean fresh air is blown into a permit-required confined space while persons are in the space.

Confined Space Acceptable Entry Condition Guide (Attachment B)

Decision	Oxygen	Lower Explosive Limits (LEL's)	Carbon Monoxide	Hydrogen Sulfide
Normal Air	**20.9%**	**0%**	**0ppm**	**0ppm**
Non-Hazardous Atmosphere **Permit may be required** **Consult with supervisor if normal atmosphere cannot be achieved**	**19.5-23.5%**	**Less than 10%**	**Less than 25ppm**	**Less than 10ppm**
Hazardous Atmosphere **Permit Required** **Entry allowed with supplied air or SCBA only. Consult with supervisor and EH&S.**	**16-19.5% OR more than 23.5%**	**10-19%**	**25-500ppm**	**10-100ppm**
No Entry Allowed	**Less than 16% OR more than 23.5%**	**More than 20%**	**More than 500ppm**	**More than 100ppm**

Mechanical ventilation may be used to achieve non-permit entry conditions only when initial air monitoring results are non-hazardous (Yellow Zone).

If air quality cannot be improved to normal with mechanical ventilation, further investigation is required to determine and address the cause of low / high oxygen or presence of other toxins.

Permit is required if initial air quality does not meet yellow zone, the cause of low/ high oxygen is unknown or other any other safety or health hazards exist.

Do not enter a confined space using respiratory protective equipment unless specifically reviewed and approved by EH&S staff.

Confined Space Non-Permit Validation
(Including entry into manholes, sumps and basins)
(Attachment C)

Confined spaces may be entered without the need for a written permit or attendant provided that the space contains no air contaminants or safety hazards. All confined spaces will be considered permit-required until the pre-entry evaluation confirms no hazardous conditions. A trained confined space supervisor or entrant must complete the following pre-entry check list to confirm the space is non-permit.

1. Have you notified the supervisor that an entry is to be made? ___Yes ___No
2. Have you verified that no hazards exist? (e.g. engulfment, electrical or atmospheric)? ___Yes ___No
3. Did you lockout and block sources of hazardous energy or substances leading to the immediate area? ___Yes ___No
4. Are there large (greater than 12 inch) or fast flowing laterals? ___Yes ___No
5. Did you survey the surrounding area to identify hazards such as drifting vapors from tanks, piping, or sewers? ___Yes ___No
6. Does your knowledge of the area indicate that it will remain free of dangerous air contaminants or engulfment hazards while occupied? ___Yes ___No
7. Has the gas detector been bump tested at the beginning of the shift? ___Yes ___No
8. Did you sample the atmosphere within the space to determine Whether hazardous air contamination and/or oxygen deficiency exists? ___Yes ___No
9. Did the atmosphere check as acceptable (no alarms)? ___Yes ___No
10. Will the atmosphere be continuously monitored while the space is occupied? ___Yes ___No
11. Have you notified your supervisor when you have exited the space? ___Yes ___No

If any questions are answered **No**, a permit entry is required. If mechanical ventilation is needed to eliminate air contaminants, an attendant and two-way communications are required.

Note: Not all laterals to sewer or storm drains require blocking, only those with known hazards or have a history of hazards.

	REQUIRED TESTS OF AIR IN THE CONFINED SPACE							REQUIRED TESTS OF AIR IN THE CONFINED SPACE					
					OTHER[1]							OTHER[1]	
TIME	LEL %	OXY %	H_2S PPM	CO PPM	PPM	PPM	TIME	LEL %	OXY %	H_2S PPM	CO PPM	PPM	PPM
Permit Required if :	Is > 10%	Is not 19.5 – 23.5%	Is not < 10 ppm	Is not < 25 ppm				Is > 10%	Is not 19.5 – 23.5%	Is not < 10 ppm	Is not < 25 ppm		

If oxygen levels are not normal (20.9%) further investigation is required to determine the cause and possible presence of toxins.

Contact your supervisor or the Safety Office (808-5278) if you have any questions.

Job Location: _____ Date: _____

Printed Name: _____

Confined Space – Entry Permit
(Attachment D)

Facility Location _____ **Date:** _____

W.O No.: _____ **Shift:** Day **Entry Duration:** _____

Address: _____

Work Plan: _____

Confined Space Description: _____

Anticipated Hazards: **Entrapment, Oxygen deficiency or enrichment, Engulfment, Flammable atmosphere, Moving equipment, Toxic atmosphere or biological hazards, and any other bad stuff down there.**

CONFINED SPACE SAFETY CHECKLIST	YES	N/A	EMPLOYEE SIGN-IN[4]
All lines leading to and from the confined space have been isolated			1. (Print Name) Signature:
Electrical service de-energized/disconnected and locked out/tagged out			
All ignition sources removed and isolated			2. (Print Name) Signature:
Ventilation equipment in use, and bonded and grounded			
Special warning signs posted			3. (Print Name) Signature:
Explosion proof lighting/electrical equipment inspected and in use			
Required personnel protective equipment inspected, in good condition, and in use			4. (Print Name) Signature:
Safety standby person trained in emergency procedures and CPR			
Emergency equipment (fire ext., first aid kit) ready for use			5. (Print Name) Signature:
Area surrounding confined space free of hazards			
Air monitoring instruments check, operating properly, and in use			6. (Print Name) Signature:
Confined space atmosphere checked prior to entry			
Continuous ventilation required for entry			7. (Print Name) Signature:

	REQUIRED TESTS OF AIR IN THE CONFINED SPACE							REQUIRED TESTS OF AIR IN THE CONFINED SPACE					
					OTHER[1]							OTHER[1]	
TIME (15 min intervals)	LEL %	OXY %	H_2S PPM	CO PPM	PPM	PPM	TIME	LEL %	OXY %	H_2S PPM	CO PPM	PPM	PPM
No entry when levels are: CALL SAFETY OFFICER	>10	<19.5 >23.5	>10[2]	>25[3]			**No entry when levels are: CALL SAFETY OFFICER**	>10	<19.5 >23.5	>10[2]	>25[3]		

SPECIAL INSTRUCTIONS: _____

Approval: _____ _____

Entry Supervisor *Division Manager or Designated Person*

[1] When appropriate, test for other toxic contaminants.

[2] PEL for H_2S.

[3] PEL for CO.

[4] Sign in following safety briefing by Entry Supervisor. All entrants and attendants must sign in.

	REQUIRED TESTS OF AIR IN THE CONFINED SPACE							REQUIRED TESTS OF AIR IN THE CONFINED SPACE					
TIME (15 min intervals)					OTHER[1]							OTHER[1]	
	LEL %	OXY %	H_2S PPM	CO PPM	PPM	PPM	TIME	LEL %	OXY %	H_2S PPM	CO PPM	PPM	PPM
No entry when levels are: CALL SAFETY OFFICER	>10	<19.5 >23.5	>10[2]	>25[3]			**No entry when levels are: CALL SAFETY OFFICER**	>10	<19.5 >23.5	>10[2]	>25[3]		

CITY OF SACRAMENTO REGULATORY COMPLIANCE PROGRAM
TOPIC: UNDERGROUND SERVICE ALERT (USA) PROGRAM
EFFECTIVE DATE: 2/23/06
SUPERSEDES: N/A
SECTION: RCP #7

PURPOSE

The purpose of this policy is to provide guidelines for compliance with notification requirements during excavation projects performed by City employees as defined below. In addition, the City also has the responsibility to mark its subsurface installations for other entities as part of the regional notification system. These notification requirements are designed to identify subsurface installations which may be impacted by the excavation. The requirements for notification before excavation are located in Section 4216 of the California Government Code and Section 1541 (b) (1-4) of Title 8 of the California Code of Regulations. Definitions of the terms used in this program are found in Attachment A.

RESPONSIBILITY

City employees are required to follow his or her department's established procedures (e.g. Standard Operating Procedures, General Orders, Manual of Operations, etc.) and this safety program related to notification requirements during excavation projects. In any case, where a City excavator damages (e.g. scrapes, dents, nicks, breaks, etc.) an underground facility, the excavator must directly contact the owner/operator of the facility and describe the damage as soon as possible.

PROCEDURES AND REQUIREMENTS

1. Notification Requirements

a. Except in an emergency, every person planning to conduct any excavation shall contact the regional notification center (Underground Service Alert at 800-227-2600) at least two working days, but not more than 14 calendar days, prior to commencing that excavation;

b. The excavator must delineate the area to be excavated with white paint or other suitable markings. If it is not practical to delineate the area to be excavated with paint, the excavator will convey this to the regional notification center and other arrangements will be made;

c. A record of all notifications by excavators to the regional notification center shall be maintained by the department for at least three years.

2. Inquiry Identification Numbers

The regional notification center will provide an inquiry identification number to the person contacting the center regarding an excavation. This number is valid for 28 calendar days. The number can be revalidated for a longer period of time upon agreement with the center and the excavator prior to its 28-calendar day expiration. The inquiry identification number must be kept at the job site for the duration of the work being performed.

3. Field Markings

a. Any operator of a subsurface installation who receives notification from the regional notification center of any proposed excavation work will, within two working days or before the start date of the excavation work, whichever is later (excluding weekends and holidays), locate and field mark the approximate location of the subsurface installation;

b. Operators of subsurface installations shall make reasonable efforts to confirm to the following color code based on the type of installation:

Color	Type of Installation
Red	Electric distribution, power, transmission, or municipal electric installations
Yellow	Gas distribution, transmission, and installations; oil distribution, transmission, and installations; and installations containing or transporting dangerous materials, products, or steam
Orange	Telephone and telegraph installations, police and fire communication installations, and cable TV installations
Blue	Water installations
Green	Sewer installations
Purple	Reclaimed water, irrigation and slurry lines

c. If at any time during the excavation for which there is a valid inquiry identification number, and an operator's marks are no longer visible, the excavator shall contact the regional center to apprise them of the situation. The regional center will in turn contact the operator who must relocate and remark the subsurface installation within two working days.

4. Subsurface Installations Within Excavation Areas

a. The excavator shall determine the exact location of subsurface installations within the area to be excavated by utilizing hand tools in the area delineated by the operator's field markings. This must be done prior to the use of any power-operated or power-driven excavating or boring equipment within the approximate location of the subsurface installation;

b. Exception: Power-operated or power-driven excavating or boring equipment may be used for the removal of pavement if there are no subsurface installations within the pavement. If the exact location of the subsurface installation cannot be determined by hand excavating as described above, the excavator shall request the operator to provide additional information to the extent possible to determine the exact location of the subsurface installation;

c. The safety of the crew performing any emergency excavation must be a priority. All reasonable efforts should be taken to contact those owner/operators whose underground facilities represent the greatest hazard to the excavation crew. Primarily, the greatest hazards are posed by gas, electric, and chemical pipeline installations. Also, due to the high cost of damage, fiber optic owner/operators should be contacted.

Definitions
(Attachment A)

Approximate Location of Subsurface Installations
A strip of land not more than 24 inches on either side (laterally) of the exterior surface of the subsurface installation. This does not pertain to depth.

Excavation
Any operation in which earth, rock, or other material in the ground is moved, removed, or otherwise displaced by means of tools, equipment, or explosives in any of the following ways grading, trenching, digging, ditching, drilling, auguring, tunneling, scraping, cable or pipe plowing and driving, or any other means.

Excavator
Any person, firm, contractor or subcontractor, owner, operator utility association, corporation, partnership, business trust, public agency, or other entity with which their, or his or her, own employees or equipment performs any excavation.

Emergency
A sudden, unexpected occurrence involving a clear and imminent danger demanding immediate action to prevent or mitigate loss of, or damage to life, health, environment, property, or essential public services. "Unexpected occurrence" includes, but is not limited to fires, floods, earthquakes or other geologic movements, riots, accidents, damage to a subsurface installation requiring immediate repair, or sabotage.

Inquiry Identification Number
The number which is provided by a regional notification center to every person who contacts the center pursuant to Section 4216 of the Government Code. The inquiry identification number shall remain valid for not more than 28 calendar days from the date of issuance. After 28 calendar days, the number must be revalidated with the regional center.

Operator
Any person, corporation, partnership, business trust, public agency, or other entity, which owns, operates, or maintains a subsurface installation. This does not include an owner of real property where subsurface facilities are exclusively located if they are used exclusively to furnish services on that property and the subsurface facilities are under the operation and control of the owner.

Regional Notification Center
A nonprofit association or other organization of operators of subsurface installations which provides advance warning of excavations or other work close to existing subsurface installations, for the purpose of protecting those installations from damage, removal, relocation, or repair. The regional notification center for purposes of this program is commonly referred to as Underground Service Alert (USA).
The phone number is 1-800-227-2600.

Subsurface Installation
Any underground pipeline, conduit, duct, wire, or other structure, except non-pressurized sewer lines, non-pressurized storm drains, or other non-pressurized drain lines.

After-Hours and Emergency Contacts (Attachment B)

Owner/Operator	Phone Number
Underground Service Alert North	800-227-2600
PG & E	800-743-5000
SMUD	916-732-5955
ATT	916-638-8493
Sprint	800-369-9772
Kinder Morgan	916-369-9772
SBC (If voicemail answers, press 4 to be transferred as urgent.)	916-453-6090

CITY OF SACRAMENTO REGULATORY COMPLIANCE PROGRAM
TOPIC: HEARING CONSERVATION PROGRAM
EFFECTIVE DATE: 07/21/10
SUPERSEDES: N/A
SECTION: RCP #8

PURPOSE

The objective of the Hearing Conservation Program (HCP) is to prevent noise-induced hearing loss resulting from on-the-job noise exposure. To ensure compliance with the California Code of Regulations, Title 8, Sections 5095-5100 (8CCR5095-5100), this regulatory compliance program provides guidance to managers and staff on the City's HCP which applies to all employees who are determined to be at or to exceed the action level established in 8CCR5095. Attachment A lists definitions of the terms used in the HCP.

RESPONSIBILITIES

1. **Department Managers and Supervisors will:**

    a. Implement the HCP throughout his or her department;

    b. Request help from the Environmental Health and Safety (EH&S) staff to study specific operations, facilities, and equipment to determine employee noise level exposures as needed;

    c. Whenever practical, use engineering and/or administrative controls to reduce the noise exposure to employees at or below 85 A-weighted decibels time-weighted average (85 dBA TWA). Engineering controls may include purchasing quieter equipment, installing noise-reducing baffles and placing rubber mats under machinery while administrative controls may include restricting employee exposure time;

    d. Issue appropriate hearing protection devices (HPDs) to employees in areas or operations which have been determined to have noise levels at or above 85 dBA;

    e. Ensure that employees exposed to noise at or above 85 dBA action level participate in annual audiometric examinations (i.e. baseline and annual);

    f. Conduct frequent checks and strictly enforce the proper use of HPDs by employees; and

    g. Conduct documented annual hearing conservation training for employees to include both general information as well as job-specific components.

2. Environmental Health and Safety staff will:

    a. Study specific operations, facilities, and equipment to determine employee noise level exposures;

    b. Help managers and supervisors determine which employees must participate in the HCP. Employees whose noise exposures are equal to or exceeding the action level of 85 dBA TWA or higher are included in the HCP;

c. Schedule and oversee annual audiometric examinations;

d. Maintain all records of noise studies and audiometric examinations.

3. Employees will:

a. Properly and consistently wear and care for his or her HPDs;

b. Participate in annual audiometric testing; and

c. Participate in annual HCP training.

PROCEDURES

1. Noise Monitoring

a. Noise level monitoring will be considered whenever employees have the following:

1. Difficulty communicating by speech while in the noise area and the listener and speaker face each other at a distance of two feet;

2. Complaints regarding headaches and/or ringing in the ears after working in a noise area for extended periods; or

3. Temporary loss of hearing that has the effect of muffling speech and other sounds after extended exposure to the noise.

b. Managers and supervisors will determine if any employee is exposed to a daily dose greater than the action limit of 85 dBA by utilizing EH&S staff or qualified contractors to make the determination. If routine or periodic survey monitoring identifies an employee for inclusion in the HCP, additional monitoring may be conducted to obtain measurements of other employees who may be similarly exposed.

2. Hearing Protection Devices

a. Employees who are required to wear hearing protection devices (HPDs) will be given an opportunity to select from a variety of suitable types (e.g. earplugs or earmuffs). Procedures established and implemented by the department will ensure proper issuance, cleaning, maintenance and training in the use of HPDs;

b. HPDs issued to employees will provide an adequate degree of protection to reduce noise exposure below prescribed limits. Each employee receiving a pair of earplugs for reduction of exposure will be fitted by an individual trained in the proper selection and use of earplugs;

c. HPDs are required to be worn if it is determined that a standard threshold shift has occurred as evidenced by audiometric testing or if the eight-hour TWA is at or above 90 dBA.

3. Audiometric Testing

a. All employees identified by monitoring for inclusion in the HCP will participate in preliminary (baseline) and subsequent (annual) audiometric tests. The preliminary audiometric test will be administered at his or her pre-employment physical examination.

4. Recordkeeping

a. The Human Resources Department's Risk Management Division maintains the following records:

1. Noise exposure measurements;

2. Audiometric test results including audiograms, name and classification of employees, date of audiogram, the name of the examiner, date of audiometer calibration, and the date of the employee's last assessment; and

3. Background noise levels in audiometric test facilities.

5. Access to Records

Records will be provided upon written request by employees, former employees, or representatives designated by individual employees.

6. Training:

a. Employees will be informed of hazardous areas through appropriate signage and instructions. Hearing protection will not be issued to an employee until proper use and maintenance procedures have been demonstrated to the employee by the supervisor or qualified designee. Audio-visual training aids, written materials, handouts and online training is available from EH&S. Annual training for employees in the HCP will include the following components:

1. Discussion of the effects of noise on hearing;

2. Purpose of hearing protection;

3. Use and care of HPDs;

4. Advantages and disadvantages of different HPD; and

5. Purpose and explanation of audiometric testing.

Definitions
(Attachment A)

Action Level
An eight-hour weighted average of 85 decibels measured on the A-scale, slow response, or equivalently, a dose of 50 percent.

Attenuate
Reduce the amount of noise.

Audiogram
A chart, graph or table resulting from an audiometric test showing an individual's hearing threshold levels as a function of frequency (from 500 to 6000 Hertz).

Baseline Audiogram
The audiogram against which future audiograms are compared.

Decibel (dB)
A non-dimensional unit used to express noise levels; a logarithmic expression of the ratio of a measured quantity to reference quantity.

Decibel A-weighted (dBA)
Decibels measured on the A-weighted scale, slow response.

Hearing Protection Devices (HPDs)
A device inserted into or placed over the ear for the purpose of reducing air-conducted sounds.

Hertz (Hz)
Unit of frequency measurement, numerically equal to cycles per second.

Noise
Disturbing, harmful or unwanted sound.

Noise-induced Hearing Loss
Refers to the slowly progressive inner ear hearing loss that results from exposure to continuous noise over a long period of time as contrasted to acoustic trauma or physical injury to the ear.

Permissible Exposure Limit for Noise
90 dBA for eight hours.

Recordable Standard Threshold Shift
A standard threshold shift of 25 dB or greater in either each which is recorded on the Cal-OSHA 300 log for that year.

Standard Threshold Shift (STS)
A change in hearing threshold relative to the baseline audiogram of an average of 10 dB or more at 2000, 3000 and 4000 Hz in either ear.

Time-weighted Average Sound Level (TWA)
That sound level, which f measured over an eight-hour exposure would result in the same noise dose as is measured.

CITY OF SACRAMENTO REGULATORY COMPLIANCE PROGRAM
TOPIC: HEAT ILLNESS PREVENTION PROGRAM
EFFECTIVE DATE: 4/18
SUPERSEDES: 03/11 and 04/08
SECTION: RCP #9

PURPOSE

This document establishes the City of Sacramento's Heat Illness Prevention Program to control the risk of the occurrence of heat illness in accordance with California Code of Regulations (CCR) Title 8 Section 3395. The Heat Illness Prevention Program applies to all City employees when working outdoors.

RESPONSIBILITIES

Each department, with workers covered by this program, is responsible for implementing the following requirements:

a. **Risk Factor Assessment**

1. Environmental risk factors for heat illnesses may be present any time of year and are highly likely to be present from the beginning of April through the end of October. Actual weather conditions (e.g. heat index, weather forecast, etc.) should be taken into consideration to determine the actual risk of heat illness for each work day;

2. Working conditions, the type of work, workload intensity and duration, and the use of personal protective equipment (PPE) are additional factors that must be considered when departments assess the risk for heat illness;

3. Personal risk factors and the degree of acclimatization should also be considered when determining the tasks for employees each day.

b. **Drinking Water**

1. Departments must provide sufficient quantities of drinking water and sanitary drinking containers in all work environments. Supervisors must encourage employees to drink water frequently;

2. A minimum of one quart of drinking water per hour must be available to each employee or two gallons per employee for an eight-hour shift to replace water lost by perspiration. A lesser quantity of water may be provided at the beginning of the shift provided there are effective replenishment procedures in place to supply one quart per hour per employee;

3. Water must be potable, fresh, pure, and suitably cool.

c. **Access to Rest in Shade**

1. Shade (blockage of direct sunlight) must be provided by temporary structures if adequate shade cannot be provided by buildings or trees. Shaded areas must be open to the air or provided with ventilation or cooling and located as close as practicable to areas where employees are working;

2. Employees shall be allowed and encouraged to take a cool-down rest in the shade for a period of no less than five minutes if they feel the need for protection from overheating. Such access to shade shall be permitted at all times. Employees shall be monitored for symptoms of heat illness and shall not be ordered back to work until symptoms have abated and at least five minutes have passed;

3. When the temperature exceeds 80 degrees Fahrenheit, shade is required to be present and sufficient to accommodate all employees taking a rest, cool-down or meal break at one time, in a normal, seated posture without physical contact with each other;

4. When the temperature does not exceed 80 degrees Fahrenheit, timely access to shade must be provided upon an employee's request.

d. **Acclimatization**

1. A supervisor or designee shall closely observe all employees during heat wave conditions;

2. A supervisor or designee shall closely observe employees newly assigned to high heat work areas for the first 14 days.

e. **High-heat Procedures**

High heat requirements must be implemented when the temperature equals or exceeds 95 degrees Fahrenheit. High heat procedures apply only to City operations that encompass agriculture, construction, landscaping, or transportation of heavy materials in vehicles not equipped with air-conditioning. Supervisors are required to conduct pre-shift meetings to review high heat procedures which include:

1. Ensuring that effective communication is maintained by voice, observation or electronic means to contact a supervisor;

2. Observing employees for alertness and signs or symptoms of heat illness and designating employees authorized to call for emergency medical services;

3. Limiting supervisor or designee observation to 20 or fewer employees, implementing a mandatory buddy system or maintaining regular communication with sole employee via cell phone or radio; and

4. Reminding employees throughout the work shift to drink plenty of water and of his or her right to take cool down rest periods when necessary.

f. **Providing Training**

Effective training must be provided to all employees and his or her supervisor before beginning work that it may reasonably result in exposure to the risk of heat illness. Training must include the following information:

1. The environmental and personal risk factors for heat illness, as well as the added burden of heat load on the body caused by exertion, clothing, and personal protective equipment;

2. The department's/division's procedures for complying with heat illness regulations including the employer's responsibility to provide water, shade, cool-down rests and access to first aid as well as the employee's right to exercise his or her rights without fear of retaliation;

3. The importance of frequent consumption of small quantities of water up to four cups of water per hour to prevent heat illness in hot work environments;

4. The concept, importance and methods of acclimatization or adapting gradually to the heat;

5. The different types of heat illness as well as the common signs and symptoms;

6. The importance of employees immediately reporting to the department/division, directly or through the supervisor, symptoms or signs of heat illness in themselves, or in co-workers;

7. The department's/division's procedures for responding to symptoms of possible heat illness, including how emergency medical services will be provided should they become necessary;

8. Procedures for contacting emergency medical services (911 from a land line or 916-732-0100 from a cellular telephone), and, if necessary, for transporting employees to a point where they can be reached by an emergency medical service provider; and

9. How to provide clear and precise directions to the worksite.

Supervisors must also be trained in procedures to implement this Heat Illness Prevention Program, procedures to follow when an employee reports or exhibits the signs of heat illness and how to monitor weather reports and respond to hot weather advisories.

EMERGENCY RESPONSE PROCEDURES

Call 911 if unsure of an employee's symptoms. Decreased level of consciousness, staggering, vomiting, disorientation, irrational behavior or convulsions require immediate emergency medical response. If an employee shows signs of serious heat illness at the end of the work shift, supervisors must ensure the employee receives medical attention before going home.

Immediately report to the Environmental Health & Safety Office (EH&S) at 808-5278 and to the Workers' Compensation Office at 808-5741 if an employee must be hospitalized. After hours, please have the City Operator (311 or 916-264-5011) contact EH&S.

Definitions
(Attachment A)

Acclimatization
Temporary adaptation of the body to work in the heat that occurs gradually when a person is exposed to it. Acclimatization peaks in most people within four to fourteen days of regular work for at least two hours per day in the heat.

Environmental Risk Factors for Heat Illness
Working conditions that create the possibility heat illness could occur, including air temperature, relative humidity, radiant heat from the sun and other sources, conductive heat sources such as the ground, air movement, workload severity and duration, protective clothing and personal protective equipment worn by employees.

Heat Cramps
Painful, involuntary muscle spasms that usually occur during heavy exercise or strenuous activity in hot environments. Inadequate fluid intake often contributes to heat cramps. Spasms may be more intense and more prolonged than typical nighttime leg cramps. Muscles most often affected include calf, arm, abdomen, and back, although heat cramps may involve any muscle group involved in the activity.

