

# **EXHIBIT D**

## **FALL PROTECTION PROGRAM**



# CENTRAL CONTRA COSTA SANITARY DISTRICT

## FALL PROTECTION PROGRAM

SUBMITTED:

David Robbins  
District Safety Committee

RECOMMENDED:

Kimberly J. Greer  
Safety & Risk Management Administrator

APPROVED:

Charles W. Batts  
General Manager

**Table of Contents**

Section	Subject	Page
4.1	PURPOSE	3
4.2	AUTHORITY	3
4.3	SCOPE	3
4.4	DEFINITIONS	3
4.5	GENERAL REQUIREMENTS (POLICY)	5
4.6	RESPONSIBILITIES	5
4.7	TRAINING	7
4.8	FALL PROTECTION PROCEDURES	7

Effective Date: December 2005

**CENTRAL CONTRA COSTA SANITARY DISTRICT****SAFETY DIRECTIVE 4.0****FALL PROTECTION PROGRAM****4.1 PURPOSE**

The purpose of this program is to establish policies and guidelines to be followed whenever an employee is exposed to a fall of over seven and one half (7½) feet. The Fall Protection Program consists of the equipment, training, responsibilities, operations, procedures and practices for protecting employees working at elevated locations.

**4.2 AUTHORITY**

California Code of Regulations, Title 8, General Industry Safety Orders, Section 3210 –3212; Section 3283; Construction Safety Orders, Section 1670.

American National Standards Institute (ANSI), Z359.1-1992, Safety Requirements for Personal Fall Arrest System, Subsystems and Components.

**4.3 SCOPE**

This Program applies to all Central Contra Costa Sanitary District employees, including temporary, contract, seasonal and co-op employees. Contractors, vendors, visitors and their sub-contractors or agents, are also subject to this Directive when visiting or performing work on District property, or District-funded projects.

**4.4. DEFINITIONS**

Anchor Point/Anchorage - A secure point of attachment of lifelines, lanyards or deceleration devices able to support a minimum of 5000 pounds per employee attached. When in doubt, check with engineering to evaluate anchor point strength.

Body Harness - Straps which may be secured about the employee in a manner that will distribute the fall arrest forces over at least the thighs, pelvis, waist, chest and shoulders with means for attaching it to other components of the personal fall arrest system.

Davit Arm/Base Assembly – An engineered and tested base where a portable arm is installed for use as a fixed point to attach fall protection or retrieval equipment.

**Deceleration Device** - Any mechanism with a maximum length of 3.5 feet, such as a rope grab, ripstitch lanyard, tearing or deforming lanyards, self-retracting lifelines, etc. which serves to dissipate a substantial amount of energy during a fall arrest, or otherwise limit the energy imposed on an employee during fall arrest.

**Energy Shock Absorber** - A device that limits shock-load forces on the body.

**Guardrail** - A restraint system consisting of a top rail, a mid-rail, and a toe board. The top rails must be between 42 and 45 inches above the walking/working surface. The mid-rail must be installed between the top rail and the walking/working surface with no opening in the guardrail system greater than 19 inches between rails except where a parapet wall is at least 21 inches high. Top rails must be able to withstand a 200-pound force applied in an outward or downward direction.

**Lanyard** - A flexible line of rope, wire rope or 1 inch nylon strap no longer than six (6) feet, capable of holding a 5,000 pound load, which generally has a connector at each end for connecting the body harness to a deceleration device, lifeline or anchor point.

**Lifeline** - A component consisting of flexible steel cable, for connection to an anchorage at one end to hang vertically (vertical lifeline) or for connection to anchorages at both ends to stretch horizontally (horizontal lifeline) and which serves as a means for connecting other components of a personal fall arresting system to the anchorage.

**Personal Fall Arrest System** - A system used to arrest an employee in a fall from a working level, so that the employee cannot come in contact with a lower level. It consists of an anchorage, connectors, and a body harness. The system may also include a lanyard, deceleration device, lifeline, or suitable combinations of these. Total projected length of all devices must be less than the distance to the next lower surface.

**Personal Fall Restraint System** - A system used to prevent an employee from falling. It consists of an anchorage point, connectors and a body belt or harness.

**Positioning Device System** - A body harness system rigged to allow an employee to be supported on an elevated vertical surface, such as a wall, and work with both hands free while leaning.

**Self-retracting lifeline/winch** - A fall arrest device that allows free travel without slack rope, but locks instantly when a fall begins. A combination winch and self-retracting lifeline may be used for lowering personnel and retracting them during rescue / recovery. A separate block for additional fall protection may be required.

**Toeboard** - A low protective barrier, 3 ½ inches high, that will prevent the fall of materials and equipment to lower levels and provide protection from falls for personnel. Must be able to withstand 50 pounds outward or downward force with no hole, gap, or opening of more than one (1) inch.