Heat Exhaustion
A form of heat illness which can develop after several days of exposure to high temperatures and/or inadequate or unbalanced replacement of fluids. Those most prone to heat exhaustion are the elderly, those with high blood pressure, and those working or exercising in a hot environment. Untreated, heat-exhaustion may lead to heat stroke. Symptoms include cool, moist, pale, flushed or red skin; heavy sweating; headache; nausea or vomiting; dizziness; giddiness; and extreme weakness or fatigue. The skin is clammy and moist while the body temperature can be near normal or slightly elevated, not exceeding 104 degrees Fahrenheit.

Heat Illness
A serious medical condition resulting from the body's inability to cope with a particular heat load. Heat illness includes, in increasing severity, heat cramps, heat exhaustion, heat syncope, and heat stroke.

Heat Index
An index that combines air temperature and relative humidity to determine an apparent temperature, or how hot it feels. High humidity reduces the body's ability to get rid of excess heat via perspiration, so for a given air temperature, the higher the humidity, the higher the apparent temperature or heat index.

Heat Stroke
A serious heat illness requiring immediate first aid and medical attention (911). Heat stroke occurs when the body is unable to lower its temperature because the biological cooling mechanism has shut down. Symptoms include sweating has stopped, confusion, irrational behavior, loss of consciousness, convulsions (usually), not dry skin, and body temperature may reach 105 degrees Fahrenheit or higher which may lead to death.

Heat Syncope
Sudden fainting or loss of consciousness related to heat caused by low blood pressure. Heat causes blood vessels in the skin and in the lower part of the body to dilate, which may cause the blood to pool in the lower extremities rather than return to the heart to be pumped to the brain, which may then result in fainting.

Heat Wave
Any day in which the predicted high temperature will be at least 80 degrees Fahrenheit and at least ten degrees Fahrenheit higher than the average high daily temperature in the preceding five days.

High-heat Procedures
Procedures implemented when the temperature equals or exceeds 95 degrees Fahrenheit. The procedures apply only to City operations that encompass agriculture, construction, landscaping, or transportation of heavy materials in vehicles not equipped with air-conditioning. The procedures require effective communication with supervisors, observation of employees, reminding employees to drink plenty of water, and close supervision of new employees for the first fourteen days.

Landscaping
Providing landscape care and maintenance services and/or installing trees, shrubs, plants, lawns, or gardens or providing these services in conjunction with the design of landscape plans and/or the construction of walkways, retaining walls, decks, fences, ponds and similar structures except for employment by an employer who operates a fixed establishment where the work is to be performed and drinking water is plumbed.

Personal Risk Factors
Factors such as an individual's age, degree of acclimatization, overall health, water consumption, alcohol consumption, caffeine consumption, and use of prescription medications which affect the body's water retention or other physiological responses to the heat.

Preventative Recovery Period
A period used to recover from the heat to prevent heat illness. This could be in addition to or the same as a normal rest break.

Shade
The blockage of direct sunlight. One indicator that blockage is sufficient is when objects do not cast a shadow in the area of blocked sunlight. Shade is not adequate when heat in the area of shade defeats the purpose of shade, which is to allow the body to cool. Shade may be provided by any natural or artificial means that does not expose employees to unsafe or unhealthy conditions and that does not deter or discourage access or use.

Temperature
The dry bulb temperature in degrees Fahrenheit obtained by using a thermometer to measure the outdoor temperature in an area where there is no shade. While the temperature measurement must be taken in an area with full sunlight, the bulb or sensor of the thermometer should be shielded while taking the measurement, using a hand or other object, from direct contact by sunlight.

Causes, Signs and Symptoms of Heat Illness (Attachment B)

The following is a summary of the causes, signs and symptoms as well as treatment of the types of common heat illnesses.

a. **Heat cramps** are caused by strenuous activity in the heat. People who perspire more than average during strenuous activity are more prone to heat cramps. The perspiration depletes the body's salt and moisture. The low salt level in the muscles causes painful cramps. Heat cramps may also be a symptom of heat exhaustion. If you suspect heat cramps:

   1. Have the employee stop all activity and sit quietly in a cool place.
   2. Have the employee rest briefly and cool down.
   3. Make sure the employee drinks cool water (not iced), clear juice, or a sports beverage containing electrolytes.
   4. Practice gentle, range-of-motion stretching and gentle massage of the employee's affected muscle group.
   5. Be aware that returning to strenuous activity after the cramps subside may lead to heat exhaustion or heat stroke.
   6. If symptoms do not go away in one hour, seek medical attention.

b. **Heat exhaustion** is caused by excessive heat and dehydration. The warning signs of heat exhaustion include: heavy perspiring; paleness; muscle cramps; tiredness; weakness; dizziness; headache; nausea or vomiting and fainting. Symptoms of heat exhaustion may be cool and moist skin, pulse rate will be fast and weak, and breathing will be fast and shallow. If heat exhaustion is untreated, it may progress to heat stroke. If you suspect heat exhaustion:

   1. Get the employee out of the sun and into a shady or air-conditioned location.
   2. Lay the employee down and elevate the legs and feet slightly.
   3. Loosen or remove the employee's clothing.
   4. Have the person drink cool water (not iced), clear juice or a sports beverage containing electrolytes.
   5. Cool the employee by spraying or sponging him or her with cool water and fanning.
   6. Ice packs may be applied under the arms and in the groin area.
   7. Seek medical attention.

c. **Heat syncope** (or fainting) is caused by strenuous activity in hot environments and dehydration. Heat syncope can be caused by blood pooling in the legs if a person has been standing still for a long time in a hot environment. It can also be caused by vigorous physical activity for two or more hours before the fainting happens. The risk of developing heat syncope increases when a person has not acclimated to a hot environment. The warning signs for heat syncope include: pale, cool, and moist skin, feeling faint or lightheaded, lightheadedness when a person changes position, such as moving from a lying position to a standing position and being dehydrated. If you suspect heat syncope:

   1. Get the employee out of the sun and into a shady or air-conditioned location.
   2. Lay the employee down and elevate the legs and feet slightly.
   3. Have the employee drink cool water (not iced), clear juice, or a sports beverage containing electrolytes.

4. Cool the employee by spraying or sponging employee with cool water and fanning.
5. Ice packs may be applied under the arms and in the groin area.
6. If symptoms do not go away in one hour, seek medical attention.

d. **Heat stroke** is caused when the body's mechanism for dealing with heat stress, such as perspiring and temperature control, are lost. The main sign of heat stroke is elevated body temperature, generally greater than 104 °F. The warning signs of heat stroke include: red, hot, and dry skin, rapid heartbeat, rapid and shallow breathing, elevated or lowered blood pressure, cessation of sweating, irritability, confusion, or unconsciousness, and fainting. If you suspect heat stroke:

1. Move the employee out of the sun and into a shady or air-conditioned space.
2. Dial 911 from a landline or call 916-732-0100 from a cellular telephone for emergency medical assistance.
3. Cool the employee by covering him or her with damp sheets or by spraying with cool water and fanning.
4. Ice packs may be applied under the arms and in the groin area.

If an employee experiences loss of consciousness for any reason or becomes hospitalized, immediately report this to the Environmental, Health & Safety Office (EH&S) at 808-5278 and to the Workers' Compensation Office at 808-5741. After hours, please have the City Operator (311 or 264-5011) contact EH&S.

CITY OF SACRAMENTO REGULATORY COMPLIANCE PROGRAM
TOPIC: RESPIRATORY PROTECTION PROGRAM
EFFECTIVE DATE: 3/14/11
SUPERSEDES: API #10
SECTION: RCP #10

PURPOSE

This regulatory compliance program (RCP) serves as the City of Sacramento's Respiratory Protection Program (RPP). Its primary objective is to protect employees against occupational diseases caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors. This RCP provides guidance to managers and staff on the City's Respiratory Protection Program. It applies to all employees required to use respiratory protection, as well as to all employees whose use of respiratory protection is voluntary, in order to ensure compliance with the California Code of Regulations, Title 8, Sections 5144 (8CCR5144) and 3204 (8CCR3204). Definitions of the RCP terms are found in Attachment A.

RESPONSIBILITIES

1. **Department Managers or his or her designee will:**

    a. Ensure that the written RPP is implemented throughout his or her department;

    b. Coordinate with Environmental Health and Safety (EH&S) to study worksite-specific procedures, operations, facilities, and equipment to determine employee exposure to harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors as needed;

    c. Whenever practical, use engineering and/or administrative controls to reduce employee exposure to atmospheric contamination;

    d. When engineering and administrative controls are not sufficient, provide employees with appropriate respiratory protection equipment, training, medical evaluations and annual fit testing at no cost to the employees;

    e. Implement specific worksite procedures describing when and how respirators will be used during routine work activities, infrequent activities, and reasonably foreseeable emergencies such as spill response, rescue or escape situations;

    f. Make all reasonable efforts to provide fit testing, training, and medical evaluations during normal working hours;

    g. Provide a copy of 8CCR5144 Appendix D to all employees who are not required to use respiratory protection, but who choose to do so voluntarily. Also obtain employee signatures on the statement that the employee has read and understands Appendix D;

    h. Evaluate the program regularly to ensure that procedures are followed, respirator use is monitored, and respirators continue to provide adequate protection when job conditions change;

    i. Maintain records of the following according to the City's Records Retention Policy;

j. Fit testing (including completed Voluntary Respirator Use Information Sheets, Appendix D to section 5144); and

k. Monthly inspection record for emergency use respirators.

2. **Supervisors will:**

a. Monitor compliance with this plan by employees who have a potential for occupational exposure;

b. Ensure that new employees are properly trained;

c. Ensure that all employees using City provided respiratory protection attend annual training sessions; and

d. Ensure respiratory protection equipment is available in accessible locations, used by personnel when appropriate and stored properly when not in use.

3. **Employees who wear or may wear a respirator will:**

a. Actively participate in all training, medical evaluations, and annual fit testing;

b. Be responsible for inspecting the equipment prior to each use;

c. Perform user seal checks, both positive and negative pressure, each time the respirator is put on per 8CCR5144 or manufacturer's instructions (Attachment C);

d. Clean the respirator after each use;

e. Properly store the equipment;

f. Report all problems to his or her supervisor immediately; and

g. Read and understand Appendix D from 8CCR5144 on voluntary use and return a signed copy to his or her supervisor.

4. **Environmental Health and Safety (EH&S) will:**

a. Oversee the development and updating of the RCP;

b. Provide technical support for all departments who participate in this program;

c. Assist in the study of specific operations, facilities, and equipment to determine employee exposure to harmful dusts, fogs, fumes, mists, gases, smokes, sprays or vapors as needed;

d. Assist in respiratory equipment selection;

e. Support departments in their efforts to provide fit-testing to all employees using City-provided respiratory protection equipment, whether use is voluntary or required;

f. Provide training on the care and use of respiratory protection equipment;

g. Maintain the City's respirator log which lists which respirators and cartridge types are used by various City departments (Attachment B);

h. Facilitate the required medical evaluations through administration of the Medical Questionnaire as found in 8CCR5144 Appendix C (contact the Safety Office for a copy of the questionnaire);

i. Maintain records of medical evaluations, though not the medical evaluations themselves, which are maintained by the medical evaluator. Records of medical evaluations must be retained and made available in accordance with 8CCR3204 and the City's records retention policy; and

j. Maintain records of the written respiratory protection program according to the City's Records Retention policy.

SELECTION OF RESPIRATORS

1. **General Requirements**

a. The department head or designee, with the assistance of EH&S, will select and provide an appropriate respirator based on the respiratory hazard(s) the employee is exposed to in the workplace along with other user factors that affect respirator performance and reliability as described in 8CCR5144 (d). A variety of respirator models and sizes will be provided to ensure that the respirator is acceptable and correctly fits the user;

b. The respirator and all components used will be NIOSH-certified and used in compliance with the conditions of its certifications;

c. Respiratory hazards in the workplace will be identified and evaluated by the department head or designee. This evaluation will include, but is not limited to, a reasonable estimate of employee exposures to respiratory hazard(s) as well as identification of the known or suspected contaminant's chemical state and physical form. If these determinations cannot be made, then the atmosphere is to be considered immediately dangerous to life and health (IDLH).

2. **Selection of Respirators for IDLH Atmospheres**

a. All oxygen-deficient atmospheres will be considered IDLH;

b. The department will provide a full facepiece, pressure-demand, self-contained breathing apparatus (SCBA), certified by NIOSH for a minimum service life of thirty minutes, or a combination full facepiece, pressure-demand, supplied-air respirator (SAR) with auxiliary self-contained air supply for IDLH atmospheres;

c. Compressed breathing air must be of highest purity and meet at least the requirements for Grade D breathing air described in ANSI/Compressed Gas Association Commodity Specification for Air, G-7.1-1989;

d. Respirators provided only for escape from IDLH atmospheres will be NIOSH-certified for escape from the atmosphere in which they will be used.

3. **Selection of Respirators for Atmospheres that are not IDLH**

    a. The department will provide a respirator that is adequate to protect the health of the employee and ensure compliance with all other Cal-OSHA statutory and regulatory requirements, both under routine and reasonably foreseeable emergency situations;

    b. The respirator selected will be appropriate for the chemical state and physical form of the contaminant;

    c. For protection against gases and vapors, the department will provide an atmosphere-supplying respirator, or an air-purifying respirator, provided that the respirator is equipped with an end-of-service-life indicator (ESLI) certified by NIOSH for the contaminant(s). If there is no ESLI appropriate for conditions in the workplace, the department will implement a change schedule for canisters and cartridges that is based on objective information or data that will ensure that canisters and cartridges are changed before the end of their service life. The department will have standard operating procedures for the information and data relied upon and the basis for the canister and cartridge change schedule and the basis for reliance on the data;

    d. For protection against particulates, the department will provide:

        1. An atmosphere-supplying respirator;

        2. An air-purifying respirator equipped with a filter certified by NIOSH as a high efficiency particulate air (HEPA) filter;

        3. An air-purifying respirator equipped with a filter certified for particulates by NIOSH; or

        4. For contaminants consisting primarily of particles with mass median aerodynamic diameters (MMAD) of at least two (2) micrometers, an air-purifying respirator equipped with any filter certified by NIOSH will be provided.

MEDICAL EVALUATIONS

1. Prior to fit testing, prior to requiring the employee to use a respirator in the workplace, or prior to the voluntary use of City provided respiratory protection equipment, the department will arrange for a medical evaluation through the EH&S Office. The medical evaluation will be in accordance with the procedures outlined in 8CCR5144 to determine the employee's ability to use a respirator. The department may discontinue an employee's medical evaluations when the employee is no longer required to use a respirator.

2. After the initial medical evaluation, the EH&S Office will arrange for additional medical evaluations that comply with the requirements of 8CCR5144 if:

    a. An employee reports medical signs or symptoms that are related to ability to use a respirator;

    b. A physician or other licensed healthcare professional (PLHCP), supervisor, and/or the EH&S Office informs the department that an employee needs to be reevaluated;

    c. Information from the respiratory protection program, including observations made during fit testing and program evaluation, indicates a need for employee reevaluation; or

d. A change occurs in workplace conditions (e.g. physical work effort, protective clothing, or temperature) that may result in a substantial increase in the physiological burden placed on an employee.

FIT TESTING

1. The department will ensure that employees using a tight-fitting facepiece respirator pass an appropriate Cal- OSHA accepted qualitative fit test (QLFT) or quantitative fit test (QNFT) as outlined in Attachment D.

2. Fit testing will occur prior to use of the respirator, and annually, thereafter, and whenever a different respirator facepiece (size, style, model or make) is used, or whenever the employee reports, or a supervisor, PLHCP, or program administrator makes visual observations of changes in the employee's physical condition that could affect respirator fit. Such conditions include, but are not limited to, facial scarring, dental changes, cosmetic surgery, or an obvious change in body weight. Fit test results will be recorded using Attachment E or will be logged in the Portacount™ software.

PROCEDURES FOR PROPER USE

1. **Routine Situations**

   a. Employees will not be allowed to wear respirators with tight-fitting facepieces if they have facial hair (e.g. stubble, bangs), absence of normally worn dentures, facial deformities (e.g. scars, deep skin creases, prominent cheekbones), or other facial features that interfere with the facepiece seal or valve function. Jewelry or headgear that projects under the facepiece seal is also not allowed;

   b. If corrective glasses or other personal protective equipment are worn, they should not interfere with the seal of the facepiece to the face. Full facepiece respirators can be provided with corrective glasses since corrective lenses can be mounted inside a full facepiece respirator;

   c. Contact lenses can be worn with any type of respirator. While conditions requiring use of a respirator may be hazardous to both contact lens wearers and to people who do not, contact lens wearers should be aware that certain conditions may make it necessary to avoid wearing their contact lenses. In particular, the use of contact lenses is not recommended in dusty atmospheres while wearing a half-mask facepiece. Each situation should be investigated, and the employee should always inform his/her supervisor if contact lenses are in use. Situations in which to avoid the use of contacts may include:

      1. Exposure to chemical fumes and vapors;

      2. Areas where potential for chemical splash exists;

      3. Areas where particulate matter or dust is in the atmosphere;

      4. Exposure to extremes of infrared rays;

      5. Intense heat;

      6. Dry atmosphere;

7. Flying particles; and

8. Areas where caustic substances are handled, particularly those substances used or stored under pressure.

d. A seal check will be performed every time a tight-fitting respirator is donned (Attachment C).

2. **Infrequent Situations**

a. Each employee will leave the area where respirators are required for any of the following reasons:

1. To replace filters or cartridges;

2. When a smell or taste of a chemical is detected inside the respirator;

3. When a change in breathing resistance is noticed;

4. To adjust a respirator; or

5. To wash face or respirator.

3. **Emergency Situations**

a. Each employee will leave the area where respirators are required for any of the following reasons:

1. If the employee becomes ill; or

2. If the employee experiences dizziness, nausea, weakness, breathing difficulty, coughing, sneezing, vomiting, fever or chills.

4. **Potential IDLH Situations**

a. Departments where employees are exposed to potential IDLH situations will prepare department-specific procedures for routine, infrequent, and emergency situations involving the use of SCBA's and SAR's.

MAINTENANCE AND CARE OF RESPIRATORS

The department will provide for the cleaning and disinfecting, storage, inspection, and repair of respirators used by employees. Proper maintenance includes disassembling of all parts, discarding or repairing defective parts, washing components as per manufacturer's instructions, and reassembly, including installation of new parts as necessary. For most respirators, washing in warm water with mild detergent, rinsing in clean, warm, preferably running water, draining, air or hand drying with lint-free cloths, reassembling with new components as necessary and testing for proper function is sufficient.

IDENTIFICATION OF FILTERS, CARTRIDGES, AND CANISTERS

The department supervisor will ensure that all filters, cartridges and canisters used in the workplace are labeled and color-coded with the NIOSH approval label, and that the label is not removed and remains legible at all times.

TRAINING

1. Training for all employees using City provided respiratory protection, whether voluntary or required use, must be effective, comprehensive, and understandable;

2. The training must recur annually, and more often, if necessary;

3. The basic information on respirators in Appendix D must be provided to employees who wear respirators voluntarily when not required to do so by the City;

4. The department will ensure that each employee can demonstrate knowledge of at least the following:

    a. Why the respirator is necessary, including the nature of the respiratory hazards in the workplace;

    b. How improper fit, usage, or maintenance can compromise the protective effect of the respirator;

    c. The limitations and capabilities of the respirator;

    d. How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions;

    e. How to inspect, put on and remove (don and doff), use, and check the seals of the respirator;

    f. How to clean, repair and store the respirator;

    g. How to use a respirator in an emergency situation;

    h. What to do when a respirator fails; and

    i. How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators, and the general requirements of 8CCR5144.

VOLUNTARY USE

1. Before the voluntary use of City-provided respirators is approved by the department in accordance with this RPP, the employee will:

    a. Submit to a medical evaluation;

    b. Receive initial training in the proper use, care and limitations of the selected respirator;

    c. Review, sign, date and submit a copy of the "Information for Employees Using Respirators When Not Required Under the Standard" found in Appendix D to section 5144; and

d. Obtain a successful fit test for those types of respirators to be worn by that employee.

RECORDKEEPING

1. For the Written Program, the EH&S Office will update and maintain a current copy as needed to reflect those changes in workplace conditions that may affect respirator use. This RPP will be reviewed at least every three (3) years and the review will be documented;

2. For Fit Test Records, departments will retain fit test records until the next fit test is administered;

3. For Employee Training Records, departments will retain for the duration of employment plus three (3) years;

4. For Medical Evaluations, the medical provider will retain these records, including written recommendations, for the duration of employees' employment plus thirty years.

EVALUATION OF EFFECTIVENESS OF PROGRAM

1. Departments and/or EH&S staff will evaluate the effectiveness of the program by performing the following steps:

    a. Checking results of fit-tests and health care provider evaluations;

    b. Talking with employees who wear respirators about his or her respirator i.e. how the respirator fits, is the respirator providing protection, any odors while wearing respirator, etc.;

    c. Periodically checking employee job duties for changes in chemical exposure;

    d. Periodically checking maintenance and storage of respirators; and

    e. Periodically checking how employees use their respirators.

Definitions
Attachment A

Air-purifying Respirator
A respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element.

Assigned Protection Factor (APF)
The workplace level of respiratory protection that a respirator or class of respirators is expected to provide to employees when the employer implements a continuing, effective respiratory protection program as specified by 8CCR5144.

Atmosphere-supplying Respirator
A respirator that supplies the respirator user with breathing air from a source independent of the ambient atmosphere and includes supplied-air respirators (SARs) and self-contained breathing apparatus (SCBA) units.

Canister or Cartridge
A container with a filter, sorbent, or catalyst, or combination of these items, which removes specific contaminants from the air passed through the container.

Demand Respirator
An atmosphere-supplying respirator that admits breathing air to the facepiece only when a negative pressure is created inside the facepiece by inhalation.

Emergency Situation
Any occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment that may or does result in an uncontrolled significant release of an airborne contaminant.

Employee Exposure
Exposure to a concentration of an airborne contaminant that would occur if the employee were not using respiratory protection.

End-of-service-life Indicator (ESLI)
A system that warns the respirator user of the approach of the end of adequate respiratory protection, for example, that the sorbent is approaching saturation or is no longer effective.

Escape-only Respirator
A respirator intended to be used only for emergency exit.

Filter or Air Purifying Element
A component used in respirators to remove solid or liquid aerosols from the inspired air.

Filtering Facepiece (dust mask)
A negative pressure particulate respirator with a filter as an integral part of the facepiece or with the entire facepiece composed of the filtering medium.

Fit Factor
A quantitative estimate of the fit of a particular respirator to a specific individual, and typically estimates the ratio of the concentration of a substance in ambient air to its concentration inside the respirator when worn.

Fit Test
The use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator on an individual. (See also Qualitative fit test QLFT and Quantitative fit test QNFT.)

Helmet
A rigid respiratory inlet covering that also provides head protection against impact and penetration.

High Efficiency Particulate Air (HEPA) Filter
A filter that is at least 99.97% efficient in removing monodisperse particles of 0.3 micrometers in diameter. The equivalent NIOSH 42 CFR 84 particulate filters are the N100, R100, and P100 filters.

Hood
A respiratory inlet covering that completely covers the head and neck and may also cover portions of the shoulders and torso.

Immediately Dangerous to Life or Health (IDLH)
An atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere.

Loose-fitting Facepiece
A respiratory inlet covering that is designed to form a partial seal with the face.

Maximum Use Concentration (MUC)
The maximum atmospheric concentration of a hazardous substance from which an employee can be expected to be protected when wearing a respirator, and is determined by the assigned protection factor of the respirator or class of respirators and the exposure limit of the hazardous substance. The MUC can be determined mathematically by multiplying the assigned protection factor specified for a respirator by the required Cal-OSHA permissible exposure limit, short-term exposure limit, or ceiling limit. When no Cal-OSHA exposure limit is available for a hazardous substance, an employer must determine an MUC on the basis of relevant available information and informed professional judgment.

Negative Pressure Respirator (tight fitting)
A respirator in which the air pressure inside the facepiece is negative during inhalation with respect to the ambient air pressure outside the respirator.

Oxygen Deficient Atmosphere
An atmosphere with an oxygen content below 19.5% by volume.

Physician or Other Licensed Health Care Professional (PLHCP)
An individual who is legally permitted scope or practice (i.e. license, registration, or certification) allows him or her to independently provide, or be delegated the responsibility to provide, some or all of the health care services required by § 5144(e).

Positive Pressure Respirator
A respirator in which the pressure inside the respiratory inlet covering exceeds the ambient air pressure outside the respirator.

Powered air-purifying Respirator (PAPR)
An air-purifying respirator that uses a blower to force the ambient air through air-purifying elements to the inlet covering.

Pressure Demand Respirator
A positive pressure atmosphere-supplying respirator that admits breathing air to the facepiece when the positive pressure is reduced inside the facepiece by inhalation.

Qualitative Fit Test (QLFT)
A pass/fail fit test to assess the adequacy of respirator fit that relies on the individual's response to the test agent.

Quantitative Fit Test (QNFT)
An assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator.

Respiratory Inlet Covering
That portion of a respirator that forms the protective barrier between the user's respiratory tract and an air-purifying device or breathing air source, or both. It may be a facepiece, helmet, hood, suit, or a mouthpiece respirator with nose clamp.

Self-contained Breathing Apparatus (SCBA)
An atmosphere-supplying respirator for which the breathing air source is designed to be carried by the user.

Service Life
The period of time that a respirator, filter or sorbent, or other respiratory equipment provides adequate protection to the wearer.

Supplied-air Respirator (SAR) or Airline Respirator
An atmosphere-supplying respirator for which the source of breathing air is not designed to be carried by the user.

Tight-fitting Facepiece
A respiratory inlet covering that forms a complete seal with the face.

User Seal Check
An action conducted by the respirator user to determine if the respirator is properly seated to the face.

City of Sacramento Respirator Log
(Attachment B)

Department	Division/ Section	Respirator Type	Filter Type	Purpose
CC&L	Golf	Disposable respirator	N95	Particulates/Disease transmission
CC&L	Golf	Disposable respirator	R95	Particulates/Disease transmission
CC&L	Old Sacramento	Disposable Respirator	N95	Particulates - Voluntary
CDD	Housing & Dangerous Buildings	½ face APR	Organic Vapor/ Multi-gas/ P100	Particulates/Disease transmission
DGS	Animal Care	½ face APR	Organic Vapor/ Multi-gas	Disease transmission
DGS	Animal Care	½ face APR Disposable with fixed cartridge	Organic Vapor/P100	Disease transmission
DGS	Body shop	½ face APR	P100	Particulates
DGS	Body shop	½ face APR Disposable with fixed cartridge	Organic Vapor/N95	Particulates
DGS	Carpenter Shop	½ face APR	P100	Particulates
DGS	Painters	½ face APR	P100	Paint exposure/ Particulates
DGS	Painters	½ face APR	N95	Paint exposure/ Particulates
DGS	Painters	½ face APR	Organic Vapor	Paint exposure
Fire		SCBA		Fire response Hazmat response
Fire		½ face APR	P100	Disease transmission
Fire		Disposable respirator	N95	Disease transmission

Department	Division/ Section	Respirator Type	Filter Type	Purpose
Fire		Disposable respirator	P100	EMS High Hazard Procedures & Asbestos Exposure
Fire		½ face APR	Organic Vapor/Acid Gases/P100	Wild land fires
Police Dept.		Full face APR	Police CN/CS filter For Law Enforcement	Civil unrest
Police Dept.		½ face APR	P100	Disease transmission
Police Dept.		Disposable respirator	N95	Disease transmission
Risk Management	EH&S	½ face APR	P100	Sampling
Risk Management	EH&S	Disposable respirator	N95	Sampling
Transportation	Urban Forestry	Disposable respirator	N95	Disease transmission
Utilities	Plant Services	Full face APR/SCBA	Cl	Chlorine response Cylinder change-out
Utilities	Plant Services	Disposable respirator	P100	Welding fume/ Grindings
Utilities	Plant Services	½ face APR	P100	Welding fume/ Grindings
Utilities	Plant Services	PAPR	P100	Welding fume/ Grindings
Utilities	Solid Waste	½ face APR	Organic Vapor	Paint exposure

Seal Check Procedures
(Attachment C)

Important Information for Employees:

1. A seal check is required each time a respirator is worn, prior to entering the respirator use area. The purpose of a seal check is to make sure the respirator (which has been previously fit tested) is properly positioned to prevent leakage during use and to detect functional problems.
2. The procedure below has two parts - a positive pressure check and a negative pressure check. Both checks must be completed each time the respirator is worn. The checks are simple and should only take a few seconds to perform.
3. If the respirator does not pass both seal checks it is not functioning properly and the employee should notify his/her supervisor for further instruction.

Positive Pressure Check:

Remove exhalation valve cover, if removable.

1. Cover the exhalation valve completely with a palm of a hand while exhaling gently to inflate the facepiece slightly.
2. The respirator facepiece should remain inflated (indicating a build-up of positive pressure and no outward leakage).
3. If no leakage is detected, replace the exhalation cover (if removed), and proceed to conduct the negative pressure check.
4. If leakage is detected, reposition the respirator (after removal and inspection), and try the positive pressure check again.

Negative Pressure Check

1. Completely cover the inhalation opening(s) on the cartridges or canister with palm(s) of hand(s) while inhaling gently to collapse the facepiece slightly. If palms of hands are ineffective, filter seals (if available) or thin rubber gloves may be used.
2. Once the facepiece is collapsed, do not exhale for ten seconds while keeping the inhalation openings covered.
3. The facepiece should remain slightly collapsed (indicating negative pressure and no inward leakage).
4. If no leakage is detected, the tightness of the facepiece is considered adequate, the procedure is completed, and the respirator may be worn.
5. If leakage is detected, reposition the respirator (after removal and inspection) and repeat both the positive and negative seal checks.
6. If it is not possible to obtain a leak-free fit, it is necessary to try other sizes and styles of respirators.

Synopsis of City Fit Testing Procedures (Attachment D)

QUALITATIVE FIT TESTS PROCEDURES

SOLUTION PREPARATION

1. Unscrew the solution well and squeeze bulb of the nebulizer marked #1 Sensitivity Test Solution from the top portion and pour one teaspoon of the sensitivity test solution into the solution well.

2. Unscrew the solution well and squeeze bulb of the nebulizer marked #2 Fit Test Solution from the top portion and pour one teaspoonful of the fit test solution into the solution well.

SENSITIVITY TEST: with Nebulizer #1

This qualitative test is done to ensure that the person being fit tested can detect the taste of the test solution at very low levels. The sensitivity is a very dilute version of the fit test solution. The subject should not consume anything orally for at least 15 minutes before the test.

1. Put hood on subject without wearing the respirator. Position hood with about six inches between subject's face and hood window.

2. Instruct subject to breathe through his or her mouth and notify you when he or she detects the bitter or sweet taste of the solution.

3. Remove vent plug and nozzle plug. Insert nebulizer through hole in window. Inject 10 squeezes or until the subject is able to taste compound, fully collapsing bulb on each squeeze.

4. Note the number of squeezes when the subject tastes the compound, since this number will be repeated during the actual fit test.

FIT TEST with Nebulizer #2

1. Have subject don (put on) respirator and perform user seal check.

2. Wear respirator in uncontaminated area for a few minutes to make sure it is comfortable. Put on and position hood.

3. Put Nebulizer #2 through hole in hood window. Inject aerosol using same number of squeezes noted during the sensitivity testing.

4. After aerosol is injected, ask subject to perform following exercises, each for 60 seconds:

    a. Normal Breathing (Standing upright);

    b. Deep Breathing;

    c. Turning head side to side, breathing at each shoulder;

d. Move head up and down;

e. Speak out loud the *Rainbow Passage*;

f. Bend at waist;

g. Normal breathing (while standing upright).

QUANTITATIVE FIT TESTS PROCEDURES

USING THE PORTACOUNT™ SYSTEM

1. The ambient aerosol condensation nuclei counter (CNC) quantitative fit testing (Portacount™) procedure quantitatively fit tests respirators with the use of a probe. The probed respirator is only used for quantitative fit tests. A probed respirator has a special sampling device installed on the respirator that allows the probe to sample the air from inside the mask. A probed respirator is required for each make, style, model, and size that the department uses and can be obtained from the respirator manufacturer or distributor.

2. Class-100, class-99, or P3 filters must be substituted for fit testing even if you use another type of cartridge in the workplace.

3. Minimum fit factor required: 100 for half masks, 500 for full facepiece masks.

4. Instruct the subject not to smoke for at least 30 minutes prior to fit testing.

5. Instruct the subject to don the respirator five minutes before the fit test starts. This purges the ambient particles trapped inside the respirator and permits the wearer to make certain the respirator is comfortable.

6. Connect the Portacount's™ data port to your computer. Follow instructions provided with Portacount FitPlus™ fit test software.

7. If not using the fit test software, proceed according to instructions in the Portacount™ manual for "Stand Alone" mode.

8. Instruct the test subject to perform the same exercises in the Qualitative Fit Testing Synopsis above.

9. After the test exercises, question the subject regarding the comfort of the respirator. If it has become unacceptable, another model of respirator should be tried.

10. The Portacount™ will automatically stop and calculate the overall fit factor for the entire set of exercises. The overall fit factor is what counts. The Portacount™ will provide a pass or fail message.

11. Upon receipt of a pass message, indicating the fit test was successful - record the test subject's name, overall fit factor, make, model, style, size of respirator used, and date tested.

Respirator Fit Record
(Attachment E)

Employee Information

Employee Name: _____ Employee eCAPS Number: _____

Department: _____ Supervisor: _____

Job Title: _____ Date of Fit Test: _____

Fit Test Information

Conditions observed at the time of fit test that could affect the respirator fit:

Glasses	Y/N
Facial Scar	Y/N
Clean Shaven	Y/N
1-2 Day Growth	Y/N
2+ Day Growth	Y/N
Mustache	Y/N
Does subject wear dentures?	Y/N
If yes, dentures present for fit test?	Y/N

Additional Notes:

_____

_____

Respirator Type (Make/Model/Size)	
Testing Method	
Positive Pressure Fit Check	_____Pass_____Fail
Negative Pressure Fit Check	_____Pass_____Fail
Normal Breathing	_____Pass_____Fail
Deep Breathing	_____Pass_____Fail
Head Turn Side to Side	_____Pass_____Fail
Head Moving Up and Down	_____Pass_____Fail
Talking (Rainbow Passage)	_____Pass_____Fail
Grimace	_____Pass_____Fail
Bending Over	_____Pass_____Fail
Normal Breathing	_____Pass_____Fail

Based on information provided on this form, I certify that the employee named on this form can wear the respiratory protective equipment listed above.

Name of Person Administering Test: _____ Date of Administration: _____

Signature of Person Administering Test: _____

CITY OF SACRAMENTO REGULATORY COMPLIANCE PROGRAM
TOPIC: HOT WORK PROGRAM
EFFECTIVE DATE: 10/13/08
SUPERSEDES: N/A
SECTION: RCP #11

PURPOSE

This document establishes the Hot Work Operations Program for all employees of the City of Sacramento as per CCR Title 8 Section 4848. The purpose of this program is to protect employees from injury and City buildings from damage associated with hot work. All hot work must be accomplished in accordance with this written program, the City's safe work practices for hot work and the manufacturers' recommended safety precautions for the equipment used in welding, cutting, grinding, or brazing processes.

DEPARTMENT/DIVISION PROCEDURES AND REQUIREMENTS

Each department/division with workers covered by this program is responsible for the following:

a. Training and Authorization

   1. No employee will be allowed to perform hot work operations unless he/she has been trained and authorized to do so; and

   2. All training must be documented.

b. Approved Equipment

   1. Only approved equipment (e.g. torches, manifolds, regulators, valves, etc.) may be used. Approved equipment is defined as unmodified equipment as received from the manufacturer and used as intended and designed.

c. Hot Work Permits

   1. Hot work may be performed without a permit in the following locations:

      a. Facility Management shops;

      b. Blacksmith shop (24th Street Corp Yard);

      c. Machine shops (35th Ave CWTP, Sacramento River WTP and Fairbairn WTP),

      d. Fabrication shop (35th Ave);

      e. Fleet shops;

      f. Fire Department Emergency Operations; and

      g. Maintenance Shops.

2. Only a hot work supervisor may approve the use of hot work in a location other than the pre-approved locations listed above. This is done by completing the Hot Work Permit (Attachment A). The completed hot work permit must remain at the site until the project is complete and the permit is closed.

d. Worksite Hazard Assessment and Mitigation

1. The hot work supervisor will determine combustible materials and hazardous areas present or likely to be present at the proposed work location. The supervisor will reduce or abate the hazardous condition(s) with one of the following methods:

    a. Move the work to a location free from dangerous combustibles;

    b. If the work cannot be moved, have the combustibles moved to a safe distance from the work (at least 35 feet) or have the combustibles properly shielded;

    c. Schedule hot work operations at a time when combustibles are absent or can be moved from the work area.

2. The following restrictions apply to performing hot work in a permanent building or structure:

    a. A hot work permit is required;

    b. Nearby smoke alarms may be disabled prior to beginning work. If smoke alarms are disabled, affected employees must be notified of the exact location and duration of the work;

    c. Disabled smoke alarms must be reactivated immediately after completion of the work;

    d. When work is complete, affected employees must be notified that the work is complete and alarms have been reactivated.

3. Brazing, cutting or welding are permitted only in areas that are or have been made fire safe. Namely:

    a. If combustible materials (e.g. paper, wood shavings and textiles) are on the floor, the floor must be swept clean for a radius of 35 feet. Combustible floors will be kept wet, covered with damp sand, or otherwise protected;

    b. Where there are cracks or openings in the floor, walls, open doorways or windows exist and they which cannot be closed or covered, precautions will be taken so that no readily combustible materials on the floor below will be exposed to sparks which might drop through the floor or other openings;

    c. Ducts, fans or conveyor systems that might carry sparks to distant combustibles or promote the migration of smoke and fume to occupied areas will be suitably protected or shut down. In the event that ducts, fans or conveyor systems cannot be shut down or protected, portable welding exhaust systems that produce velocities of 100 fpm in the welding zone will be utilized;

d. If welding is to be done on a metal wall, partition, ceiling or roof, precautions must be taken to prevent ignition of combustibles on the other side due to conduction of radiation, preferably by relocating combustibles.

4. Brazing, cutting and welding operations will be conducted and permitted only when the following protections are in place:

    a. Personnel are properly outfitted with personal protective equipment (PPE);

    b. Shielding is in place to keep others from viewing the arc (as required by the hot work supervisor);

    c. Adequate ventilation is in place and functioning to keep operators from inhaling toxic gases and fumes.

e. Fire Watch

    a. Fire watchers are required whenever welding or cutting is performed in locations where a hot work permit is required;

    b. Fire watchers must be trained in the use of fire extinguishing equipment. They will be familiar with means for sounding an alarm in the event of a fire. They must watch for fires in all exposed areas, sound the alarm if necessary, and attempt to extinguish fires only when within the capability of the equipment available. A fire watch will be maintained for at least 30 minutes after completion of work;

    c. Suitable fire extinguishing equipment must be maintained nearby and ready for use while brazing, welding, and cutting are being performed and during fire watch activities.

f. Program Evaluation

This program is administered and maintained by the City of Sacramento's Environmental Health and Safety Office and will be reviewed at least every three years.

Hot Work Permit
(Attachment A)

Hot Work Supervisor Name:	Date and Time of Work:	Have emergency fire response procedures been reviewed? ___Yes ___No
Is a confined space permit required? ___Yes ___No	Is Lockout/Tagout required? _____Yes ___No	Hot Work Equipment to be used:
Location and equipment to be worked on:		

Reason for completing this Hot Work Permit (check all that apply):

___ Combustible materials in work area

___ Work area has potential for flammable vapors

___ Work area has potential for an oxygen-enriched atmosphere

___ Work will not be done in a permanent setting

Fire Prevention Procedures to be used during hot work:

Yes/No		Yes/No	
	Lockout/Tagout		Confined Space Entry Procedure
	Test for flammable vapors with gas detector		Displace pipeline/tank with water
	Erect fire-resistant barriers		Ventilate area to control flammable vapors
	Place fire extinguishers around worksite		Clear work area of combustibles
	Wet down floor		Place water hoses around worksite
	Cover floor with wet sand		Other (list below) Portable
	Welding ventilation		
	Drums filled with wet sand		
	Drums filled with water		
	Fire watch		

Persons Conducting Hot Work:

Name and Department: _____

Name and Department: _____

Name and Department: _____

Fire Watch, Name/Department: _____

Fire Watch, Name/Department: _____

Authorizing Hot Work Supervisor

Name: _____ Signature: _____ Date: _____

Fire Watch has been maintained for 30 minutes after completion of hot work. All ignition sources have been extinguished. This permit is closed.

Date and Time: _____ Fire Watch Name: _____ Signature: _____

CITY OF SACRAMENTO REGULATORY COMPLIANCE PROGRAM
TOPIC: OFFICE SAFETY PROGRAM
EFFECTIVE DATE: 05/20/10
SUPERSEDES: N/A
SECTION: RCP #12

PURPOSE

To ensure compliance with the California Code of Regulations, (CCR) Title 8, Section 1509, this regulatory compliance program provides guidance to office managers and staff on the elements of safe office work and applies to all City of Sacramento employees who work in an office environment. An office, like any other work environment, presents potential health and safety hazards. However, most of these hazards may be minimized or eliminated by designing jobs and workplaces properly, and by taking into account differences among tasks and individuals.

RESPONSIBILITIES

1. Managers/Supervisors

Managers and supervisors are responsible for ensuring office equipment is in safe working condition, providing adequate storage for office supplies and for training employees. In accordance with API #39 (Injury and Illness Prevention Plan), they are also responsible for conducting and documenting regular worksite inspections (Attachment A), training employees and following up on safety concerns.

2. Office Staff

Office staff is responsible for maintaining a neat and sanitary office environment and to report all safety issues immediately to his or her supervisor. Office staff is not responsible for repairing office equipment or systems. Office Staff are expected to participate in safety training and drills.

PROCEDURES

1. General Electrical Safety

a. Electrical cords should be examined on a routine basis for frayed and exposed wiring. Particular attention should be paid to connections behind furniture since filing cabinets and bookcases may be pushed tightly against outlets, severely bending the cord at the plug. Electrical appliances must be approved and used in accordance with Underwriters Laboratory (UL) or other recognized national testing authority requirements.

Extension Cords

1. May only be used temporarily and in situations where fixed wiring is not feasible;

2. Must not be kept in good repair, free from defects in their insulation and not kinked, knotted, abraded or cut;

3. Extension cords must be placed so they do not present a tripping or slipping hazard;

4. Must not be placed through doorways having doors that can be closed, thereby damaging the cord; and

5. All extension cords must be of the grounded type (three prong).

2. Housekeeping

a. Good housekeeping is an essential element of accident prevention in offices. Poor housekeeping may lead to fires, injuries to personnel, or unhealthy working conditions. Falls and mishaps caused by dropping heavy cartons or other office equipment and supplies may also be a source of serious injuries to personnel;

b. Passageways and aisles in offices should be clearly defined and kept free and clear of obstructions. Proper layout, spacing, and arrangement of equipment and furniture are essential;

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

d. Materials stored within supply rooms and cabinets 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 may materials be stacked within 18 inches of fire sprinkler heads. Materials must not be stored so that they project into aisles or passageways in a manner that could cause persons to trip or hinder emergency evacuation;

e. Electrical panels must not be blocked. They must have at least 18 inches of clearance on both sides and 36 inches in front of panel.

3. Ergonomics

a. Complaints concerning musculoskeletal problems are frequently heard from computer operators. For more information on ergonomics, refer to Regulatory Compliance Program No. 2 (Ergonomic Program). The most common complaints are related to the neck, shoulders, and back. Other concerns are the arms and hands and occasionally the legs. Common factors which have been identified and associated with increased risk of musculoskeletal problems include:

1. Design of workstation;

2. Nature of the task;

3. Repetitiveness of the job;

4. Degree of postural constraint;

5. Work pace;

6. Work/Rest schedules; and

7. Personal attributes of individual workers.

b. The key to comfort is 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 elbows close to the body. The head should be in line with the body and slightly forward.

c. **Chairs**
The chair is usually the most important piece of furniture that affects user comfort in the office. An ergonomically sound chair includes five means of adjustment - seat pan tilt, backrest angle, seat pan depth, seat height, and backrest height. Operators can then vary the chair adjustments according to the task and comfort. Chairs should have five wheels, and be adjusted for comfort so the back is supported and that the seat pan is at a height where the thighs are horizontal and feet are flat on the floor.

d. **Working Height**
The work surface height should fit the task and allow work to be performed with arms low and close to the body in relation to the task. Sit/Stand work stations allow for maximum flexibility for work stations with multiple users.

e. **Work/Rest Schedules**
Stress and fatigue may be minimized by designing work flow so that tasks requiring concentrated work at the terminal are alternated with non-computer based tasks throughout the workday. Also, short breaks (i.e. three to five minutes) should be taken at least once each hour when involved in continuous work at the computer.

f. **Other Solutions**
Additional measures that will aid in reducing discomfort while working with computers include:

   a. Changing position, stand up or stretch whenever you start to feel tired;

   b. Using a soft touch on the keyboard and keep your shoulders, hands, and fingers relaxed;

   c. Using a document holder, positioned at about the same height and distance as the display screen;

   d. Resting your eyes by occasionally looking off into the distance, blinking or closing them.

g. **Office Lighting**
Different tasks require different levels of lighting. For example, areas in which intricate work is performed 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.

4. Waste Disposal

a. Whenever feasible, cardboard, paper, plastic, and metals should be recycled. Office personnel should carefully handle and properly dispose of hazardous trash, such as broken glass. A waste receptacle containing broken glass or other hazardous materials should be labeled to warn maintenance personnel of the potential hazard. Whenever possible, put broken glass in a hard-walled container and sealed with packing tape. Alkaline batteries, rechargeable batteries, and fluorescent light tubes must be disposed of properly as universal waste. For more information on proper disposal, including needle (sharps) disposal, contact the Environmental Health and Safety Office at 808-5278. The Sustainable Operations for City Departments Policy (API #57) for more information on recycling.

5. Hazard Communication

a. Each office employee must be made aware of all hazardous materials (e.g. chemicals) that they may contact in his or her work area. For more information, refer to Regulatory Compliance Program No. 3 (Hazard Communication Program).

6. Emergency Action Plans

a. Emergency Action Plans are developed to control unplanned events and minimize the effects. Through careful pre-planning, establishment of Emergency Action Teams, training and drills, employees and visitors can be safeguarded and the potential for damage to City assets is minimized.

b. Emergency Action Plans typically include:

1. Exits routes, meeting areas and employee accounting systems;

2. Emergency evacuation triggers, incident command and notification of emergency services; and

3. Bomb threats and facility security.

c. Emergency Action Team Members (e.g. supervisors, receptionists, and key assigned members) must be trained annually. All facilities must have annual drills to assess the effectiveness of the Emergency Action Plan. All employees are expected to participate in the drills.

7. Fire Extinguishers

a. Staff must be informed regarding the locations and classifications of portable fire extinguishers. Only staff trained at the City in the proper use of fire extinguishers should attempt to use one. If you use a fire extinguisher for any reason, it must be reported to Facilities Management, so it can be replaced with a charged extinguisher. It is also recommended that staff notify the Fire Department after using a fire extinguisher to put out a fire of any size, so fire personnel can inspect the facility and make sure the fire is completely extinguished. See Regulatory Compliance Program No. 4 (Fire Prevention Program) for more information.

8. Preventing Slips, Trips and Falls

a. Slips, trips, and falls are a leading cause of injuries in any workplace and these types of injuries are easily prevented. Simple steps, like good housekeeping and being aware of your surroundings, can help reduce the chances of staff becoming injured by a slip, trip, or fall. Spills should be cleaned up immediately. Handrails should also be used consistently on stairs.

9. Safe Office Attire

a. Wear loose, comfortable clothing that best fits the job task and working environment unless doing so would increase the potential for injury (e.g. neckties, long hair, or loose sleeves around rotating parts). Whenever possible, avoid open-toed shoes and sandals. This type of footwear is not allowed where material handling is conducted. Wear comfortable footwear with a good sole to reduce leg and back strain, and to help prevent slips and falls.

10. Back Injury Prevention

a. Most back injuries are cumulative in nature. They may be caused by a prior injury flaring up, continued use of a heavy tool in the same position, or if a great deal of time is spent in the same position. Remember that most back injuries can be attributed to poor posture, poor body mechanics, poor work habits, stressful living, loss of flexibility, and/or poor conditioning. Most back injuries are avoidable if employees make the correct lifting choices. By focusing on strength, flexibility, and overall quality of life, staff can eliminate or minimize back injuries. Employees are encouraged to exercise, eat right and stretch as often as possible to help prevent injuries, and to minimize recovery time due to injuries.

11. Electronic Office Equipment Hazards

a. **Unsafe/Non-Approved Equipment**
All poorly maintained or unsafe, poor quality, non-rated (i.e. UL listed) coffee makers, radios, lamps, etc. may not be used in City facilities. Such appliances can develop electrical shorts and create a fire and/or shock hazards. Equipment and cords should be inspected regularly and only a qualified individual should make repairs. Some facilities, such as City Hall, have banned personal coffee makers, toaster ovens, and space heaters completely, so be aware of what is prohibited at your facility;

b. **Live Parts Unguarded**
Wall receptacles should be designed and installed so that no current-carrying parts will be exposed. All receptacle cover plates should be kept tight to eliminate the possibility of shock. All broken or cracked cover plates, as well as any unsafe electrical conditions, should be reported to Facilities Management immediately;

c. **Working on "Live Equipment"**
Disconnect electrical equipment before cleaning, adjusting, or applying flammable solutions. If a guard is removed to clean or repair parts, replace it before testing the equipment and returning the equipment to service. Only trained personnel should attempt to repair any equipment;

d. **Electrical Panel Doors**
If an electrical malfunction should occur, the panel door, and anything else in front of the door will become very hot. Electrical panel doors should always be kept closed, to prevent "electrical flashover" in the event of an electrical malfunction and nothing can be stored within 36" of the panels. All breakers within the panels should be clearly labeled too;

e. **Office Equipment**
It is important that all staff understand how to properly operate electronic office equipment. Reading and following the instructions is essential, but so is communicating restrictions. All staff must understand the appropriate response when a piece of equipment malfunctions. For instance, when paper jams in a photocopier, reaching into a copier can result in burns or even electrocution.

Only trained staff should attempt to unjam the equipment. Certain materials, such as plastic transparency sheets, should not be used in some copiers. At the end of the day, be sure to power down all electrical equipment.

The names/phone numbers of repair or service providers should be posted prominently near the copier, fax or other equipment. When in doubt, contact the vendor or repair professional for assistance.

Office Safety Inspection Checklist
(Attachment A)

This checklist is intended as a guide to assist employees in conducting periodic safety and health inspections of their work areas. It includes questions relating to general office safety, fire prevention, and electrical safety. Questions which receive a "NO" answer require corrective action. If you have questions or need assistance with resolving any problems, please contact the EH&S Office at 808-5278.

Inspector Name: _____ Inspection Date: _____

Work Environment

Yes	No	N/A	
O	O	O	Are all work areas clean, sanitary, and orderly?
O	O	O	Is there adequate lighting?

Walking / Working Surfaces

Yes	No	N/A	
O	O	O	Are aisles and passages free of stored material that may present trip hazards?
O	O	O	Are tile floors in places like kitchens and bathrooms free of water and slippery substances?
O	O	O	Are carpet and throw rugs free of tears or trip hazards?
O	O	O	Are hand rails provided on all fixed stairways?
O	O	O	Are treads provided with anti-slip surfaces?
O	O	O	Are stepladders or stools provided for reaching overhead storage areas and are materials stored safely?
O	O	O	Are file drawers kept closed when not in use?
O	O	O	Is furniture free of any unsafe defects?
O	O	O	Are heating and air conditioning vents clear of obstructions?

Emergency Information (Postings)

Yes	No	N/A	
O	O	O	Are employees trained on emergency procedures?
O	O	O	Are fire evacuation procedures/diagrams posted?
O	O	O	Are the Cal-OSHA poster and other required posters displayed conspicuously?
O	O	O	Is a copy of the facility emergency action plan available on site?
O	O	O	Are safety hazard warning signs/caution signs provided to warn employees of pertinent hazards?

Fire Prevention

Yes	No	N/A	
O	O	O	Are portable fire extinguishers distributed properly (less than 75 feet travel distance for combustibles and 50 feet for flammables)?
O	O	O	Are employees trained on the use of portable fire extinguishers?
O	O	O	Are portable fire extinguishers visually inspected monthly and serviced annually?
O	O	O	Are areas around portable fire extinguishers free of obstructions and properly labeled?
O	O	O	Is heat-producing equipment used in a well-ventilated area?
O	O	O	Are fire alarm pull stations clearly marked and unobstructed?
O	O	O	Are proper clearances maintained below sprinkler heads (i.e. 18" clear)?

Emergency Exits

Yes	No	N/A	
O	O	O	Are doors, passageways or stairways that are neither exits nor access to exits and which could be mistaken for exits, appropriately marked "NOT AN EXIT," "TO BASEMENT," "STOREROOM," etc.?
O	O	O	Are a sufficient number of exits provided?
O	O	O	Are exits kept free of obstructions or locking devices which could impede immediate escape?
O	O	O	Are exits properly marked and illuminated?
O	O	O	Are the directions to exits, when not immediately apparent, marked with visible signs?

Electrical Systems

Yes	No	N/A	
O	O	O	Are all cord and cable connections intact and secure?
O	O	O	Are electrical outlets free of overloads?
O	O	O	Is fixed wiring used instead of flexible/extension cords?
O	O	O	Is the area around electrical panels and breakers free of obstructions?
O	O	O	Are high-voltage electrical service rooms kept locked?
O	O	O	Are electrical cords routed such that they are free of sharp objects, clearly visible, in good condition and grounded?
O	O	O	Are electrical appliances approved (Underwriters Laboratory, Inc. (UL), etc.)?
O	O	O	Are space heaters located away from combustibles and properly ventilated?

Material Storage

Yes	No	N/A	
O	O	O	Are storage racks and shelves capable of supporting the intended load and materials stored safely?
O	O	O	Are storage racks secured from falling?
O	O	O	Are office equipment stored in a stable manner, not capable of falling?

CITY OF SACRAMENTO REGULATORY COMPLIANCE PROGRAM
TOPIC: LEAD EXPOSURE CONTROL PROGRAM
EFFECTIVE DATE: 01/04/10
REVISED 1/18
SUPERSEDES: N/A
SECTION: RCP #13

PURPOSE

In accordance with California Code of Regulations (CCR) Title 8, Sections 1532.1 and 5198, this program provides procedures to minimize occupational exposure to lead. It is the intent of the City of Sacramento (City) to maintain work environments that control all worker exposures to less than the permissible exposure limit.

This program applies to all City employees, volunteers and students (workers) who may be exposed to lead in the workplace and specifically to workers at the following facilities.

The Northern California Public Safety Training Joint Powers Authority (JPA) Firing Range Complex located at 5428 Patrol Road, McClellan, CA includes:

1. A sixteen lane, semi-enclosed small arms range;

2. Two outdoor ranges for shotguns, small arms, and rifles; and

3. A live fire shoot house.

The JPA ranges are used by City Police Officers and Law Enforcement Training Academy students.

The South Area Corporation Yard located at 5720 24th Street, Sacramento, CA includes paint, carpentry and other trades shops which employee facility maintenance workers. Facility maintenance workers perform work in City owned facilities throughout Sacramento.

1. Exposure Assessment

Each operation with potential for worker exposure will be monitored to make an initial determination if workers are exposed to lead at or above the action level or permissible exposure limit. The initial determination will be based upon monitoring of a representative sample of workers exposed to the highest concentrations of lead. Air sampling procedures are included as Attachment A.

1. Negative Initial Determination: If workers are exposed to airborne lead concentrations less than the action level, no further testing is required. Additional exposure monitoring is required if there are changes in production, equipment, process, control or personnel that may result in new or increased worker exposures to lead;

2. Positive Initial Determination: If initial monitoring reveals worker exposure at or above the action level but no greater than the permissible exposure level, monitoring will be repeated at least every six months until two consecutive measurements taken seven days apart are at or below the action level;

3. PEL Exceeded: If initial monitoring reveals worker exposure above the PEL, monitoring will be repeated quarterly until at least two consecutive measurements taken seven days apart are at or below the PEL:

    a. Surface wipe samples will be collected periodically in firing range facilities to verify that cleaning procedures are effective. Acceptable levels for lead dust are less than 400 micrograms per square foot for the range and 40 micrograms per square foot in the common areas behind the firing line;

    b. Cleanliness in general work areas and break rooms will be maintained at less than 200 micrograms of lead per square foot;

    c. Workers will be notified in writing of the results of exposure monitoring that represents their exposure within five working days after the City's receipt of results.

2. Control Measures

a. Procedures for cleaning firing range areas are included in Attachment B. Procedures for building maintenance and renovation are included in Attachment C;

b. Signs will be posted in firing range areas stating the hazards of lead exposure and that there is a potential for exposure. Signs will be posted recommending washing face and hands after range use and advising *No Food, No Drinks, No Smoking, and No Tobacco Products*;

c. Lead free frangible rounds will be used inside the live fire shoot house;

d. The bullet trap dust collection system must be operational at all times during operation of the JPA semi-enclosed range.

3. Personal Protective Equipment

Respiratory protection will be provided if engineering and work practice controls are not sufficient to reduce exposures below the PEL, there are periods of unknown exposure while conducting assessment or a worker requests a respirator. If workers are exposed to lead above the PEL or the possibility of skin or eye irritation exists, appropriate protective work clothing and equipment will be provided. Protective equipment may include but is not limited to coveralls, gloves, hats, shoes, shoe covers, face shields and eye protection. Protective clothing and equipment will be handled, cleaned, laundered, disposed of and replaced as needed to contain and control exposure to lead.

4. Medical Surveillance

a. The City will provide medical surveillance for workers who are exposed at or above the action level for more than 30 days in any 12 consecutive months. All medical examinations will be conducted under the supervision of a licensed physician, in compliance with Cal-OSHA requirements, at no cost to the worker and according to the following schedule;

1. Blood lead and zinc protoporphrin sampling and analysis shall be offered every six months. If blood lead level is at or above 40 mg/100g of whole blood, follow-up testing will be offered within two weeks of the employee's receipt of their results. Blood sampling and analysis will be offered every two months until two consecutive samples indicate blood lead level is below 40 mg/100g of whole blood;

2. Annual medical exams will be offered to workers whose blood test, conducted any time during the preceding 12 months, indicated a blood lead level at or above 40 mg/100g of whole blood;

3. Workers with a blood lead level at or above 40 mg/100g of whole blood will be notified in writing with in five working days after the City's receipt of biological monitoring results.

5. Training

a. Employees and supervisors who conduct lead related construction, renovation or maintenance work in public buildings must be trained by a provider accredited and certified by the CA Department of Health Services. Other workers with potential for exposure to lead will be provided training which includes an explanation of:

   1. Workplace lead regulations and specific operations that could result in exposure;

   2. Permissible exposure limit and action level for lead;

   3. Health effects of lead and medical monitoring requirements including information on chelating agents;

   4. Job-specific work practices, cleaning procedures and use of engineering controls;

   5. Selection, use, fitting and limitations of respirators and personal protective equipment;

   6. Contents of the City of Sacramento's Lead Exposure Control Program;

   7. Proper disposable of contaminated material; and

   8. Employee rights to obtain exposure and medical records.

b. Potentially affected workers will be provided initial training prior to assignment of job duties. Refresher training will be provided annually for workers who are subject to lead exposure at or above the action level or who have the possibility of skin or eye irritation due to lead exposure.

6. Recordkeeping

a. The City maintains records of all exposure monitoring activities including negative exposure assessments. These records include the following:

   1. Exposure monitoring data and information pertaining to variable worksite conditions will be documented on the log provided in Attachment A;

2. Medical surveillance records including worker medical history and medical examination results will be maintained at the facility conducting the medical monitoring. Results of biological monitoring will be maintained in the City's non-industrial medical files;

3. Medical removal information for a worker due to exposure to lead will be documented in the City's non-industrial medical files. This information will include each date a worker was removed, date the worker returned to duty, the cause of removal and statements explaining how the removal was handled;

4. Objective exposure data can be obtained from material testing or industry wide studies and may include information that documents a particular product, material, procedure, operation or activity cannot release lead dust or fumes above the action level. Objective data used to assess exposure will be documented in the Risk Management Division's material testing inventory.

b. All records shall be made available upon request to affected workers, former workers or his or her designated representative. The records will be maintained for at least 40 years or for the duration of employment plus 20 years whichever is longer.

Definitions
Attachment A

Action Level
Eight-hour time weighted exposure of 30 micrograms of airborne lead per cubic meter of air.

Permissible Exposure Limit (PEL)
Eight-hour time weighted exposure of 50 micrograms of airborne lead per cubic meter of air.

Air Monitoring Procedures – Lead Exposure (Attachment B)

1. Perform personal monitoring for each type of worker task with a potential lead exposure.

2. Prior to the monitoring, calibrate the Elf Escort pump with the Dry-Cal at the desired airflow rate [1]. The pump should be calibrated monthly. Calibrate with the sampling media in line.

3. The airflow rate should be set at either 1.5 or 3 liters per minute (lpm). For 4-8 hours of air monitoring, set the flow rate at 1.5 lpm. For less than 4 hours of air monitoring, set the flow rate at 3 lpm unless a high lead exposure is expected (above 100 ug/m3) in which case use 1.5 lpm.

4. Charge the pump overnight (14-16 hours).

Sampling Procedures

1. Label two cassettes (37mm, 0.8 micron MCE filter) with unique sample numbers. Use one for the monitoring and the second for the field blank (control).

2. Remove the end plugs from both cassettes. For the control cassette, reattach the end plugs with the red on the inlet and the blue on the outlet (opposite the way they were before plug removal). Place the control cassette and end plugs for the other cassette in a sealed Ziploc bag.

3. Attach the other cassette to the Elf Escort air pump tubing using the line coupler. The line coupler is connected to the outlet of the cassette, which had the red cap on it (spoke- wheel pattern and marked "outlet"). The inlet side is marked "inlet" and has the blue cap on it. To prevent the cassette from disconnecting from the coupler during monitoring, tape the outlet end of the cassette to the tubing. Do not turn on the pump until it is deployed on the worker.

4. Place the air pump on the worker's belt. Provide a belt (or make one with duct tape) if the worker does not have a belt. Run the tubing from the pump, behind the worker's back, and clip the cassette end in the worker' breathing zone (e.g. shirt collar). Clip or tape the tubing on the worker's back to keep it secure. Orient the cassette face down.

5. Turn the pump on, note the time. Observe the digital readout on the pump. It should stabilize on the preset airflow. If it does not, the cassette may be set too tight on the line coupler or the tubing bent.

6. On the "Air Sampling Log", record the sample number, worker name, job title, description of work and respirator (if any), the pump number, the pump flow rate, the calibrated flow rate and the start time. On the bottom of the log there are fields to record additional information and the sample number of the control.

7. Check the pump for proper operation periodically throughout the shift (at least every two hours). Make sure the pump flow rate is correct and the tubing is secured.

[1] The Dry Cal itself, should be calibrated annually with traceability to the National Institute for Standards and Technology.

8. Ask the worker if they would like the pump removed for breaks. If it is removed, turn the pump off and note the stop time and restart time on the log. The pumps can be left on and running for breaks since this is part of the shift.

9. Remove the pump for lunch. Note the stop time and restart time on the log.

10. Turn the pump off at the end of the shift and note the stop time on the log. Remove the sampling train from the worker. Place the end caps on the cassette (red inlet and blue outlet) and place in the sealed Ziploc bag with the control.

11. Calculate the total time that the pump ran and record on the log. Calculate the air volume (calibrated flow rate times time) and record on the log.

12. Complete the chain of custody. Request air analysis for lead by NIOSH Method 7082 (flame AA). Be sure to sign and note the date and time of drop at the express mail service or at the lab. If you use a mail service (do not drop off at the lab) the air bill becomes part of the chain-of-custody.

Notes:

If the filter loading is heavy, it may be necessary to change the cassette several times during the shift. Note each of these as new samples numbers with separate start and stop times and air volumes. If this is done, a calculated time-weighted average concentration will be needed to determine the full-shift exposure.

On the log, note any unusual conditions, engineering controls and different work practices that might reduce exposure levels.

The referenced method for this procedure is NIOSH Method 7082.

Prepared by John Sacco, Certified Industrial Hygienist, Earthshine Consulting, 11/09

Air Sampling Log
(Attachment A)

Project: _____ Date: _____

Sampling Performed By: _____

Sample #	Description/ Name/Position & Respirator Type	Pump #	Pump Flow Rate	Calb. Flow Rate	Time On	Time Off	Total Min.	Air Volume

Work Location	Activity	Ventilation	Comments

Control Samples: _____

Firing Range – Lead Cleaning Guidelines (Attachment B)

Enclosed firing ranges require frequent cleaning. Walls, floors, ceilings and bullet traps must be cleaned regularly to prevent lead dust from becoming an airborne inhalation hazard to people using the range.

It is essential to use appropriate methods to clean the firing range.

Cleaning Guidelines

DO NOT DRY SWEEP

1. Vacuuming is the preferred method for cleaning work areas. Shoveling, wet sweeping or brushing may be used only when vacuuming or an equally effective method has been found ineffective.

2. Use a vacuum cleaner equipped with a high efficiency particulate air (HEPA) filter to remove lead-contaminated dust.

3. Compressed air may not be used to clean surfaces that may be contaminated with lead.

4. Wear appropriate work clothing, gloves, shoes and an approved respirator if the need for respiratory protection is indicated by exposure monitoring.

Semi- Enclosed Firing Ranges

1. Wear disposable "Tyvek" suit and gloves. A respirator with HEPA filters is required, unless exposure assessment of cleaning methods has documented that respiratory protection is not necessary.

2. Use a HEPA vacuum to clean the floor and walls.
   After vacuuming, use a pressure washer to spray down floor and walls. Start at the firing line and work toward the bullet trap. Use a squeegee to push excess water toward bullet trap.

Brass Casings and Bullet Traps

1. Wear disposable gloves when collecting brass casings. Do not dry sweep. Store brass casings in a covered metal container.

2. Empty buckets containing lead fragments into approved metal containers wearing the same personal protective equipment used to clean the firing range.

3. Mining of rubber bullet traps will be performed by a qualified contractor only.

Common Areas

1. Wear disposable gloves.

2. Wipe all horizontal surfaces using wet cloths.

3. Bag wipes for proper disposal as contaminated waste.

4. Use a disposable "Swiffer" type dust mop or HEPA vacuum to clean the floor.

Waste Disposal

Store lead fragments, dust, vacuum filters and contaminated cleaning wipes, mops and personal protective equipment in accordance with the California Dept. of Toxic Substances Control regulations for disposal by a contractor approved by the Risk Management Division.

Brass shell casings will be stored in closed containers for recycling by and approved contractor.

Facilities Maintenance – Lead Paint Guidelines (Attachment C)

Interior paints and primers manufactured prior to 1978 often contain lead. Industrial and exterior paints and coatings are not regulated and must be considered suspect for containing lead. Disturbance of surfaces coated with materials containing lead may create an airborne inhalation hazard for workers.

It is essential to use appropriate methods when conducting building renovation and maintenance activities.

Renovation and Maintenance Guidelines

1. Buildings constructed prior to 1978 and all exterior and industrial coated surfaces must be tested for lead content prior to conducting any work in which painted or coated surfaces will be demolished, sanded, scraped, cut, drilled, welded, blasted, heated or treated in any manner which generates airborne dust or fumes.

2. Initial screening of surfaces shall use bulk sampling and will include each unique surface that may contain lead. Sampling will be conducted by City staff or contract personnel trained in lead sampling procedures. Samples will be analyzed for any detectable amount of lead by a qualified laboratory.

3. Risk Management Environmental Health and Safety (EH&S) staff compile lead testing data into a City-wide inventory. If lead testing is conducted by non-EH&S personnel, copies of the laboratory reports must be forwarded to EH&S to ensure accuracy of the lead materials inventory.

4. Persons responsible for sampling will notify the City representative overseeing in-house or contract work of all lead testing results.

5. If no lead is detected, no further action is necessary. City personnel can perform renovation and maintenance work as needed.

6. If lead is detected, work must be performed by a qualified contractor or qualified City workers. City workers must follow a work plan and use work practices approved by EH&S staff.

7. A Cal-OSHA pre-job notification is required for disturbance of more than 100 square or lineal feet of material containing 0.5% lead or greater.

CITY OF SACRAMENTO REGULATORY COMPLIANCE PROGRAM
TOPIC: AEROSOL TRANSMISSIBLE DISEASE EXPOSURE CONTROL PROGRAM
EFFECTIVE DATE: 08/30/10
SUPERSEDES: N/A
SECTION: RCP #14

PURPOSE

The Cal-OSHA Aerosol Transmissible Disease Standard, Title8 California Code of Regulations Sections 5199 and 5199.1 (8CCR5199 and 8CCR5199.1) requires the City of Sacramento to identify those job classifications where employees may have an elevated risk of contracting a disease caused by an aerosol transmissible pathogen such as tuberculosis, avian influenza, swine influenza and any other diseases listed in Attachment A. This regulatory compliance program (RCP) provides guidance to affected City department and employees on the procedures for controlling occupational exposure to aerosol transmissible diseases (ATD). A copy of this RCP and specific departmental procedures will be accessible to all affected employees.

An effective ATD Exposure Control Program requires early identification and isolation of person who have an active ATD. This ATD Exposure Control Program is designed to achieve this by: 1) use of administrative measures to reduce risk for exposure to persons who have an infectious ATD; 2) use of engineering controls to prevent the spread and reduce the concentration of infectious droplets by means of isolation or removal: and 3) use of personal protective equipment. Definitions of terms used in this program are included as Attachment B. Attachment C lists job classifications covered by this RCP.

RESPONSIBILITIES

1. Department Managers (Animal Care, Fire, Police and Zoo)

a. Designate qualified persons to implement this program and develop department-specific ATD exposure control procedures as specified in Attachments D and E;

b. Develop and implement procedures to ensure early identification of person(s) or patient(s) who have, or potentially may have, an infections ATD in accordance with Attachment F;

c. Develop written procedures to communicate with employees, other employers and the local health officer regarding the suspected or diagnosed infections disease status of patients or suspects within 72 hours;

d. Implement and document ATD training for personnel including the elements listed this RCP;

e. Determine if exposure control procedures need to be modified based on incidents involving exposure of employees, positive TB screening tests, the development of signs/symptoms consistent with suspected TB, or infection with an ATD;

f. Coordinate with Environmental Health and Safety (EH&S) and Workers' Compensation staff to develop and implement post-exposure medical evaluations for all employees who have had a significant exposure;

g. Manage all exposures and documentation of post-exposure follow up as confidential medical records; and

h. Retain records as outlined in the record keeping section of this RCP.

2. Supervisors

a. Monitor compliance with this plan by employees who have a potential for occupational exposure. This includes ensuring that new employees are properly trained and that all employees attend annual training sessions;

b. Ensure respiratory protection equipment is available in accessible locations, used by personnel when appropriate and stored properly when not in use.

3. Employees

a. Perform tasks and procedures in a manner that minimizes or eliminates employee exposure, comply with requirements of the ATD exposure control plan and performs duties as trained;

b. Report all exposure incidents to his or her supervisor and document in accordance with the City's Workers' Compensation process.

4. Environmental Health and Safety

a. Conduct an annual evaluation of the Citywide ATD Exposure Control RCP in coordination with managers and safety committees from affected departments;

b. Coordinate the tuberculosis testing, ATD immunization and respirator fit testing in conjunction with affected departments;

c. Instruct the external medical provider to maintain employee ATD medical records as required by this program;

d. Compile a yearly analysis of reported exposures and subsequent infections based on Workers' Compensation data; and

e. Consult with Sacramento County Public Health and physicians annually to evaluate the risk of transmission of ATDs to City personnel and determine if exposure control procedures need to be modified.

5. Medical Services

All affected Police and Fire Department employees will be screened for tuberculosis (TB) at the time of hiring. All affected Police and Fire Department employees are encouraged to participate in TB screening annually or as recommended by Sacramento County Public Health Department or the City's medical provider. The test will be paid for by the City. Employees testing positive for TB will be referred for further evaluation as recommended by the physician or other licensed health care professional. Employee declinations of TB testing will be documented (Attachment G).

The City will make the following immunization available at no cost to all covered Fire Department employees. Police Department employees will be offered seasonal influenza vaccinations. These immunizations will be offered within 10 days of hire and repeated in accordance with medical recommendations. All declinations of offered immunizations vaccinations will be documented (Attachment H).

Vaccine Type	Vaccine Schedule
Seasonal Influenza	Generally one dose annually
Measles	Two doses
Mumps	Two doses
Rubella	One dose
Tetanus, Diphtheria, and Acellular Pertussis (Tdap)	One dose, booster as recommended
Varicella-zoster (VZV)	Two doses

Following any significant exposure to an ATD, employees, will be sent for a medical evaluation, testing and any follow up tests or treatment recommended by the Sacramento County Public Health Department or the City's medical provider. The City's medical provider will be consulted to determine if precautionary removal from normal duty is required.

TRAINING

All affected employees will receive ATD training relevant to his or her position. The need for additional training beyond initial assignment of tasks where occupational exposure may take place will be re-evaluated annually and re-training will take place at least annually. Annual refresher training may be limited to provisions of the standard not previously covered as well as new tasks, work practices and exposure control measures. All training must include an opportunity for employees to ask questions which can be answered within 24 hours by a knowledgeable person.

Initial training must include:

1. Location of the Cal-OSHA ATD regulation (8CCR5199);

2. A general explanation of ATDs including signs and symptoms of ATDs that require further medical attention;

3. An explanation of the modes of transmission of aerosol transmissible pathogens (ATPs) and applicable source control procedures;

4. An explanation of the department's exposure control procedures; the means by which the employee can obtain a copy of the written exposure control plan and how they can provide input as to its effectiveness;

5. Appropriate methods for recognizing tasks and other activities that may expose employees to ATPs;

6. Use and limitations of methods to prevent or reduce exposure to ATPs including engineering and work practice controls, decontamination and disinfection procedures, and personal and respiratory protective equipment;

7. The basis for selection of personal protective equipment, location, proper use and limitations, cleaning, decontamination and disposal of contaminated equipment;

8. A description of the department's TB surveillance procedures, including the information that persons who are immune-compromised may have a false negative test for latent TB;

9. Training and fit testing meeting the requirement of Cal-OSHA's Respiratory Protection Program (8CCr5144) for employees whose assignment includes the use of a respirator;

10. Information on immunizations offered by the City;

11. An explanation of post-exposure procedures including reporting the incident, medical follow-up, and post-exposure evaluation;

12. Information on the department's surge plan as it pertains to the duties that employees will perform. As applicable, this training shall cover the plan for surge receiving and treatment of patients, patient isolation procedures, how to access supplies needed for the response including personal protective equipment and respirators, decontamination facilities and procedures and how to coordinate with other emergency response personnel and outside agencies; and

13. Information on the proper procedures for the disposal of animal waste.

RECORD KEEPING AND PLAN REVIEW

1. Training Records

   Training records must be maintained by the department for a minimum of three years. Training records must include:

   a. The dates of training;

   b. The contents or a summary of training;

   c. The names and qualifications of persons conducting the training; and

   d. The names, job titles and signatures of all persons attending the training.

2. Medical Records

   Medical records must be maintained for at least the duration of employment plus 30 years. Medical Records are to be kept confidential unless there is written consent from the employee to disclose information. These records must comply with 8CCR3203 and 8CCR3204 and must include:

   a. The name and social security number of the employee;

   b. The employee's vaccination status including a copy of the employee declination forms; and

   c. Results from ATD medical examinations, testing and follow-up procedure including any written opinions provided by a healthcare professional and any information provided to the healthcare professional.

3. Plan Implementation and Review

   The ATD Exposure Control Program and any department-specific procedures will be reviewed at least annually or when any of the following conditions exist:

   a. New or modified tasks and procedures affect occupational exposure are developed;

   b. Changes in technology that reduce or eliminate exposure to ATPs become available;

   c. New or revised employee positions with occupational exposures are identified;

   d. Evaluation of exposure incidents indicate changes are needed;

   e. The ATD Prevention Program is deficient in any area.

   Record of annual reviews of the ATD plan must include names of the persons conducting the reviews, dates of the reviews, names and work areas of employees involved and a summary of the conclusions. These records must be kept for at least three years.

4. Exposure Incidents

   Workers' Compensation will retain records of exposure incidents to be made available as employee exposure records in accordance with 8CCR3204:

   a. Exposure records will include the date of the incident, the names of the employees involved, the potential disease or pathogen, the name and job title of the person performing the evaluation, the identity of any local health officer, physician or licensed health care professional consulted, the date of the evaluation and the date of contact;

   b. Department will maintain contact information for any other employers notified regarding potential employee exposure. Attachment G is the Emergency Response Employee Report (Communicable Disease) form used by fire departments in this area.

Definitions
(Attachment A)

Aerosol
A suspension of liquid or solid particles in air, including droplets, droplet nuclei, fomites and dust.

Aerosol Transmissible Disease (ATD) or Aerosol Transmissible Pathogen (ATP)
A disease or pathogen for which droplet or airborne precautions are required as per 8CCR5199 or 8CCR5199.1, as listed in Attachment A; a pathogen that is transmitted by liquid or solid particles in the air including droplets, droplet nuclei, fomites and dusts.

Animal Waste
Animal carcasses, excrement, contaminated litter or debris from the bodies of animals such as feathers or dander.

CDC
United States Centers for Disease Control and Prevention.

Contaminated
A term used to describe the presence, or the reasonably anticipated presence of a known pathogen or other potently infectious material that has soiled, stained, or corrupted by coming in contact with a surface or item.

Decontamination
The use of physical or chemical means to remove, inactivate or destroy pathogenic substances on a surface or item to the point where they are no longer capable of transmitting infection and the surface or item is deemed safe for handling, use, or disposal.

Droplet Precautions
Infection control procedures as described in Guidelines for Isolation Precautions which are designed to reduce the risk of transmission of infectious agents through contact of the conjunctivae or the mucous membranes of the nose or mouth of a susceptible person with large- particle droplets (larger than 5 m in size) containing microorganisms generated from a person who has a clinical disease or who is a carrier of the microorganism.

Engineering Controls
Controls that isolate, remove, or create a barrier from pathogenic hazards from the workplace or operation (e.g. such as negative pressure ventilation systems).

Infectious is Infectious. Exposure Incident, Airborne
An event in which all of the following have occurred: (1) an employee has been exposed to an individual who is a case or suspected case of a reportable ATD, or to a work area or to equipment that is reasonably expected to contain ATPs associated with a reportable ATD; and (2) (3) it reasonably appears from the circumstances of the exposure that transmission of disease is sufficiently likely to required medical evaluation.

Occupational Exposure
Exposure from work activity or working conditions that is reasonable anticipated creating an elevated risk of contracting any disease caused by ATPs if protective measures are not in place. In this context, "elevated" means higher than what is considered ordinary for employees having direct contact with the general public outside of the facilities, service categories and operations listed in 8CCR5199 and 8CCR5199.1.

Personal Protective Equipment (PPE)
Specialized clothing or equipment worn or used for protection against a hazard (e.g. gloves, masks, goggles, face shields, etc.). This does not include general work clothes (e.g. uniforms, pants, shirts).

Physician or other licensed health care professional (PLHCP)
Means an individual that is legally permitted scope or practices (e.g. license, registration, or certification) allows him or her to independently provide, or be delegated the responsibility to provide, some or all of the health care services required by 8CCR5199 and 8CCR5199.1.

Referring Employer
Any employer that operates a facility, service, or operation in which there is occupational exposure and which refers airborne infectious disease cases and suspected cases to other facilities; the services and operations of referring facilities do not include providing diagnoses, treatment transports, housing, isolation or management to persons; Law enforcement, corrections, public health, and other operations that provide only non-medical transport for referred cases are considered referring employers if they do not provide diagnosis treatment, housing, isolation or management of referred cases.

Significant Exposure
An exposure to a source of ATPs in which the circumstances of the exposure make the transmission of a disease sufficiently likely that the employee requires further evaluation by a PLHCP; this can mean prolonged exposure within six feet of a source without use of source control measures.

Standard Precautions
A concept used in hospitals to assist in reducing. The spread of multi-drug resistant organisms which treats all bodily secretions except sweat as potentially infectious materials. Standard precautions are the practice of assuming that anything that could be potentially

Source Control Measures
The use of administrative procedures, engineering controls, personal protective equipment and/or other devices or materials to minimize the spread of airborne particles and droplets from an individual who has or exhibits signs or symptoms of having an ATD, such as persistent coughing.

Surge
A rapid expansion beyond normal services to meet the increased demand for qualified personnel, medical care, equipment, and public health services in the event of an epidemic, public health emergency, or disaster.

Suspected Case
Either of the following: 1) a person whom a health care provider believes, after weighing signs, symptoms, and/or laboratory evidence, to probably have a particular disease or condition listed in Attachment A, or 2) a person who is considered a probable case, or an epidemiologically- linked case, or who has supportive laboratory findings under the most recent communicable disease surveillance case definition established by Centers for Disease Control and published in the Morbidity and Mortality Weekly Report (MMWR) or its supplements as applied to a particular disease or condition listed in Attachment A.

Wildlife
Wild birds and other animals that are not domesticated, includes their remains and waste.

Zoonotic Aerosol Transmissible Disease (Zoonotic ATP)
A disease agent that is transmissible from animals to humans by aerosol and is capable of causing human disease.

Aerosol Transmissible Disease/Pathogens Appendix A from 8CCR5199 (Attachment B)

Aerosol Transmissible Diseases/Pathogens (Mandatory)
This Appendix contains a list of diseases and pathogens which are to be considered Aerosol Transmissible Pathogens (ATP) or diseases for the purpose of Section 5199. Employers are required to provide the protections required by Section 5199 according to whether the disease or pathogen requires Airborne Infection Isolation or Droplet Precautions as indicated by the two lists below.

Diseases/Pathogens Requiring Airborne Infection Isolation:
Aerosolizable pore-containing powder or other substance that is capable of causing serious human disease, e.g. Anthrax/Bacillus anthracis, Avian influenza/Avian influenza A viruses (strains capable of causing serious disease in humans);
Bordetellosis (Bordetella bronchiseptica) - Feline zoonotic;
Varicella disease (chickenpox, shingles) Varicella zoster and Herpes zoster viruses, disseminated disease in any patient. Localized disease in immunocompromised patient until disseminated infection ruled out;
Measles (rubella)/Measles virus;
Monkeypox I Monkeypox virus;
Novel or unknown pathogens;
Psittacosis-Avian zoonotic;
Severe acute respiratory syndrome (SARS);
Smallpox (variola) Varioloa virus;
Tularemia-Rabbit, hare and rodent zoonotic;
Tuberculosis (TB)/Mycobacterium tuberculosis-- extra pulmonary, draining lesion;
Pulmonary or laryngeal disease, confirmed;
Pulmonary or laryngeal disease suspected; and
Any other disease for which public health guidelines recommend airborne infection isolation.

Diseases/Pathogens Requiring Droplet Precautions:
Diphtheria pharyngeal;
E. coli infections;
Epiglottises, due to Homophiles influenza type b;
Homophiles influenza Serotype b (Hob) disease/Homophiles influenza serotype b -- Infants and children
Influenza, human (typical seasonal variations) influenza viruses;
Meningitis;
Homophiles influenza, type b known or suspected;
Nisei meningitides (meningococcal) known or suspected Meningococcal disease sepsis, pneumonia (see also meningitis);
Mumps (infectious parotitis)/Mumps virus;
Mycoplasmal pneumonia;
Parvovirus B19 infection (erythema infectiosum);
Pertussis (whooping cough);
Pharyngitis in infants and young children/Adenovirus;
Orthomyxoviridae; Epstein-Barr virus; Herpes simplex virus;
Pneumonia;
Adenovirus;
Homophiles influenza Serotype b infants and children;
Meningococcal

Diseases/Pathogens Requiring Droplet Precautions Continued:
Mycoplasma, primary atypical Streptococcus Group A;
Pneumonic plague/Yersinia pestis;
Rubella virus infection (German measles)/Rubella virus Rabies-mammal zoonotic;
Severe acute respiratory syndrome (SARS) Streptococcal disease (group A streptococcus);
Skin, wound or burn;
Major Pharyngitis in infants and young children;
Pneumonia;
Scarlet fever in infants and young children serious invasive disease;
Viral hemorrhagic fevers due to Lassa, Ebola, Marburg, and Crimean-Congo fever viruses (airborne infection isolation and respirator use may be required for aerosol-generating procedures); and
Any other disease for which public health guidelines recommend droplet precautions.

Affected Employee Classifications (Attachment C)

The ATD standards and requirements of this program apply to the following City employees:

1. Sworn Fire personnel that maintain emergency medical technician or paramedic certifications.
2. Fire Prevention Officers assigned to work in institutional occupancies.
3. Sworn Police personnel whose assignments may include transport or detention of suspects.
4. Police Community Service Officers whose assignments may include transport or detention of suspects.
5. General Services personnel assigned to veterinary, animal inspection or animal health operations.
6. Convention, Culture and Leisure personnel assigned to work with animals at the City Zoo.

Components of ATD Written Procedures for Non-Animal Related Exposures (Attachment D)

Written procedures used by departments with non-animal related exposures to ATDs will include the following:

1. A list of any high hazard procedures and the job classifications and operations in which employees are exposed to those procedures.

2. Tasks requiring the use of personal protective equipment. Respiratory protection must be at least as effective as N-95. P-100 must be used for high hazard emergency medical services.

3. A description of infection control measures for source patients or suspects and the method of informing people entering the work setting of the source control measures.

4. Procedures for employees and supervisors to follow in the event of an exposure incident, including how the department will determine which employees had a significant exposure.

5. Procedures the department will use to evaluate exposure incidents, determine the cause and revise existing procedures to prevent future incidents.

6. Procedures the department will use to ensure that there is an adequate supply of personal protective equipment and other equipment necessary to minimize employee exposure to ATDs in normal operations and foreseeable emergencies.

7. Procedures the department will use during surge conditions such as an epidemic, public health emergency or disaster. This may include procedures for providing services to persons who have been contaminated as the result of a release of a biological agent. The surge plan should include: information on work practices; decontamination facilities; procedures for stockpiling, accessing and procuring respiratory and personal protective equipment; and how the department will interact with the local and regional emergency plans.

8. Procedures for cleaning work areas, vehicles and equipment.

Components of ATD Written Procedures for Animal Care and the Sacramento Zoo (Attachment E)

Written procedures used by departments with animal-related exposures of zoonotic ATDs will include the following:

1. A detailed work plan based on assessment of the risks to employees including biological, chemical, physical and safety hazards, including a description of site control measures designating restricted access to contaminated and contamination reduction zones.

2. A list of tasks or procedures in which employees may have occupational exposure.

3. Measures used to control employee exposures including engineering controls, work practice controls and exposure monitoring.

4. Procedures for the safe handling of hazardous chemicals including hazardous substances used for disinfection and decontamination.

5. Procedures for respiratory protection, personal protective equipment and protective clothing,
6. decontamination procedures and disposal of animal waste and contaminated equipment.

7. Procedures to provide employees ready access to drinking water and sanitation facilities including appropriate decontamination methods for employees to access these facilities.

8. Procedures to protect employees from the risk of heat illness.

Screening Criteria for Referrals of Patients/Suspects to Health Care Providers (Attachment F)

Referrals to health care providers will be provided to persons who do any of the following:

1. Have a cough for more than three weeks that is not explained by non-infectious conditions.

2. Exhibit signs and symptoms of a flu-like illness starting March through October, the months outside of the typical period for seasonal influenza, or exhibit these signs and symptoms for a period longer than two weeks at any time during the year. These signs and symptoms generally include combinations of the following: coughing and other respiratory symptoms, fever, sweating, chills, muscle aches, weakness and malaise.

3. State that they have a transmissible respiratory disease, excluding the common cold and seasonal influenza.

4. State that they have been exposed to an infectious ATD case, other than seasonal influenza.

   Note: Per 8CCR5199, seasonal influenza does not require a referral.

Tuberculosis Screening Test Informed Declination Form (Attachment G)

I understand that I may be occupationally exposed to tuberculosis (TB) and that I may be at risk of acquiring TB. I understand that the Centers for Disease Control (CDC) and the California Occupational Safety and Health Administration (Cal-OSHA) recommend that I should be tested to determine whether I have contracted TB.

I have been given the opportunity to be tested for TB at no charge to myself. However, I decline TB testing at this time. I understand that, by declining this screening, I am at risk of having TB without my knowledge. I understand that I will be able to obtain testing for TB in the future if I choose to change my mind.

I have had the opportunity to ask questions and they have been answered to my satisfaction.

Printed Employee Name: _____

Employee Signature: _____ Date: _____

Aerosol Transmissible Disease Vaccination Acceptance/Declination Statement (Attachment H)

I understand that due to my occupational exposure to aerosol transmissible diseases, I may be at risk of acquiring infection with: mumps, measles, rubella (MMR); tetanus, diphtheria and acellular pertussis (TDAP); varicella and influenza.

I have been given the opportunity to be vaccinated against these diseases or pathogens at no charge to me.

	Accept	Decline
Mumps, measles and rubella (MMR)	_____	_____
Tetanus, diphtheria, and acellular pertussis (TDAP)	_____	_____
Varicella	_____	_____
Influenza	_____	_____

I have indicated my acceptance or declination of each vaccination at this time by signing <u>my initials on the lines provided</u>.

I understand that by declining vaccination, I continue to be at risk of acquiring mumps, measles, rubella, tetanus, diphtheria or acellular pertussis which are serious diseases. If in the future I continue to have occupational exposure to Aerosol Transmissible Diseases and want to be vaccinated, I can receive the vaccination at no charge to me.

Employee's Printed Name: _____

Employee's Signature: _____

Date: _____

CITY OF SACRAMENTO REGULATORY COMPLIANCE PROGRAM
TOPIC: CODE OF SAFETY PRACTICES PROGRAM
EFFECTIVE DATE: 05/10/10
SUPERSEDES: N/A
SECTION: RCP #15

PURPOSE

The City of Sacramento Code of Safe Practices (Attachment A) applies to all City employees involved in the construction, alteration, painting, repairing, construction maintenance, renovation, removal, or wrecking of any fixed structure or its parts. This regulatory compliance program was developed to help departments fulfill the requirements of Title 8 of the California Code of Regulations Sections 1509(b), 1509(c) and 1510(a).

RESPONSIBILITIES

1. Supervisors are responsible for:

    a. Posting a copy of the City of Sacramento's Code of Safe Practices at each shop;

    b. Ensuring that a copy of the Code of Safe Practices is readily available at each job site;

    c. Ensuring that each employee, when first hired, is directed to read the City's Code of Safe Practices and document that each employee has read it; and

    d. Enforcing the City's Code of Safe Practices.

2. Employees who are involved in construction activities are responsible for:

    a. Reading and maintaining compliance with the Code of Safe Practices; and

    b. Reporting all safety concerns to his or her immediate supervisor. If this is not possible, he or she must notify the Environmental Health and Safety (EH&S) Office at 808-5278.

RECORD KEEPING

1. Supervisors must document that each employee involved in construction activities has read the Code of Safe Practices.

2. Employee training records must be maintained as per the City's Records Retention Policy.

City of Sacramento Code of Safe Work Practices
PLEASE POST THIS CODE OF SAFE WORK PRACTICES IN YOUR SHOP AND AT ANY PROJECT IN THE FIELD
(Attachment A)

Note: Any additional safety policies and procedures specific to your operation may not be included in the above posting. See your supervisor for more information.

- ✓ All employees will follow these practices rules, render every possible aid to safe operations, and report all unsafe conditions or practices to his or her supervisor.
- ✓ Supervisors will insist on employees observing and obeying every rule, regulation, and order as is necessary to the safe conduct of the work, and will take such action as is necessary to obtain observance.
- ✓ Pre-plan and supervise all work to prevent injuries in the handling of materials and in working together with equipment.
- ✓ Think about what could go wrong, and how to prevent problems and accidents.
- ✓ Avoid having loose or frayed clothing, long hair, dangling ties, finger rings, etc. around moving machinery or other sources of entanglement.
- ✓ Wear seat belts when operating equipment equipped with seatbelts.
- ✓ Avoid wearing inappropriate footwear or shoes with thin or badly worn soles.
- ✓ Get proper training for the specific equipment to be operated.
- ✓ Ask for help when unfamiliar with any aspect of equipment operations.
- ✓ Tie down ladders and all loose items to prevent movement should a sudden stop or accident occur when transporting equipment or supplies. Tarp loads as needed.
- ✓ Avoid taking shortcuts on the project. Use walkways, ramps, stairs, ladders, etc.
- ✓ Practice good housekeeping at all times.
- ✓ Do not block aisles, traffic lanes, fire exits, fire extinguishers, electrical panels, gangways or stairs at any time.
- ✓ Always get help in lifting heavy loads.
- ✓ Store material and equipment in a safe manner.

PLEASE POST THIS CODE OF SAFE WORK PRACTICES IN YOUR SHOP AND AT ANY PROJECT IN THE FIELD (Attachment A)

Note: Any additional safety policies and procedures specific to your operation may not be included in the above posting. See your supervisor for more information.

- ✓ Remove or clinch nails in lumber.
- ✓ Know the correct use and care of hand power tools.
- ✓ Install proper guards or shields on all power tools and do not remove them.
- ✓ Ensure that all power tools, extension cords, and electrical equipment are properly grounded and insulated.
- ✓ Remember that extension cords are for temporary use only and do not drive over them with vehicles or heavy carts.
- ✓ Inspect all tools before use and tag all damaged tools and equipment that may need repair. Do not use damaged tools.
- ✓ Know the location of all first aid kits and know how to contact EMS if needed.
- ✓ Check the area for tripping and fall hazards and make corrections to prevent incidents.
- ✓ Review fall protection standards to ensure safety and compliance with regulations when work will be performed at elevations above 7 ½ feet high.
- ✓ Keep all tools and material away from the edges of scaffolding, platforms, etc.
- ✓ Use only approved safety cans for storage of combustibles and flammables.
- ✓ Know the location and use of fire extinguishers and extinguishing equipment.
- ✓ Know the procedures for sounding a fire alarm or emergency evacuation.
- ✓ Do not remove, deface or destroy any warning, danger signs, or barricades, or interfere with any form of accident prevention device or practice provided.
- ✓ Wash hands thoroughly before eating or drinking.
- ✓ Remember that horseplay is forbidden.
- ✓ Report all accidents, injuries and near miss incidents to your supervisor.

CITY OF SACRAMENTO REGULATORY COMPLIANCE PROGRAM
TOPIC: AUTOMATED EXTERNAL DEFIBRILLATOR PROGRAM
EFFECTIVE DATE: 2/2/11
SUPERSEDES: N/A
SECTION: RCP #16

PURPOSE

The written regulatory compliance program (RCP) establishes the procedures and training guidelines for City of Sacramento personnel assigned as lay rescuers to use automated external defibrillators (AEDs) in City facilities or at City functions. This RCP is in compliance with the California Code of Regulations, Title 22, Division 9, Chapter 1.8 (22CCR1.8) and the Health and Safety Code, Sections 1797.190 and 1797.196.

Under California Civil Code Section 1714.21, the State of California provides protection from civil damages to entities that acquire an AED for emergency use as long as the entity has complied with subdivision (b) of Section 1797.196 of the Health and Safety Code. Individuals using an AED or performing CPR are protected from civil damages if they provide emergency care or treatment in good faith and do not expect compensation. These protections do not apply in the case of personal injury or wrongful death resulting from the gross negligence, willful, or wanton misconduct of the person who renders emergency care or treatment by the use of an AED. Definitions of the terms used in this RCP are found in Attachment A.

RESPONSIBILITIES

1. Environmental Health and Safety (EH&S) will:
    a. Be responsible for the overall coordination, implementation, and continued operation of this program;
    b. Ensure that the City of Sacramento AED RCP complies with all federal, state and local regulations;
    c. Be available in person or by phone to answer any questions or concerns of Site Managers or Authorized individuals;
    d. Ensure that issues related to training, scheduling of basic and periodic reviews, maintenance of training standards and Authorized individual training, and record keeping are managed on a continuing basis;
    e. Contact the Medical Director when any issues arise;
    f. Maintain a list of the appropriate contact information for each Department Site Manager and forward this information to the Medical Director (Attachment B);
    g. Complete the Department of Public Health EMS Section "Notice of New Automated External Defibrillator Program" and will forward such notice to the County EMS Authority;
    h. Notify the local EMS agency of the existence, location and type of each AED acquired at each AED site;
    i. Work with the Medical Director to determine, based on state regulations, the optimal number of employees who will be trained to perform CPR and utilize the AED.

2. Department Site Manager will:
    a. Be responsible for the overall coordination, implementation, and continued operation of this program;

    b. Maintain a current contact list of all employees who are certified in CPR/AED and forward any changes in that list immediately to the EH&S Office (Attachment D);

    c. Ensure that employees are familiar with the internal emergency response plan;

    d. Ensure the employees are certified by American Heart Association (AHA) or American Red Cross (ARC) standards to perform Basic Life Support (BLS)-CPR and to utilize an AED;

    e. Ensure that employees have the required annual training and skills proficiency demonstration. The training will be no less than one hour in duration and documented (Attachment D);

    f. Have at least one trained and certified employee on duty during business hours and ensure that there are a reasonably sufficient number of employees trained in CPR/AED. At least one person needs to be trained and certified for up to five AED units on site;

    g. Maintain all equipment and keep related supplies stocked in accordance with Title 22 requirements and manufacturer's recommendations. This includes completing regular inspections (after every use and/or at least every 30 days), testing, maintenance, and battery changes as required. The Site Manager will maintain a log indicating where each AED for the site is located, the dates of routine maintenance, the dates of routine testing, date of battery change, current AED protocols form the manufacturer and any and all uses of each AED (Attachments E and F);

    h. Immediately remove any AED from service after it is utilized and replace it with a spare if available. The original unit will be returned to service after it has been inspected and maintained per the manufacturer's requirements. Utilization is defined as any instance in which an AED is turned on for anything but routine maintenance or battery change;

    i. Notify the EH&S Office as soon as possible following the utilization of an AED; and

    j. Ensure that, when initiating a spare unit or when returning a unit to service, a routine maintenance and battery check is performed and documented in the maintenance log.

3. Medical Director will:
    a. Approve the training curriculum along with the written and skills tests for AED use;

    b. Ensure that the AED program meets or exceeds AHA or ARC standards and guidelines regarding AED;

    c. Review reports of uses of AED's and provide feedback regarding each use to the EH&S Office, who in turn will review this information with the appropriate staff in order to improve performance of individuals as well as the AED program in general; and

    d. Maintain a list of trained lay rescuers that are currently participating in the AED program; and

e. Write the prescription (RXs) for each AED.

4. Authorized individuals/Employees will:

   a. Complete a basic CPR course according to the standards set forth by the American Heart Association (AHA) or the American Red Cross (ARC). Employees will have CPR certification prior to undertaking AED training or obtain training concurrently with AED training;

   b. Undergo annual training and skills proficiency demonstration that will be no less than one hour in duration;

   c. In order to be eligible to use an AED on an appropriate patient, meet the training requirements, pass competency-based written and skills recognition examinations, and comply with all requirements set forth in these policies and procedures. Failure to comply with these requirements will result in the suspension of the individual's authorization; and

   d. Adhere to all training requirements and procedures within this program.

PROCEDURES

Authorized individuals will adhere to the following procedures and requirements per his or her training:

1. Assessment

   Upon learning that an employee or a member of the public is ill, the authorized individual will quickly access the patient. The responder will determine the patient's level of consciousness and assess them for airway, breathing and circulation.

2. Call 911

   If using a land-line telephone, dial 9-1-1 (or 9-9-1-1 from some City telephones). If calling from a cell phone, dial 916-732-0100.

3. CPR, Defibrillate, and Monitor

   If the patient is unconscious and the authorized individual cannot tell if the patient has a pulse or is breathing, the authorized individual will direct someone to get the AED as quickly as possible and bring it to the patient's side. The authorized individual will perform CPR and until AED arrives.

   Once the AED is at the patient's side, the authorized Individual will expose the patient's chest, activate the AED and follow the AED protocol exactly until EMS arrives.

   If the patient begins breathing on his/her own, the Authorized individual will not perform CPR but will monitor the patient closely for changes in breathing or pulse until EMS arrives.

   If the AED does not recommend shocking the patient, but the patient is unconscious, not breathing, and there is no discernable pulse, the Authorized individual will continue CPR until EMS arrives.

   The Authorized individual will continue to follow AED prompts and perform CPR until EMS takes over.

4. EMS Arrival

   The Authorized individual will document and communicate important information to EMS personnel including the patient's name, time patient was found, initial and current condition of the patient and any other pertinent information. The Authorized individual may be asked to assist EMS personnel.

5. Post-Incident Reporting and Follow-Up

   The Authorized individual who worked on the patient should document the incident using the AED Post-Incident Report form (Attachment G) as soon as possible after the event. Documentation will be completed whether or not defibrillator shocks were delivered. All documentation will be given to the Site Manager who will in turn share it with EH&S staff as soon as possible but within 24 hours of the event.

   The Site Manager will take the AED out of service immediately after the event and download any event data from AED and be sure not to remove the battery. EH&S staff will conduct or arrange for a critical incident debriefing, if needed. If grief counseling is deemed necessary, referrals may be made to the Fire or Police Chaplaincies or the Employee Assistance Program (EAP).

   EH&S staff will ensure that the AED data, AED Post-Incident Report (Attachment G) and any other relevant documentation is sent to the Medical Director within 72 hours of the event. The Medical Director, EH&S staff, and/or Site Manager will review the AED record of the event and the AED Post-Incident Report and interview the Authorized individuals involved in the emergency as necessary to ensure that:

   a. The Authorized individuals quickly and effectively set up the necessary equipment;

   b. When indicated, the initial defibrillator shock(s) was delivered within an appropriate amount of time given the particular circumstances;

   c. Adequate basic life support measures were maintained;

   d. Following each shock or set of shocks, as appropriate, the person was assessed accurately and treated appropriately;

   e. The defibrillator was activated safely and correctly; and

   f. The care provided was in compliance with the internal emergency response guidelines set forth in this document.

   Quality assurance will be maintained by way of evaluation of the medical care rendered by the authorized individuals on scene and during transfer of the patient or by the appropriate transporting agency personnel.

   The Medical Director will evaluate the occurrence and recommend the range of action to be taken in response to identified problems or deficiencies.

EH&S staff, in conjunction with the Medical Director, will issue a report every 12 month regarding the activities of the AED program and will make the report available to departments. The Medical Director and EH&S staff will review this RCP at least annually, and will make revisions to this document as necessary.

Following the post-incident review, a copy of all written documentation concerning the incident will be sent to the Medical Director and maintained on site for a period of not less than seven years from the incident date.

TRAINING

The training requirements for Authorized individuals are outlined below. The training course will consist of not less than four hours and will comply with the American Heart Association (AHA) or American Red Cross (ARC) standards. The required hours for an AED training program can be reduced by no more than two hours for students that can show that he or she has been certified in a basic CPR course in the past year and demonstrate that he or she is proficient in the current techniques of CPR.

a. The full four-hour course will include the following topics and skills:

1. Basic CPR skills;

2. Proper use, maintenance, and periodic inspection of an AED;

3. The importance of early activation of the internal emergency response plan, early CPR, early defibrillation, early advanced life support;

4. How to recognize the warning signs of heart attacks and strokes;

5. Overview of the local EMS system, including 9-1-1 access, and interaction with EMS personnel;

6. Assessment of an unconscious patient to include evaluation of airway, breathing, and circulation, to determine if cardiac arrest has occurred and the appropriateness of applying and activation of an AED;

7. Information relating to defibrillator safety precautions to enable the individual to administer shocks without jeopardizing the safety of the patient or the Authorized individual or other nearby persons to include, but not limited to, the age and weight restrictions for the use of the AED, the presence of water or liquid on or around the victim, and/or the presence of transdermal medications, implanted pacemakers or automatic implanted cardioverter defibrillators;

8. Recognition that an electrical shock has been delivered to the patient and that the defibrillator is no longer charged;

9. Rapid, accurate assessment of the patient's post-shock status to determine if further activation of the AED is necessary; and

10. The authorized individual is responsibility for continuation of care, such as the repeated shocks if necessary, and/or accompaniment to the hospital, if indicated, or until the arrival of professional medical personnel.

11. All successful participants will receive a CPR/AED course completion card.

12. The required course materials will meet the standards of the AHA or the ARC, although they do not necessarily have to be AHA or ARC materials. Testing will include a competency demonstration of skills on a manikin observed by the instructor.

13. Basic review sessions will be conducted at least every other year for CPR/AED renewal and periodic reviews will be at the discretion of the Medical Director with a one-year minimum. Reviews may be scheduled more often if necessary.

14. Training records will be maintained by the department and will include documentation of defibrillation skills proficiency.

Definitions
(Attachment A)

Automated External Defibrillator (AED)
An external defibrillator that after user activation is capable of cardiac rhythm analysis. The AED will charge and deliver a shock, either automatically or by user interaction, after electronically detecting and assessing ventricular fibrillation or rapid ventricular tachycardia.

AED Consultant
Representative of the AED manufacturer.

AED Service Provider
Any agency, business, organization or individual who purchases an AED for use in a medical emergency involving an unconscious person who is not breathing. This definition does not apply to individuals who have been prescribed an AED by a physician for use on a specifically identified individual.

AED Site
A site, building or facility owned by the City of Sacramento, that has an AED installed and available to employees and/or the public.

Cardiopulmonary Resuscitation (CPR)
Basic emergency procedures for life support, consisting of artificial respiration, manual external cardiac massage, and maneuvers for relief of foreign body airway obstruction.

Internal Emergency Response Plan
A written plan of action which utilizes responders within a facility to activate the 911 emergency systems, and which provides for the access, coordination and management of immediate medical care to seriously ill or injured individuals.

Lay Rescuer
Any person not otherwise licensed or certified to use the AED who has met the training standards of 22CCR 1.8. An individual who has successfully completed a CPR/AED training program, has successfully passed the appropriate competency-based written and skills examinations, and maintains competency by participating in periodic reviews. The lay rescuer adheres to the procedures set forth in this program. There is to be 1 lay rescuer for every 5 AEDs.

Medical Director
A physician and surgeon, currently licensed in California, who provides medical oversight to the AED Service Provider and Program. The medical director is the City of Sacramento's contract non-industrial medical provider.

Site Manager
Designated person within a department at the AED site responsible for the administrative oversight and maintenance of the AED.

Contact Information
(Attachment B)

For information and assistance regarding the AED program, the individuals listed below may be contacted.

Every effort should be made to first contact the Environmental Health and Safety Officer or alternate contact. Only in a case of an emergency event or when the EH&S Officer or alternate cannot be reached, will contact be made with the Medical Director or the company representative from the AED supplier.

Environmental Health and Safety Officer: 808-2276

Loss Prevention Manager: 808-7785

Response Plan Checklist
(Attachment C)

Listed below are key elements taken from the California AED regulations and statutes. These elements are placed in this checklist format to assist in implementing the AED program within the City of Sacramento.

___ Notify the City of Sacramento Fire Department of the existence, location, and type of every AED within the City facilities.

___ Identify the Site Manager for each facility.

___ Identify and train lay rescuers.

___ Place AEDs strategically to ensure timely response.

___ Ensure that basic instructions for AED use are placed with the AEDs.

___ Ensure that signs are placed in strategic locations to notify potential responders about AED locations.

___ Address internal and external emergency communications:

___ Internal Notification - Once notified of an emergency, Site Manager or lay rescuer will notify the facility emergency responders.

___ "911" Notification - Once notified of an emergency, lay rescuer will call 911 to initiate public safety agencies.

___ Schedule routine inspection of AEDs, electrodes, batteries, and ancillary equipment, schedule and conduct periodic response drills.

___ Address post-event review and feedback, including analysis of response plan effectiveness, rescuer performance and AED function.

___ Schedule routine inspection of AED's, electrodes, batteries, and ancillary equipment.

___ Schedule and conduct periodic response drills.

___ Address post-event review and feedback, including analysis of response plan effectiveness, rescuer performance and AED function.

Authorized individual Training Documentation Form (Attachment D)

Employee Name:	Employee Title:	Employee Phone:
Employee Worksite Address:		
Date Training Occurred:		
Type of Training Provided:		
Certificate No. (attached copy of certificate if possible):	Certified By:	

Employee Name:	Employee Title:	Employee Phone:
Employee Worksite Address:		
Date Training Occurred:		
Type of Training Provided:		
Certificate No. (attached copy of certificate if possible):	Certified By:	

Employee Name:	Employee Title:	Employee Phone:
Employee Worksite Address:		
Date Training Occurred:		
Type of Training Provided:		
Certificate No. (attached copy of certificate if possible):	Certified By:	

AED Location and Inspection Log
(Attachment E)

Date:	AED Identification Number:
Site Address:	
Specific Location of Unit: (i.e. 1st Floor Lobby, bottom drawer of security desk)	

Date of Routine Maintenance: Initials:	Date of Routine Maintenance: Initials:	Date of Routine Maintenance: Initials:	Date of Routine Maintenance: Initials:
Date of Routine Maintenance: Initials:	Date of Routine Maintenance: Initials:	Date of Routine Maintenance: Initials:	Date of Routine Maintenance: Initials:
Date of Test: Initials:	Date of Test: Initials:	Date of Test: Initials:	Date of Test: Initials:
Date of Test: Initials:	Date of Test: Initials:	Date of Test: Initials:	Date of Test: Initials:
Date Battery Changed: Initials:	Date Battery Changed: Initials:	Date Battery Changed: Initials:	Date Battery Changed: Initials:
Date Battery Changed: Initials:	Date Battery Changed: Initials:	Date Battery Changed: Initials:	Date Battery Changed: Initials:
Date AED: Initials:	Date AED: Initials:	Date AED: Initials:	Date AED: Initials:
Date AED: Initials:	Date AED: Initials:	Date AED: Initials:	Date AED: Initials:

AED Maintenance Log
(Attachment F)

AED Identification Number: _____

Initial Each Section

Supplies

Two sets of defibrillation cartridges, within expiration date, undamaged _____

One set of pediatric defibrillation cartridges _____

Ancillary supplies: towel, razor, shears, barrier pack _____

Spare battery, within "install before" date _____

Status Indicator

Self-test function successful _____

No damage present _____

Run the test report and attach to log _____

Inspected by: _____ Date: _____

Remarks, Issues and/or Corrective Actions:

_____

_____

_____

Automated External Defibrillator Program (Attachment G)

Incident Date:	Patient's Last Name:	Patient's First Name:	
Patient's Address: Street Zip		City	State
Patient's Phone Number ( )	Gender: [ ] Male [ ] Female		
Incident Location/Address:			
AED Operator Name:	Assistant Name:	Assistant Name:	
Estimated time from patient's collapse until CPR started:		Estimated total time of CPR until application of AED:	
Was arrest witnessed? []Yes []No []Unknown	By whom:		Time:
Was CPR started? []Yes []No	By whom:		Time:
Did patient ever regain a pulse? []Yes []No	Time:	Did patient ever Begin breathing? []Yes []No	Time:
Did patient ever regain consciousness? []Yes []No	Time:	Hospital patient taken to:	Time:
Other treatment:		Transporting agency:	
Comments:			

Report completed? []Yes []No		Telephone number: Date:
Prescribing physician review/recommendations:		
COORDINATOR REVIEWED:	DATE:	REVIEWED WITH RESPONDERS: DATE:
PHYSICIAN REVIEWED:	DATE:	COMMENTS:

CITY OF SACRAMENTO REGULATORY COMPLIANCE PROGRAM
TOPIC: TRENCHING AND EXCAVATION SAFETY PROGRAM
EFFECTIVE DATE: 7/18/12
SUPERSEDES: N/A
SECTION: RCP #17

PURPOSE

The objective of the Trenching and Excavation Safety Program (TESP) is to establish requirements for practices and procedures to protect employees when working in trenches and excavations. To ensure compliance with the California Code of Regulations, including Title 8, §§ 1539-1542, this regulatory compliance program provides guidance to managers, supervisors, and employees of the City of Sacramento required to work in and/or around trenches and excavations.

RESPONSIBILITIES

1. Department and/or Division Managers are responsible for:

    a. Implementing the TESP throughout his or her departments;

    b. Requesting help from Environmental Health & Safety (EH&S) staff to study specific operations, facilities, and equipment to determine employee exposure as needed;

    c. Using engineering and/or administrative controls to reduce exposure to excavation hazards as required;

    d. Implementing specific worksite procedures for the use of protective devices in accordance with this TESP;

    e. Providing access to the regulations to all employees who are subject to the TESP;

    f. Ensuring that soil conditions are evaluated by a Competent person before the start of work, daily and throughout the job as conditions change; and

    g. Maintaining records of the excavation checklist for a minimum of three years.

2. **Competent persons are responsible for:**

    a. Knowledge of the provisions pertaining to excavations, trenches and earthwork;

    b. Knowledge of soil analysis as related to excavations, trenches and earthwork;

    c. Knowledge of the use of protective systems;

    d. Implementation of prompt corrective action on the job as conditions warrant; and

    e. Recognition of the potential and testing for hazardous atmospheres;

f. Inspection of trenches and excavations before the start of work, daily and throughout the day as conditions change.

3. Supervisors are responsible for:

a. Implementing the TESP within their work group;

b. Ensuring access to protective devices as deemed necessary by the Competent person;

c. Ensuring that soil classification is performed;

d. Assisting in selection of protective equipment;

e. Conducting evaluations of the workplace to ensure that the written TESP is being properly implemented;

f. Monitoring employees to ensure that they are using proper protective devices when necessary.

g. Ensuring proper documentation of inspections (Attachment A); and

h. Ensuring that training on trenching and excavation safety is provided to all exposed employees.

4. Site Supervisors/Lead Workers are responsible for:

a. Implementing TESP at the site;

b. Ensuring that soil classification is performed;

c. Ensuring appropriate protective devices are utilized according to design;

d. Ensuring that an "excavation Competent person" is designated; and

e. Assisting in providing training on trenching and excavation safety.

5. Excavation Competent person are responsible for:

a. Identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees;

b. Taking prompt corrective measures to eliminate hazards;

c. Knowing excavation safety standards including soil classification;

d. Knowing the proper use of protective systems and trench safety equipment; and

e. Documenting his or her experience and training.

6. **Employees are responsible for:**

a. Working in compliance with TESP; and

b. Never entering an excavation meeting the scope of this program until authorized by the Competent person.

7. Environmental Health and Safety Specialists are responsible for:

a. Providing technical support for excavation and shoring operations;

b. Assisting in atmospheric testing and equipment selection as needed;

c. Assisting in protection equipment selection;

d. Providing onsite evaluation to monitor use of safe work practices and procedures;

e. Assisting in providing training on trenching and excavation safety; and

f. Reviewing and updating TESP.

PROCEDURES

1. Utilities

Utilities must be located at least two days prior to excavation in accordance with the City's Underground Service Alert (USA) Program. Excavations must not endanger the underground installations, or the employees engaged in the work. Utilities left in place should be protected by barricades, shoring, suspension or other means as necessary to protect employees. City personnel discover or cause damage to subsurface installations, site personnel will immediately call emergency services (911), the owner of the installation, and the City EH&S Office.

2. Public Access

Excavations must be isolated from public access by substantial physical barrier. Barricades, lighting and posting shall be installed as needed prior to the start of excavation operations. All temporary excavations shall be backfilled as soon as possible.

Guardrails, fences or barricades should be installed around excavations adjacent to walkways, roads paths or other traffic areas. Use of barricade tape alone is not a sufficient method of isolation when the excavation is unattended. Warning lights or other illumination shall be used as necessary for the safety of the public at night. Wells, holes, pits and similar excavations must be effectively barricaded and/or covered and posted if unattended. Walkways or bridges used by the general public, employees or equipment to cross excavations must be equipped with standard guardrails with the vertical height of the top rail within the range of 42 to 45 inches.

3. Surface Encumbrances

All equipment, materials, supplies, buildings, roadways, trees, utility vaults, boulders, etc., that could present a hazard to employees working in the excavation, must be removed or supported as necessary to protect employees.

4. Soil Classification

The competent person in charge of the excavation is responsible for determining the soil type. All previously disturbed soil is automatically considered Type C soil. Soil may be classified as Type C by default and no additional tests are required. To classify a soil as Type B the Competent person shall use a visual test coupled with one or more manual tests as described in Attachment B.

5. Protective Systems

Each employee required to work in an excavation of five feet deep or more must be protected from cave-ins by shoring and/or sloping. Excavations of less than five feet in depth are excluded from this requirement only if they are in solid rock or a Competent person has inspected and finds no indication of a potential cave-in. If there is a possibility of soil movement, protective systems are required for trenches and excavation of less than five feet.

Acceptable protective methods include sloping, benching, shielding and shoring. Excavations under the base of the footing for a foundation or wall, or greater than 20 feet in depth, require support systems designed by a registered professional engineer.

Sidewalks, pavement, utility vaults or other similar structures shall not be undermined unless a support system or another method of protection is provided to protect employees from possible collapse. Sloping or benching are often preferred methods of protection; however, shoring or shielding can be used when the location of the excavation makes sloping or benching to the allowable angle impractical. See Attachment C for commonly used examples of sloping and benching protective systems. For detailed information refer to Requirements for Protective Systems in Title 8, Section 1541.1 of the California Code of Regulations (T8 CCR 1541.1), including Appendices A through F.

6. Sloping

Maximum allowable slopes for excavations of less than 20 feet are based on soil type and angle to the horizontal are as follows:

a. Stable Rock can have vertical walls with an angle of 90-degrees

b. Type A soil must have walls sloped to a maximum angle of 53-degrees (0.75:1 slope) from horizontal in all directions.

c. Type B soil must have walls sloped to a maximum angle of 45-degrees (1:1 slope) from horizontal in all directions.

d. Type C soil must have walls sloped to a maximum angle of 34-degrees (1.5:1 slope) from horizontal in all directions. (See Attachment C, Figures 1 & 2 for examples).

7. Shielding

Trench boxes or trench shields are intended to protect workers from cave-ins and similar incidents. The trench shield is lowered into the excavation and workers may then enter only the protected area within the shield. When shielding is used in conjunction with sloping, the shielding must extend a minimum of 18 inches above the top vertical side. (See Attachment C, Figure 4 for examples).

On vertical cut trenches the shielding must extend to at least the top of the excavation. As much as two feet of earth material can extend below the shielding, only if the shield is designed to resist the forces calculated for the full depth of the trench, and there are no indications while the trench is open of a possible loss of soil from behind or below the bottom of the shield.

8. Access and Egress

Structural ramps that are used solely by employees as a means of access or egress from excavations, shall be designed by a Competent person. Structural ramps used for access or egress of equipment shall be designed by a Competent person qualified in structural design and shall be constructed in accordance with the design.

Means of safe egress from trench excavations such as a stairway, ladder, or ramp shall be located in trench excavations that are four feet or more in depth at a frequency that requires no more than 25 feet of lateral travel for all employees.

9. **Adjacent Structures**
   Where the stability of adjoining buildings, walls, sidewalks or other structures are endangered by excavation operations, support systems such as shoring, bracing or underpinning shall be provided. Undermining the surface of adjacent structures without an engineered support system is prohibited.

10. **Subsurface Installations**
    Hand excavation only is required within two feet of subsurface installations to determine the exact location of the installation before using any power- operated or power-driven excavating or boring equipment, except for the removal of any existing pavement if there are no subsurface installations contained in the pavement.

11. **High Priority Subsurface Installations**
    When the excavation is proposed within ten feet of a high priority subsurface installation, an onsite meeting is required between the excavator and the subsurface installation owner/operator's representative at a mutually agreed upon time to determine the action or activities required to verify the location of such installations. High priority subsurface installations include high pressure natural gas lines, petroleum pipelines, pressurized sewage pipelines, conductors or cables that have a potential to ground of 60,000 volts or more, or pipelines that are potentially hazardous to employees, or the public, if damaged.

12. **Loose rock or Soil**
    Employees shall be protected from loose rock or soil that could pose a hazard by falling or rolling from the excavation face. Such protection shall consist of scaling to remove loose material and/or installation of protective barricades at necessary intervals along the face to stop and contain falling material. Other means that provide equivalent protection are also acceptable.

    Employees shall be protected from excavated materials or equipment that could pose a hazard by falling or rolling into excavations. Protection shall be provided by placing and keeping such materials or equipment at least two feet from the edge of excavations using retaining devices that are sufficient to prevent materials or equipment from falling or rolling into excavations.

13. **Hazardous Atmosphere**
    Where oxygen deficiency (atmospheres containing less than 19.5% oxygen) or a hazardous atmosphere exists or could reasonably be expected to exist, the atmosphere inside the evacuation shall be tested before employees enter excavations greater than four feet in depth. Atmospheric monitoring will be conducted in accordance with the City's Confined Space Entry Program, RCP #6. Adequate precautions shall be taken to prevent employee exposure to hazardous atmospheres including ventilation and/or respiratory protection. When a hazardous atmosphere exists, or may be reasonably expected to develop, operations will be conducted as permit-required confined space entries in addition to compliance excavation requirements.

14. **Water Accumulation**
    Employees shall not work in excavations in which there is accumulated water or in excavations in which water is accumulating, unless adequate protective precautions are taken. The precautions may include support or shield systems, water removal procedures, or use of safety harness and lifeline. Water removal equipment and operations shall be monitored by a Competent person.

15. Vehicle and Equipment Hazards

Employees exposed to vehicular traffic shall be provided with, and shall wear, warning vests or other suitable garments marked with or made of reflectorized or high-visibility material.

Employee shall not be permitted underneath loads handled by lifting or digging equipment. Employees shall be required to stand away from any vehicle being loaded or unloaded to avoid being struck by any spillage or falling materials. Operators may remain in the cabs of vehicles being loaded or unloaded when the vehicles are equipped, in accordance with Title 8, Section 1591(e) of the California Code of Regulations, to provide adequate protection for the operator during loading and unloading operations.

When mobile equipment is operated adjacent to an excavation, or when such equipment is required to approach the edge of an excavation and the operator does not have a clear and direct view of the edge of the excavation, a warning system shall be utilized such as barricades, hand or mechanical signals or stop logs. If possible, the grade should be away from the excavation.

16. Inspections

Excavations, areas adjacent to excavations and protective systems shall be inspected daily by a Competent person for circumstances that could result in possible cave-ins, indications of failure of protective systems, hazardous atmospheres or other hazardous conditions. An inspection shall be conducted by the Competent person prior to the start of work and as needed throughout the shift.

Inspections shall also be made after every rain storm or other hazard increasing occurrence. These inspections are only required when employee exposure can be reasonably anticipated. Where the Competent person finds evidence of a situation that could result in a possible cave-in, indications of failure of protective systems, hazardous atmospheres, or other hazardous conditions, exposed employees shall be removed from the hazardous area until the necessary precautions have been taken to ensure his or her safety.

PERSONAL PROTECTIVE EQUIPMENT

Employees who are working in or around excavations shall wear the following personal protective equipment (PPE) at a minimum:

a. ANSI 107 compliant Class 2 or higher high visibility clothing;

b. ANSI Z-89 compliant hard hat;

c. ANSI Z-87 compliant safety glass; and

d. Approved work uniform.

TRAINING

Employees will be trained in the hazards of working in and around excavations prior to exposure and periodically if work practices change. All supervisors and site supervisors will be trained and qualified as excavation Competent persons.

RECORDKEEPING

a. Written Program
Update and maintain TESP in accordance with applicable regulations and industry best practices.

b. Excavation Checklists and Inspections
Maintain records for three years.

c. Employee Training Records
Maintain records for duration of employment plus three years.

Daily Trench/Excavation Inspection Form (Attachment A)

In accordance with Cal-OSHA regulations, trenches/excavations are to be inspected for hazardous conditions prior to entry and continuously throughout the work by a Competent person. The Competent person must inspect the following items and **sign** that the inspection has been completed. Make comments as appropriate and retain inspection form on file for three years. If there is a deficiency, inform your supervisor immediately. Work is not to proceed until the hazardous condition is mitigated or controlled.

Project: _____ Department: _____

Date: _____ Time: _____ Weather: _____

Soil Type: _____Trench Depth: _____ Length: _____Width: _____

Type of Protective System: _____ USA Ticket #: _____

Excavation	**Yes**	**No**	**N/A**	
Warning system established and used when mobile equipment is operating near edge of excavation.				
Emergency Action Plan established and communicated to crew.				
Means of Access and Egress	**Yes**	**No**	**N/A**	**Comments**
Travel distance to means of egress no greater than 25 feet in excavations four (4) feet or more in depth.				
Straight ladders used in excavations extend at least three (3) feet above the edge of trench				
Ramps being used by the employee access have been designed by Competent person.				
Employees protected from cave-ins when entering or exiting the excavation.				
Wet Conditions	**Yes**	**No**	**N/A**	**Comments**
Precautions taken to protect employees from water accumulation.				
Water removal equipment monitored by Competent person.				
Surface water or runoff controlled or diverted to prevent accumulation in excavation.				
Inspection made by Competent person after each rainstorm or other hazard-increasing occurrence.				
Utilities	**Yes**	**No**	**N/A**	
Utility companies contacted and/or utilities located.				
Exact location of utilities marked when near excavation.				
Prior to use of equipment, underground utilities have been located by hand digging.				
Underground installations protected, supported or removed when excavation is open.				

Excavation	Yes	No	N/A	Comments
Is excavation less than five feet in depth?				
Is there a potential for a cave-in? **(If YES, excavation must be sloped, shored or shielded)**				
Is excavation five feet or deeper than five feet in depth?				
Is sloping used as your protective system?				
Excavations, adjacent areas & protective systems inspected by Competent person daily and before the start of work.				
Competent person has authority to remove workers from excavation immediately.				
Surface encumbrances supported or removed.				
Employees protected from loose rock or soil.				
Hard hats and safety glasses worn by all employees.				
Spoils, materials and equipment set back a minimum of two (2) feet from edge of excavation.				
Adequate barriers provided at all excavations, wells, pits, shafts, etc.				
Walkways and bridges over excavations six (6) feet or more in depth and more than thirty (30) inches wide equipped with guardrails.				
High visibility clothing worn by all employees.				
Employees prohibited from working or walking under suspended loads or booms.				
Employees required to stand away from vehicles being loaded or unloaded.				
Employees prohibited from working on faces of sloped or benched excavations above other employees.				
Safety harness and life line individually attended when employees enter deep confined excavations.				

	REQUIRED TESTS OF AIR IN THE CONFINED SPACE							**REQUIRED TESTS OF AIR IN THE CONFINED SPACE**					
					OTHER[1]							OTHER[1]	
TIME	LEL %	OXY %	H_2S PPM	CO PPM	PPM	PPM	TIME	LEL %	OXY %	H_2S PPM	CO PPM	PPM	PPM
Permit Required if :	Is > 10%	Is not 19.5 – 23.5%	Is not < 10 ppm	Is not < 25 ppm				Is > 10%	Is not 19.5 – 23.5%	Is not < 10 ppm	Is not < 25 ppm		

Support Systems	Yes	No	N/A	Comments
Materials and/or equipment for support systems selected based on soil analysis, trench depth, and expected loads.				
Materials and equipment used for protective systems inspected and in good condition.				
Materials and equipment not in good condition have been removed from service.				
Protective systems installed without exposing employees to the hazards of cave-ins, collapses, or threat of being struck by materials or equipment.				
Members of support system securely fastened to prevent failure.				
Support systems provided to ensure stability of adjacent structures, buildings, roadways, sidewalks, walls, etc.				
Excavations below the level of the base of a footing have been approved by a Registered Professional Engineer.				
Removal of support systems progresses from the bottom and members are released slowly so you can note any indication of possible failure.				
Backfilling progresses with removal of support system.				
Excavation of material to a level no greater than two (2) below the bottom of the support system and only if system is designed to support the loads calculated for the full depth.				
Shield system placed to prevent lateral movement.				
Employees are prohibited from remaining in shield system during vertical movement.				

Training	Yes	No	N/A	Comments
All employees have had excavation safety awareness training.				

_____ _____ _____

Name of Competent person (Please Print) Signature of Competent person Date

Soil Classification Requirements Definitions (Attachment B)

Cemented soil
A soil in which the particles are held together by a chemical agent, such as calcium carbonate, such that a hand-size sample cannot be crushed into powder or individual soil particles by finger pressure.

Cohesive soil
Clay (fine grained soil), or soil with a high clay content, which has cohesive strength. Cohesive soil does not crumble, can be excavated with vertical side slopes, and is plastic when moist. Cohesive soil is hard to break up when dry, and exhibits significant cohesion when submerged. Cohesive soils include clayey silt, sandy clay, silty clay, clay and organic clay. Dry soil: Soil that does not exhibit visible signs of moisture content.

Fissured soil
A soil material that has a tendency to break along definite planes of fracture with little resistance, or a material that exhibits open cracks, such as tension cracks, in an exposed surface.

Granular soil
A gravel, sand, or silt (coarse grained soil) with little or no clay content. Granular soil has no cohesive strength. Some moist granular soils exhibit apparent cohesion. Granular soil cannot be molded when moist and crumbles easily when dry.

Layered system
Two or more distinctly different soil or rock types arranged in layers. Micaceous seams or weakened planes in rock or shale are considered layered.

Moist soil
A condition in which a soil looks and feels damp. Moist cohesive soil can easily be shaped into a ball and rolled into small diameter threads before crumbling. Moist granular soil that contains some cohesive material will exhibit signs of cohesion between particles.

Plastic
A property of a soil which allows the soil to be deformed or molded without cracking, or appreciable volume change.

Saturated soil
A soil in which the voids are filled with water. Saturation does not require flow. Saturation, or near saturation, is necessary for the proper use of instruments such as a pocket penetrometer or sheer vane.

Soil classification system
A method of categorizing soil and rock deposits in a hierarchy of Stable Rock, Type A, Type B, and Type C, in decreasing order of stability. The categories are determined based on an analysis of the properties and performance characteristics of the deposits and the characteristics of the deposits and the environmental conditions of exposure.

Stable rock
Natural solid mineral matter that can be excavated with vertical sides and remain intact while exposed.

Submerged soil
Soil which is underwater or is free seeping.

Type A soil
Cohesive soils with an unconfined, compressive strength of 1.5 tons per square foot (tsf) or greater. Examples of cohesive soils are as follows: clay, silty clay, sandy clay, clay loam and, in some cases, silty clay loam and sandy clay loam. Cemented soils such as caliche and hardpan are also considered Type A. However, no soil is Type A if:

1. The soil is fissured;
2. The soil is subject to vibration from heavy traffic, pile driving, or similar effects;
3. The soil has been previously disturbed;
4. The soil is part of a sloped, layered system where the layers dip into the excavation on a slope of four horizontal to one vertical (4H:1V) or greater;
5. The material is subject to other factors that would require it to be classified as a less stable material.

Type B soil

1. Cohesive soil with an unconfined compressive strength greater than 0.5 tsf but less than 1.5 tsf;
2. Granular cohesionless soils including: angular gravel (similar to crushed rock), silt, silt loam, sandy loam and, in some cases, silty clay loam and sandy clay loam;
3. Previously disturbed soils except those which would otherwise be classed as Type C soil;
4. Soil that meets the unconfined compressive strength or cementation requirements for Type A, but is fissured or subject to vibration;
5. Dry rock that is not stable;
6. Material that is part of a sloped, layered system where the layers dip into the excavation on a slope less steep than four horizontal to one vertical (4H: 1V), but only if the material would otherwise be classified as Type B.

Type C soil

1. Cohesive soil with an unconfined compressive strength of 0.5 tsf or less;
2. Granular soils including gravel, sand, and loamy sand;
3. Submerged soil or soil from which water is freely seeping;
4. Submerged rock that is not stable;

5. Material in a sloped, layered system where the layers dip into the excavation on a slope of four horizontal to one vertical (4H: 1V) or steeper.

Unconfined compressive strength
The load per unit area at which a soil will fail in compression. It can be determined by laboratory testing, or estimated in the field using a pocket penetrometer, by thumb penetration tests, and other methods.

Wet soil
Soil that contains significantly more moisture than moist soil, but in such a range of values that cohesive material will slump or begin to flow when vibrated. Granular material that would exhibit cohesive properties when moist will lose those cohesive properties when wet.

Requirements

1. **Classification of soil and rock deposits**

   Each soil and rock deposit shall be classified by a Competent person as Stable Rock, Type A, Type B, or Type C in accordance with the definitions set forth above.

2. **Basis of classification**

   The classification of the deposits shall be made based on the results of at least one visual and at least one manual analysis. Such analyses shall be conducted by a Competent person using tests described in the acceptable visual and manual tests section below, or in other approved methods of soil classification and testing such as those adopted by the American Society for Testing Materials, or the U.S. Department of Agriculture textural classification system.

3. **Visual and manual analyses**

   The visual and manual analyses, such as those noted as being acceptable in the visual and manual tests section of this Appendix, shall be designed and conducted to provide sufficient quantitative and qualitative information as may be necessary to identify properly the properties, factors, and conditions affecting the classification of the deposits.

4. **Layered systems**

   In a layered system, the system shall be classified in accordance with its weakest layer. However, each layer may be classified individually where a more stable layer lies under a less stable layer.

5. **Reclassification**

   If, after classifying a deposit, the properties, factors, or conditions affecting its classification change in any way, the changes shall be evaluated by a Competent person. The deposit shall be reclassified as necessary to reflect the changed circumstances.

Acceptable Visual and Manual Tests

1. Visual Tests

Visual analysis is conducted to determine qualitative information regarding the excavation site in general, the soil adjacent to the excavation, the soil forming the sides of the open excavation, and the soil taken as samples from excavated material.

a. Observe samples of soil that are excavated and soil in the sides of the excavation. Estimate the range of particle sizes and the relative amounts of the particle sizes. Soil that is primarily composed of fine-grained material is cohesive material. Soil composed primarily of coarse-grained sand or gravel is granular material;

b. Observe soil as it is excavated. Soil that remains in clumps when excavated is cohesive. Soil that breads up easily and does not stay in clumps is granular;

c. Observe the side of the opened excavation and the surface area adjacent to the excavation. Crack-like openings such as tension cracks could indicate fissured material. If chunks of soil spall off a vertical side, the soil could be fissured. Small spalls are evidence of moving ground and are indications of potentially hazardous situations;

d. Observe the area adjacent to the excavation and the excavation itself for evidence of existing utility and other underground structures, and to identify previously disturbed soil;

e. Observe the opened side of the excavation to identify layered systems. Examine layered systems to identify if the layers slope toward the excavation. Estimate the degree of slope of the layers;

f. Observe the area adjacent to the excavation and the sides of the opened excavation for evidence of surface water, water seeping from the sides of the excavation, or the location of the level of the water table;

g. Observe the area adjacent to the excavation and the area within the excavation for sources of vibration that may affect the stability of the excavation face.

2. Manual Tests

Manual analysis of soil samples in conducted to determine quantitative as well as qualitative properties of soil and to provide more information in order to classify soil properly.

a. Plasticity - Mold a moist or wet sample of soil into a ball and attempt to roll it into threads as thin as 1/8-inch in diameter. Cohesive material can be successfully rolled into threads without crumbling. For example, if at least a two-inch length of 1/8-inch thread can be held on one end without tearing, the soil is cohesive;

b. Dry Strength - If the soil is dry and crumbles on its own or with moderate pressure into individual grains or fine powder, it is granular (any combination of gravel, sand, or silt). If the soil is dry and falls into clumps which break up into smaller clumps, but the smaller clumps can only be broken up with difficulty, it may be clay in any combination with gravel, sand or silt. If the dry soil breaks into clumps which do not break up into small clumps and which can only be broken with difficulty, and there is no visual indication the soil is fissured, the soil may be considered un-fissured;

c. Thumb Penetration - The thumb penetration test can be used to estimate the unconfined compressive strength of cohesive soils. Type A soils with an unconfined compressive strength of 1.5 tsf can be readily indented by the thumb; however, they can be penetrated by the thumb only with very great effort. Type C soils with an unconfined compressive strength of 0.5 tsf can be easily penetrated several inches by the thumb, and can be molded by light finger pressure. This test should be conducted on an undisturbed soil sample, such as a large clump of spoil, as soon as practicable after excavation to keep to a minimum the effects of exposure to drying influences (rain, flooding), the classification of the soil must be changed accordingly;

d. Other Strength Tests - Estimates of unconfined compressive strength of soils can also be obtained by use of a pocket penetrometer or by using a hand-operated shearvane;

e. Drying Test - The basic purpose of the drying test is to differentiate between cohesive material with fissures, unfissured cohesive material, and granular material. The procedure for the drying test involves drying a sample of soil that is approximately one inch thick and six inches in diameter until it is thoroughly dry:

1. If the sample develops cracks as it dries, significant fissures are indicated;

2. Samples that dry without cracking are to be broken by hand. If considerable force is necessary to break a sample, the soil has significant cohesive material content. The soil can be classified as an un-fissured cohesive material and the unconfined compressive strength should be determined;

3. If a sample breaks easily by hand, it is either a fissured cohesive material or a granular material. To distinguish between the two, pulverize the dried clumps of the sample by hand or by stepping on them. If the clumps do not pulverize easily, the material is cohesive with fissures. If they pulverize easily into very small fragments, the material is granular.

Excavation Diagrams
(Attachment C)

Figure 1 illustrations of simple slope trenching in A, B and C type soils.

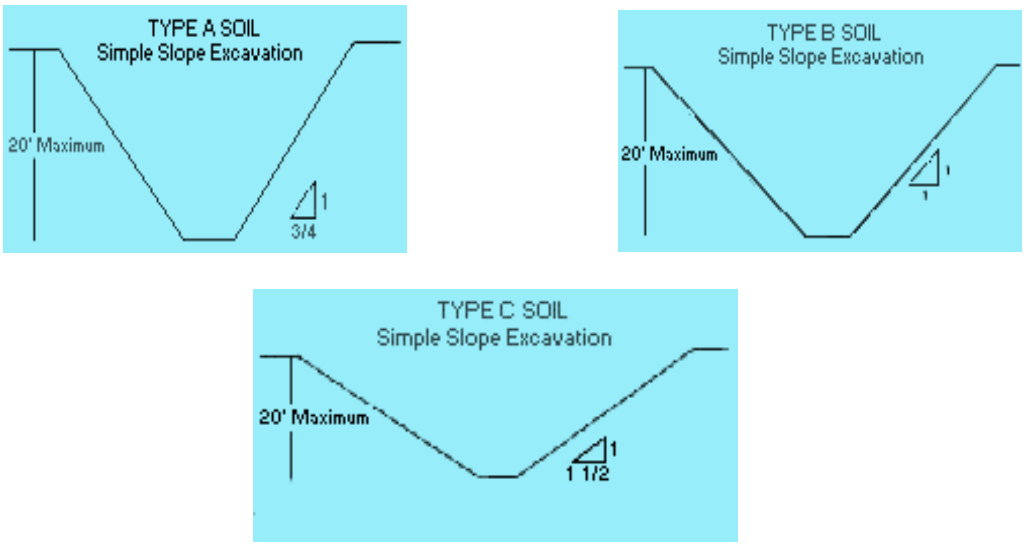


Figure 2 illustrations of slope configurations in layered soils.

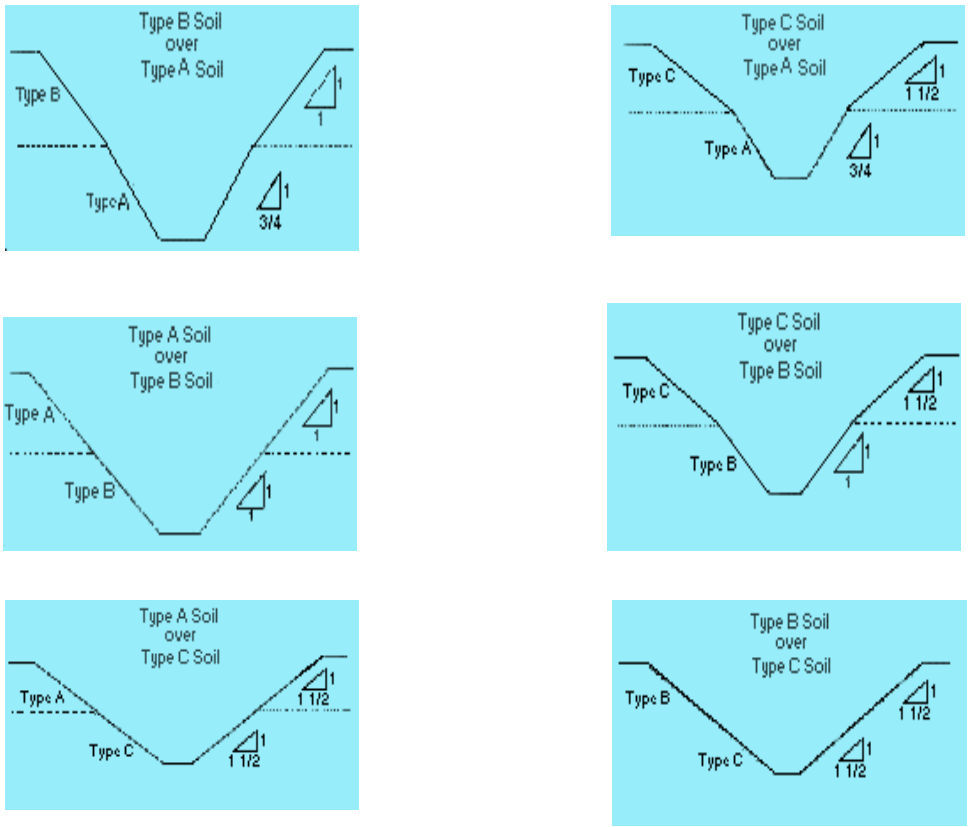
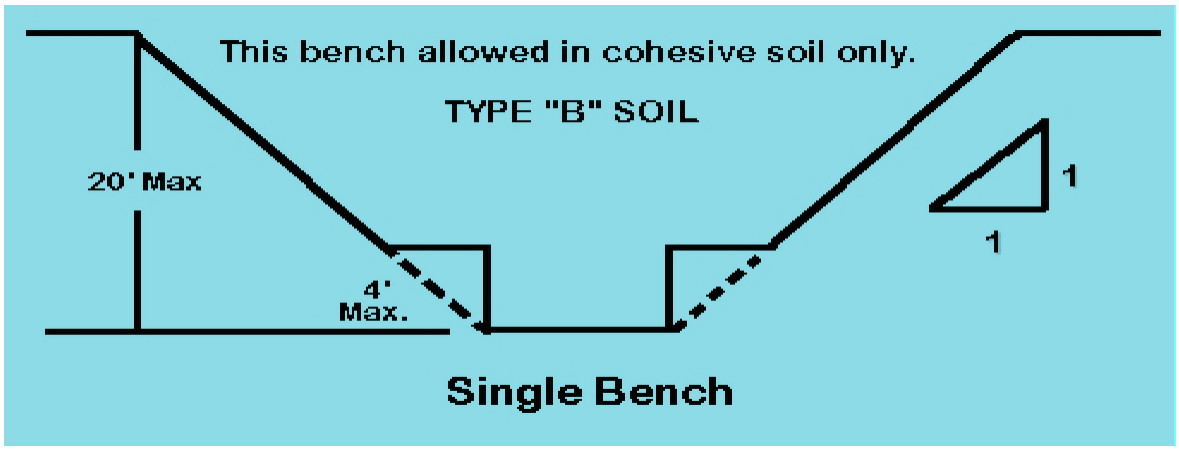
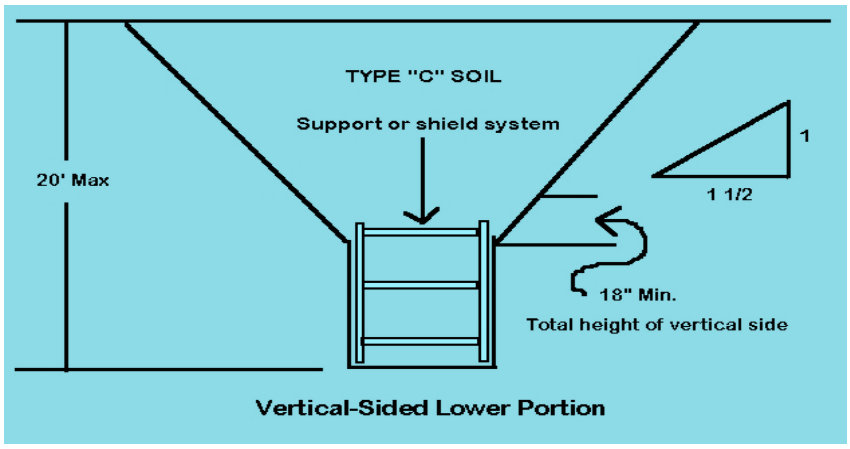


Figure 3
All benched excavations 20 feet or less in depth shall have a maximum allowable slope of 1:1. Benching is not allowed in type C soil.





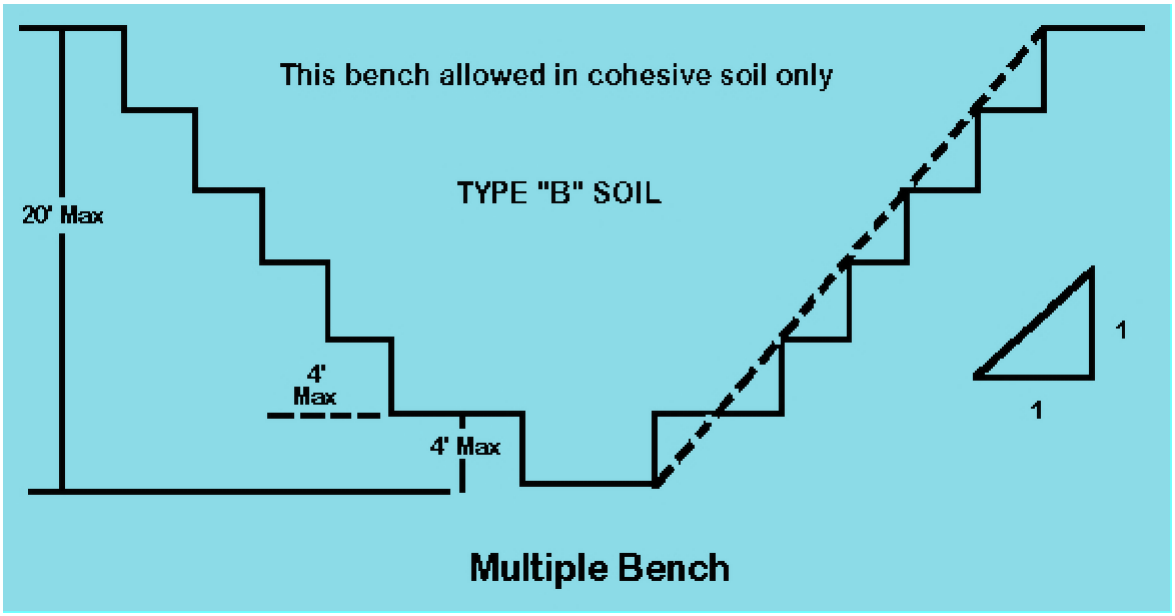


Figure 4 illustrations of shielding systems in B and C type soils.

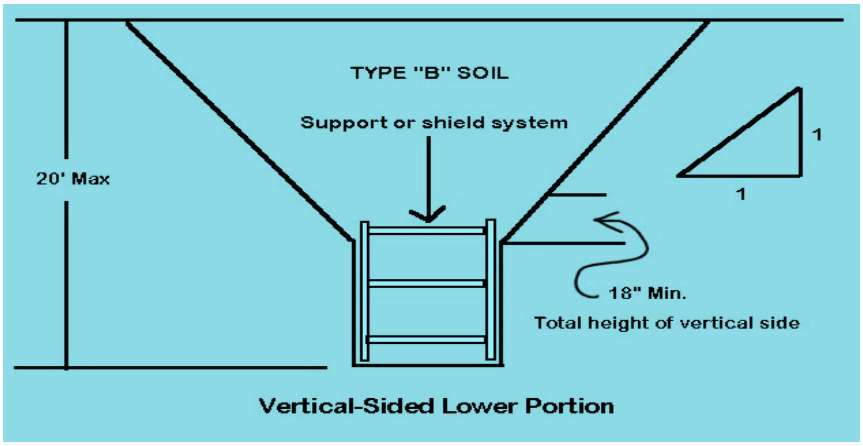
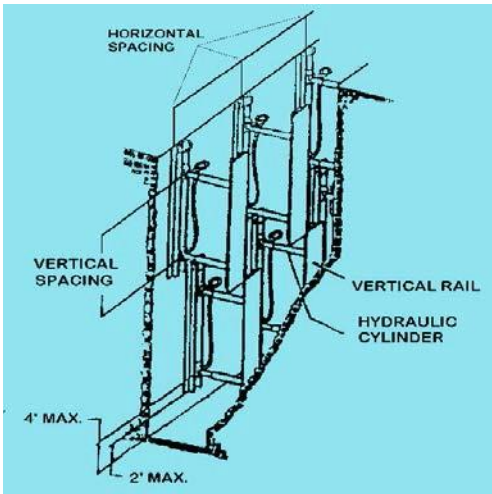
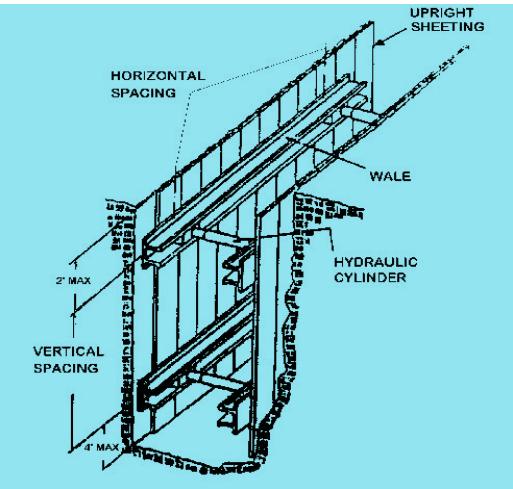


Figure 5 illustrations of Aluminum hydraulic shoring systems.

Vertical Stacked



Waler System



CITY OF SACRAMENTO REGULATORY COMPLIANCE PROGRAM
TOPIC: PROCESS SAFETY MANAGEMENT OF ACUTELY HAZARDOUS MATERIALS
FFECTIVE DATE: 10/14/15
SUPERSEDES: SECTION: N/A
RCP #18

PURPOSE

Process Safety Management of Acutely Hazardous Materials is required by the California Code of Regulations, Title 8, Section 5189, (d)-(p). This regulatory compliance program is applicable specifically to the Sacramento River Water Treatment Plant (SRWTP) and the E.A. Fairbairn Water Treatment Plant (EAFWTP) facilities operated by the Department of Utilities.

PROCEDURES AND REQUIREMENTS

The process safety management plan for use of chlorine at the water treatment plants provides detailed instructions for the following topics.

1. Process Safety Information
2. Process Hazard Analysis
3. Operating Procedures
4. Training
5. Contractors
6. Pre-start up Safety Review
7. Mechanical Integrity
8. Hot Work Permit
9. Management of Change
10. Incident Investigation
11. Emergency Planning and Response
12. Injury and Illness Prevention
13. Employee Participation

A full copy of the process safety management plan is available at SRWTP and EAFWTP.

CITY OF SACRAMENTO REGULATORY COMPLIANCE PROGRAM
TOPIC: ENERGY CONTROL PROGRAM (LOCKOUT/TAGOUT)
EFFECTIVE DATE: 12/01/2017
SUPERSEDES: N/A
SECTION: RCP #19

PURPOSE AND SCOPE

This program meets the requirements of Title 8, Sections 2320 and 3314 of the California Code of Regulations to establish a program and utilize procedures for affixing appropriate Lockout/Tagout devices to isolate or otherwise disable machinery or equipment to prevent unexpected energization, start-up, or release of stored energy to prevent injury to employees and damage to equipment.

This program covers the servicing and maintenance of machines or equipment in which the unexpected energization, start up, or release of energy could cause injury to employees. This program supersedes all previous division procedures.

Exceptions - This program does not apply to the following equipment and operations.

Cord and Plug Equipment
Work on cord and plug connected electrical equipment controlled by unplugging of the equipment from the energy source and under the exclusive control of the employee performing the servicing or maintenance.

Minor Tool Changes and Adjustments
Including other minor servicing activities, which take place during normal production operations if they are routine, repetitive, and integral to the use of the equipment or machinery for production, provided that the work is performed using alternative measures which provide equally effective protection.

Hot Tap Operations
Involving transmission and distribution systems for substances such as gas, steam, or water when they are performed on pressurized pipelines, provided the employer demonstrates that; continuity of service is essential; shutdown of system is impractical; documented procedures are followed, and special equipment is used to provide proven, effective protection for employees.

ROLES AND RESPONSIBILITIES

Environmental Health and Safety Specialist

1. Ensure that adequate LOTO procedures are developed to ensure the safety of employees and/or machinery or equipment;

2. Ensure that all supervisors receive training on the LOTO program;

3. Assist Department Representatives/Supervisors in determining policy compatibility with outside contracted employer's LOTO policy; and

4. Conduct an annual LOTO program review for updates or changes.

Supervisors

1. Ensure that LOTO procedures are implemented in his or her areas of operations;

2. Ensure that employees under his or her supervision apply LOTO procedures where necessary;

3. Ensure that employees under his or her supervision has received training in the LOTO program requirements;

4. Ensure the availability of locks, tags, lockout box(s), and equipment specific lockout procedure(s) to all employees who are required to use them;

5. Determine who will be the Responsible/Lead (Primary) Authorized Employee for coordinating multiple source/multiple crew lock outs;

6. Conduct a periodic inspection of the energy control procedure, at least annually, to ensure that the procedure and the provisions of this program are being followed; and

7. Ensure outside contractors have a LOTO policy that complies with all applicable regulations and is at least as stringent as the City's policy when work is shared with employees.

Authorized Employees

1. A person who locks or tags out a piece of equipment to perform maintenance on that equipment;

2. Conduct, implement and coordinate hazardous energy isolation LOTO procedures as required by this program;

3. Verify equipment specific lockout procedure (multiple source) is accomplished and apply his or her own craft lock and tag, or his or her own lock on the lock box key section, or, apply his or her own locks and tags to each energy isolation point, leave his or her locks on for the duration of work, and remove his or her locks after his or her work is complete, as required by this program. They alone, apply his or her own locks and tags and no one else as required by this program;

4. Notify affected employees of the application and removal of LOTO devices in the work area;

5. Attend LOTO training. Responsible/Lead (Primary) authorized employee will coordinate, conduct, and implement hazardous energy isolation for multiple source/multiple crews LOTO procedures as required by this program;

6. Apply and remove the department's specific locks and tags on all applicable energy isolation points (multiple source) as required by this program;

7. Complete equipment specific energy isolation lockout procedure as required by this program; and

8. Notify authorized employees when equipment lockout procedure is complete, and lockout of energy isolation points are accomplished (Craft lock or lock box), or, coordinate all energy isolation points are locked out and tagged by each Authorized Employee as required by this program;

9. Notify affected employees of the application and removal of LOTO devices in the work area. Assist in developing an energy specific lockout procedure for equipment that requires a procedure and does not exist.

Affected Employees

1. An employee whose job requires him or her to operate or use a machine or equipment on which servicing, or maintenance is being performed under LOTO, or whose job requires him or her to work in an area in which such servicing or maintenance is being performed;

2. Abide by the rules of the LOTO program;

3. Follow instructions of authorized employees; and

4. Contact supervisor if there are any questions concerning the LOTO situation.

Requirements

1. **Environment**
   Lockout/Tagout devices must be capable of withstanding the environment to which they are exposed. Tagout devices must be constructed and printed so that exposure to weather or wet/damp locations will not cause the tag to deteriorate or the message to become illegible.

2. **Standardization**
   Lockout/Tagout devices must be standardized on at least one of the following criteria: color, shape, or size. Tagout devices must be standardized as to print and format.

3. **Quality**
   Lockout devices must be substantial enough to prevent removal without the use of excessive force or unusual techniques such as bolt cutters or other metal cutting tools. Tagout devices and their means of attachment must be substantial enough to prevent inadvertent or accidental removal. Tagout device attachment means must be non-reusable, attachable by hand, self-locking, and non-releasable with a minimum unlocking strength of no less than 50 pounds.

4. **Identification**
   Lockout/Tagout devices must indicate the identity of the employee applying the device, the employee's phone number and/or radio number, the time and date of placement, and the reason the lock/tag was placed. Lockout devices must always be accompanied by a tag to convey this information.

5. **Craft Locks** are identified by color according to their designated assigned Craft.

Lockout Not Possible

1. **Tagout in Place of Lockout**
   When only a tag is used (lockout not possible), employees must be aware that the tag represents a lockout device and must be treated as such. Employees must also be aware that a tag is essentially a warning device and does not provide the physical restraint that a lock does.

2. **Machinery or Equipment**
   When machinery or equipment is encountered which, due to its design, cannot be locked out, the employee discovering this situation will notify their supervisor. The responsible Department/Division

for this machinery or equipment will review its design and make all reasonable attempts to modify it so that it can be locked out.

IDENTIFICATION OF ENERGY ISOLATING DEVICES

The location and identification of energy isolating devices for machinery and equipment must be clearly marked.

Requirements

The identification and marking of energy isolating devices may only be performed by a qualified person.

1. **Markings**
   Marking may consist of signs, labels, tags, or other devices which convey the appropriate information;

2. **Contractors**
   When the location and marking of energy isolating devices is required to be performed by a contractor. City designated inspectors must ensure this requirement is met before signing off on work.

PLACEMENT OF LOCKOUT/TAGOUT DEVICES

Requirements

Lockout/Tagout devices may only be placed by authorized employees.

1. **Machinery or Equipment**
   Lockout/Tagout devices must be placed on machinery or equipment when servicing or maintenance activities are performed in which the unexpected energization, start-up, or release of stored energy could cause injury to an employee;

2. **Tagout in Place of Lockout**
   If an energy isolating device is capable of being locked out, lockout must be used. If the energy isolating device is not capable of being locked out, tagout will be utilized. When tagout is used, at least one additional safety measure shall be employed. Examples of additional safety measures can include the removal of fuses, blocking of a controlling switch, or opening an extra disconnecting device to reduce the likelihood of inadvertent energization/operation.

Steps for Applying Lockout/Tagout Device

When applying a Lockout/Tagout device the following steps must be completed in sequential order:

Step 1:
Preparation for Shutdown - Before an authorized or affected employee turns off machinery or equipment, that employee must have knowledge of the type and magnitude of the energy, the hazards of the energy, and the method or means to control the energy. The appropriate control center must also be contacted before the equipment is taken out of service.

Step 2:
Employee Notification - Affected employees must be notified by the employer or authorized employee of the application (or removal) of Lockout/Tagout devices. Notification must be given before the devices are applied (or removed).

STEP 3:
Machinery or Equipment Shutdown - Machinery or equipment must first be stopped, shut down, or turned off using the normal stopping procedure such as a stop button or toggle switch.

STEP 4:
Machinery or Equipment Isolation - All energy isolating devices controlling the energy to the machinery or equipment must be located and locked or tagged out.

STEP 5:
Release of Stored Energy - All potentially hazardous stored energy (hydraulic, pneumatic, electrical, or pressure lines) must be relieved, disconnected, bled off, or otherwise rendered safe and locked or tagged out.

STEP 6:
Verification of de-energization - After ensuring that no personnel are exposed, and having checked on the disconnection of energy sources, the normal operating control (on/off button, switch, or valve) will be operated to make certain that the machinery or equipment will not operate. Return operating control to off position after test.

STEP 7:
Control Center Notification – Contact the appropriate control center once the equipment has been successfully de-energized and the plant status board has been updated with the outage.

REMOVAL OF LOCKOUT/TAGOUT DEVICES

After completing the servicing or maintenance on the machinery or equipment the machinery or equipment must be placed back in service and the Lockout/Tagout devices removed.

Requirements
Lockout/Tagout devices may only be removed by the employee who applied the device. All reasonable effort to contact the authorized employee who placed the Lockout/Tagout must be made.

Exceptions

The following exceptions are recognized:

Employee Not Available
If the original employee is not available to remove the device may be removed by the employee's supervisor or his or her designee, after an evaluation of the condition(s) is made. The supervisor is responsible for notifying the Safety Officer of device removal. This evaluation must consist of the procedures outlined in Section 6.3 of this program.

Craft Locks
A supervisor may authorize an employee tasked with completing work to remove a craft lock. (Provided the removal steps are observed.)

Steps for Removing a Lockout/Tagout Device

This procedure must be completed in the following sequential order:

STEP 1:
Inspection of Work Area - The work area must be inspected to ensure that tools or other items have been removed from the machinery or equipment. Any guards removed or lines disconnected must be reattached at this time.

STEP 2:
Accounting for Personnel - The work area must be checked to ensure that all employees have been safely positioned or removed.

STEP 3:
Removal of Devices - After ensuring that the work area is clear and safe, the Lockout/Tagout device(s) may be removed.

Removing Device Placed by Another Person

When a personal Lockout/Tagout device is removed by a person other than the employee who placed it, the following steps must be taken:

STEP 1:
The absent person's supervisor must be notified.

STEP 2:
The supervisor must complete the Absent Person's Lock Removal Form and provide a copy to the Department Safety Specialist.

STEP 3:
The employee who placed the device must be notified that the device has been removed before work resumes at that location or equipment is brought back into service.

GROUP LOCKOUT/TAGOUT

When servicing or maintenance of machinery or equipment is performed by a crew or other group, they must utilize the procedures outlined below in 7.1, in addition to the procedures outlined in Sections 4 and 5 of this program.

Requirements

1. **Personal Lockout/Tagout**
   Each authorized employee within the group performing the servicing or maintenance work must affix a personal Lockout/Tagout device to the group Lockout/Tagout device.

2. **Multiple Lockout/Tagout Device**
   When an energy isolating device cannot accept multiple locks or tags, a multiple Lockout/Tagout device may be used. Other acceptable methods include a single lock with the key being placed in a lock box which allows multiple locks to secure it.

3. **Craft Locks**
   The intended use of the craft lock is never to take the place of the personal lock while staff is working on the equipment. In the event the equipment must remain out of service at end of a shift, before the personal lock is removed a craft lock may be applied by a qualified person with the tag providing all necessary contact information.

LOCKOUT/TAGOUT DURING SHIFT CHANGES, OVERTIME, AND ON-CALL

Requirements

1. **Transfer of Device**
   In those instances where shift changes occur, there must be an orderly transfer of Lockout/Tagout devices between the off-going and on-coming employees.

2. **Removing Lockout/Tagout Device**
   Employees who report to work for overtime or on-call response and confront a Lockout/Tagout device which prohibits them from taking appropriate action on machinery or equipment must make all reasonable attempts to contact the authorized employee who placed the lock or tag before removing it.

3. **Employee Not Available**
   In the event that this employee is unavailable to be contacted, the overtime or on-call employee may remove the Lockout/Tagout device after performing the following steps.

   STEP 1:
   Contact Supervisor - The employee must contact his or her immediate supervisor or supervisor's designee (the appropriate supervisor may be the supervisor of the employee who placed the Lockout/Tagout device) to obtain permission to remove the Lockout/Tagout device. Supervisor is responsible for completing the Absent Person's Lock Removal Form and notifying the Safety Officer of device removal.

   STEP 2:
   Meet Safety Precautions - The supervisor must receive notification from the employee that the employee has taken the safety precautions outlined in Section in this document before he or she grants permission to remove the Lockout/Tagout device.

OUTSIDE CONTRACTORS

Whenever outside servicing personnel (contractors) are to be engaged in activities covered by the scope of this program, the on-site employer (City of Sacramento) lockout or tagout procedures shall be followed at minimum.

EMPLOYEE TRAINING AND CERTIFICATION

All affected and authorized employees who operate, use or perform servicing or maintenance on machinery or equipment where the unexpected energizing, start-up, or release of stored energy could cause injury or equipment damage, must receive initial Lockout/Tagout Authorized training and follow up refresher training every year thereafter which conveys the knowledge and understanding of the procedures contained within this program. Other City employees will have basic Lockout/Tagout training as required.

Requirements

1. All employee training must be documented. Documentation will include a brief description of the training or sample content, the employee's name, signature, and date. Each City Department/Division will be responsible for identifying responsible employees required to receive this training and the maintenance of training records.

Definitions
(Attachment A)

Affected Employee
An employee whose job requires him or her to operate or use machinery or equipment on which servicing, or maintenance is being performed under Lockout/Tagout, or whose job requires him or her to work in an area in which such servicing or maintenance is being performed.

Authorized Employee
A qualified person who implements a Lockout/Tagout procedure on machinery or equipment to perform service or maintenance on that machinery or equipment. An affected employee becomes an authorized employee when that employee's duties include servicing or maintenance.

Capable of Being Locked Out
An energy isolating device designed with a hasp or other attachment or integral part to which, or through which, a lock can be affixed, or has a locking mechanism built into it.

Craft Lock
One or more padlocks will be issued to each qualified craftsperson. Each qualified employee in their craft will be issued a craft specific key. Craft locks may be used only for lockout purposes under certain conditions. The intended use of the craft lock is never to take the place of the personal lock while staff is working on the equipment. Locks will be identified by color as per craft. Only qualified crafts personnel may apply and remove the lock, and the key may never be given to a non-qualified person.

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

Energy Isolating Device
A mechanical device that physically prevents the transmission or release of energy. These include but are not limited to: a manually operated circuit breaker, a disconnect switch, a slide gate, a slip blind, a line valve, a block, or any other similar device used to block or isolate energy. Push buttons, selector switches, or other control circuit type devices are not considered energy isolating devices.

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

Hot Tap
A procedure used in the repair, maintenance, or servicing activities which involves the use of tapping saddles or sleeves which allow drilling of an existing pipeline under pressure to install connections. A hot tap is commonly used to replace or add sections of pipeline without interruption of service.

Lockout
The placement of a lockout device on an energy isolating device in accordance with an established procedure which ensures that the energy isolating device and equipment being controlled cannot be operated until the lockout device is removed.

Lockout Device
A device that utilizes a positive means such as a lock (key or combination), blank flange, or bolted slip blind to hold an energy isolating device in a safe position and prevent the energizing of machinery or equipment.

Normal Production Operations
The utilization of machinery or equipment to perform its intended production function.

Personal Lock
One or more padlocks will be issued to each authorized employee. Each employee will have an individual key. Only one key per lock shall be issued. These locks may be used only for lockout purposes. Locks will be identified by employee number assigned to each employee and/or by the use of a nametag. Only the authorized person may apply and remove the lock, and the key may never be given to another person. A second or master key for each lock will be issued to designated supervisors to enable them to open and remove

Qualified Person
A trained employee having the knowledge and skills so as to be familiar with the construction and operation of the machinery or equipment and the hazards involved.

Servicing and/or Maintenance
Workplace activities such as constructing, installing, setting up, adjusting, inspecting, or modifying machinery or equipment. These activities include lubrication, cleaning, un-jamming, or adjusting machinery or equipment where the employee may be exposed to the unexpected energization, start-up, or release of energy from machinery or equipment.

Setting Up
Any work performed to prepare machinery or equipment to perform its normal production operation.

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

Tagout Device
A prominent warning device such as a tag and means of attachment, which can be securely fastened to an energy isolating device to indicate that the energy isolating device and controlled equipment may not be operated until the tagout device is removed.

Absent Persons Lock Removal Form
(Attachment B)

Absent Persons Lock Removal Form
For assistance with this form contact your supervisor/manager, your EH&S Specialist or the Risk Management Office: 808-5278.

1. General Information

Requestor's Name:	Requestor's Phone Number:

2. Equipment Information

Equipment Name:	Means of Isolation:
Equipment: Location:	Job Number:
Reason for Lock out:	

3. Absent Person/Lock Owners Information

Absent Person's Name:	Reason for Removal:
Absent Person's Phone Number:	

3.1.1 Absent Subcontractor Locks ONLY ☐ Not A Subcontractor

Subcontractor Company:	Is their LOTO Plan on file with the department? Yes ☐ No ☐
Does the Subcontractors LOTO Plan contain any specific requirements for Lock removal? Yes ☐ No ☐	If Yes, list below:

4. Attempts to contact Absent Persons log

Date/Time:	Phone Number Used	Made contact?
		☐Yes ☐No ☐Left Voicemail
		☐Yes ☐No ☐Left Voicemail
		☐Yes ☐No ☐Left Voicemail
		☐Yes ☐No ☐Left Voicemail

5. Worksite information

Is the Absent person expected to return to work? Yes ☐ If so, when? _____ No ☐
What is the status of the equipment? • Equipment needs additional repair ☐ • Equipment is safe to operate ☐
Was the Absent person informed that their personal lock was to be cut off? Yes ☐ No ☐

6. Checklist to be completed prior to authorizing the removal of the absent person's lock

Absent person has been verified absent from the site and is unavailable to return Yes ☐	Absent person and their supervisor have been notified Yes ☐
Equipment has been verified safe to energize Yes ☐	Specific Subcontractor requirements (3.1) have been fulfilled, if applicable Yes ☐ N/A ☐

Section 6 must be completed prior to authorization in section 7

7. Authorization to remove absent person's lock

Supervisor Name	Signature	Date
Manager Name	Signature	Date
Requestors Name	Signature	Date

8. Return to work

Before the absent person returns to any work duty their supervisor must ensure that they person is presented with the removed lock and is informed of the reasons for the removal.		
Absent Person's Name	Signature	Date
Supervisor Name	Signature	Date

One Copy of this form is maintained by the department.
One Copy of this form is to be sent to the safety specialist in Risk Management.

CITY OF SACRAMENTO REGULATORY COMPLIANCE PROGRAM
TOPIC: SILICA EXPOSURE CONTROL PROGRAM
EFFECTIVE DATE: 2/1/2018
SUPERSEDES: New
SECTION: RCP #20

PURPOSE

This program establishes an exposure control plan that identifies tasks involving silica exposure and methods used to protect employees. City employees are required to implement the components of this program to ensure compliance with the following applicable state and federal regulations. The following California Occupational Safety and Health Administration (Cal-OSHA) standards are applicable for respirable crystalline silica.

California Code of Regulations, 8 CCR 1532.3

SCOPE

The Silica Exposure Control Program applies to all employees who are expected to be exposed to respirable crystalline silica as outlined in Section 4; or through other means which are determined by the department EH&S Specialist or a supervisor designated as a Competent person.

RESPONSIBILITIES

Department/Division Managers are responsible for:

1. Ensuring supervisor(s) understand his or her responsibilities for implementation of the Silica Exposure Control Program within each work unit;

2. Actively supporting this program within individual units; and

3. Ensuring an environment where all employees are required to follow this program.

Supervisors are responsible for:

1. Inspecting work areas and ensuring procedures are followed in accordance with this program;

2. Ensuring that staff is aware of this program, instructed on the details of implementation, and provided with equipment and methods of control (e.g. engineering controls, work practice controls and respirators);

3. Erecting barriers and/or signs to restrict access to work areas where respirable crystalline silica exposures exist to minimize the number of employees potentially exposed; and

4. Contacting the department EH&S Specialist to request technical assistance and to evaluate health and safety concerns within their department.

Employees are responsible for:

1. Complying with this program and any further safety recommendations provided by supervisors regarding the Silica Exposure Control Program; and

2. Contacting his or her supervisor to request technical assistance and to evaluate health and safety concerns within his or her division.

SPECIFIED EXPOSURE CONTOL METHODS

For each employee working with materials containing crystalline silica and engaged in a task using the equipment or machines listed below, the department shall fully implement the engineering controls, work practices, and respiratory protection specified.

Stationary Masonry Saws

1. **Engineering Control**
   Use saws equipped with integrated water delivery system that continuously feeds water to the blade.

2. **Respiratory Protection**
   None required

Drivable Saws

1. **Engineering Control**
   Use saws equipped with integrated water delivery system that continuously feeds water to the blade.
   Respiratory Protection:

   a. Enclosed Area: Cannot use saw in enclosed areas;

   b. Outside Area: None required.

Handheld Power Saws

1. **Engineering Control**
   Use saws equipped with integrated water delivery system that continuously feeds water to the blade.

   Respiratory Protection (less than 4 hours per shift):

   a. Enclosed Area: N95 Dust Mask;

   b. Outside Area: None required.

   Respiratory Protection (more than 4 hours per shift):

   a. Enclosed Area: N95 Dust Mask;

   b. Outside Area: N95 Dust Mask.

Handheld and Stand-Mounted Drills

1. **Engineering Control**
   Use drills equipped with commercial shroud or cowling with dust collection system.

   Respiratory Protection: None required

Dow Drill Rigs for Concrete

1. **Engineering Control**
   Use drills equipped with commercial shroud or cowling with dust collection system.

   Respiratory Protection (less than 4 hours per shift):

   a. Enclosed Area: Can Not Use Drill in Enclosed Areas;

   b. Outside Area: N95 Dust Mask.

   Respiratory Protection (more than 4 hours per shift):

   a. Enclosed Area: Can Not Use Drill in Enclosed Areas;

   b. Outside Area: N95 Dust Mask.

Vehicle-Mounted Drill Rigs

1. **Engineering Control**
   Use a dust collection system with close capture hood – OR – shroud around drill bit with a low-flow water spray to wet the dust at the discharge point from the dust collector – OR – operate from within an enclosed cab and use water for dust suppression on the drill bit.

   Respiratory Protection: None required

Jackhammers and Handheld Power Chipping Tools

1. **Engineering Control**
   Feed water continuously to the point of impact – OR – use a commercial shroud or cowling with a dust collection system.

   Respiratory Protection (less than 4 hours per shift):

   a. Enclosed Area: N95 Dust Mask;

   b. Outside Area: None Required.

   Respiratory Protection (more than 4 hours per shift):

   a. Enclosed Area: N95 Dust Mask;

   b. Outside Area: N95 Dust Mask.

Walk-Behind Milling Machines and Floor Grinders

1. **Engineering Control**
   Water continuously fed to the point of impact – OR – use a commercial shroud or cowling with dust collection system.

   Respiratory Protection: None Required

Small Drivable Mill Machines

1. **Engineering Control**
   Use a machine equipped with supplemental water sprays designed to suppress dust. Water must be combined with a surfactant.

   Respiratory Protection: None Required

Large Drivable Milling Machines

1. **Engineering Control**
   Use a machine equipped with exhaust ventilation on the drum enclosure and supplemental water spray designed to suppress dust. – OR – Use a machine equipped with supplemental water spray designed to suppress dust. Water must be combined with a surfactant.

   Respiratory Protection: None Required

Crushing Machines

1. **Engineering Control**
   Use equipment designed to deliver water spray or mist at crusher and other points where dust is generated – AND – use a ventilated booth that provides fresh, climate-controlled air to the operator, or a remote- control station.

   Respiratory Protection: None Required

Heavy Equipment (Hoe-Ramming, Rock Ripping, and Demolition)

1. **Engineering Control**
   Operate equipment from within an enclosed cab – AND – When employees outside of the cab are engaged in the task, apply water and/or dust suppressants as necessary to minimize dust emissions.

   Respiratory Protection: None Required

Heavy Equipment (Grading and Excavating)

3. **Engineering Control**
   Apply water and/or dust suppressants as necessary to minimized dust emissions. – OR – When the equipment operator is the only employee engaged in the task, operate equipment from within an enclosed cab.

   Respiratory Protection: None Required

Handheld Grinders for Mortar Removal

1. **Engineering Control**
   Commercial shroud or cowling with dust collection system

   Respiratory Protection (less than 4 hours per shift):

   a. Enclosed Area: N95 Dust Mask;

   b. Outside Area: N95 Dust Mask.

   Respiratory Protection (more than 4 hours per shift):

   a. Enclosed Area: Full Face Air Purifying Respirator;

   b. Outside Area: Full Face Air Purifying Respirator.

Handheld Grinders for Use Other than Mortar Removal

1. **Engineering Control**
   Water continuously fed to the grinding surface –OR – Commercial shroud or cowling with dust collection system.

   Respiratory Protection (less than 4 hours per shift):

   a. Enclosed Area: None Required;

   b. Outside Area: None Required.

   Respiratory Protection (more than 4 hours per shift):

   a. Enclosed Area: N95 Dust Mask;

   b. Outside Area: None Required.

For potential exposures to respirable crystalline silica or tasks using equipment and machines not identified in the list above, contact the department EH&S Specialist for an exposure assessment to determine the level of exposure and any engineering controls, work practices, or respiratory protection requirements necessary to safely complete the work.

HOUSEKEEPING

Dry sweeping or dry brushing is prohibited where such activity could contribute to employee exposure to respirable crystalline silica.

1. Use Wet Sweeping;

2. Use HEPA-Filtered Vacuuming.

Compressed air shall not be used to clean clothing or surfaces where such activity could contribute to employee exposure to respirable crystalline silica.

Definitions
(Attachment A)

Action Level
Means a concentration of airborne respirable crystalline silica of 25 ug /m3, calculated as an 8-hour time weighted average.

Competent person
Means an individual capable of identifying existing and foreseeable respirable crystalline silica hazards in the workplace and who has authorization to take prompt corrective measures to eliminate or minimize them.

Permissible Exposure Limit
Means a concentration of airborne respirable crystalline silica in excess of 50 ug/m3 calculated as an 8-hour time weighted average.

Respirable Crystalline Silica
Means quartz, cristobalite, and/or tridymite contained in airborne particles that are determined to be respirable by methods specified in ISO 7708:1995. Potential for exposure to respirable silica can be identified by visible airborne dust from substances including, but not limited to, concrete, sand, glass and rock.