**Wall opening** - A gap or void 30 inches or more high and 18 inches or more wide, in a wall or partition, with a drop of more than 4 feet with the opening bottom less than 3 feet above the working surface, through which employees can fall to a lower level.

## **4.5 GENERAL REQUIREMENTS (POLICY)**

It is the policy of the District to establish and maintain effective plans and procedures designed to protect personnel from injury from falls in compliance with applicable federal and state regulations.

It is the District's policy to only permit employees who have received training in fall protection standards and procedures, and the District's Fall Protection Safety Directive to perform tasks and duties that requires that person to be exposed to the hazards of working on elevated surfaces.

## **4.6 RESPONSIBILITIES**

Success in all safety and health matters depends upon the cooperation among management, supervisors and all employees, and also between each employee and their fellow workers. Every District employee has a duty and an obligation to be watchful and aware of hazardous conditions and to make others aware of any hazardous condition that could effect or compromise the safety and health of any other employee, the public, or the environment. A recommendation to stop work in the interest of personnel safety should not be considered lightly, but given proper consideration and review before work can proceed. Only through such cooperation can a safety program be established and preserved in the best interest of all.

Taking aggressive and proactive measures to prevent a fall accident is in the best interest of all employees at the District. The following responsibilities are assigned to ensure that happens.

### **4.6.1 Managers and Supervisors**

It is the responsibility of Managers and Supervisors to:

- A. Require compliance with the Fall Protection Program on any job where an employee may be subject to a fall hazard.
- B. Ensure that all employees under their supervision receive training and know the appropriate procedures for fall protection.
- C. Review job assignments involving elevated work to include a fall hazard analysis on any job requiring scaffolding or other fall safety measures. Ensure that employees use appropriate fall protective devices.
- D. Inspect temporary structures or platforms erected for fall protection to ensure the minimum standards are observed.
- E. Report employee concerns regarding fall hazards to the Safety and Risk Management Division.
- F. Observe contractors performing work on District property and report to Safety and Risk Management Division any clear violation or concerns about worker safety.

- G. Provide safe walking and working surfaces to safely support employees and materials.
- H. Ensure that fall protective systems are inspected and maintained and all effected employees are trained in the proper use of the equipment.
- I. Consult with Safety and Risk Management prior to the purchase of any fall protection equipment.
- J. Conduct tailgate-training sessions on personal fall protective devices.
- K. Be receptive to and consider new advances in fall protection technologies.

#### **4.6.2 Employees**

It is the responsibility of employees to:

- A. Properly use approved fall protection when required.
- B. Regularly inspect, maintain and replace damaged fall protection equipment.
- C. Thoroughly inspect any temporary staging, scaffolding or platform to ensure it is constructed to support all aspects of the work to be performed.
- D. Attend Fall Protection training classes.
- E. Notify supervisors of areas or tasks having fall hazards.
- F. Be aware for new advances in fall protective technologies and make recommendations to their supervisor.

#### **4.6.3 Safety and Risk Management Division**

It is the responsibility of the Safety and Risk Management Division to:

- A. Provide technical assistance to managers/supervisors regarding selection and purchase of fall protection devices.
- B. Provide training for employees regarding the selection and use of fall protection devices.
- C. Maintain records of employees trained in fall protection.
- D. Respond to requests by managers, supervisors or employees to evaluate fall hazards and advise on the proper methods of fall protection.
- E. Be aware and attentive for new advances in fall protective technologies, making suggestions and recommendations to management, as appropriate.

## 4.7 TRAINING

An annual training program will be provided for all employees exposed to fall hazards in the work area. The program will include:

- A description of typical and possible fall hazards in the work area
- Procedures for using fall prevention and protection systems
- Equipment limitations
- The elements encompassed in total fall distance and shock loads
- Prevention, control, and fall arrest systems
- Inspection and storage procedures for the equipment

Workers will be trained to recognize the hazards of falling from elevations and avoid falls from grade level to lower levels through holes or openings in walking working surfaces.

The Safety & Risk Management Division will maintain training sign-up sheets. The names of persons trained will be entered and maintained on the District's Training Database.

## 4.8 FALL PROTECTION PROCEDURES

Personal fall arresting systems are typically the most practical fall protective system however they require conscious effort on the part of the user to be effective. Each individual user must be trained on how to recognize fall hazards and how to use and inspect their personal fall arresting system.

Pre-planning for each fall exposure is a crucial element of the fall protection program. Consideration must be given to anchorage points, tie-off locations, and fall patterns. The anchorage point should be located as close to vertical as possible above the user to prevent the individual from swinging during a fall arrest.

### 4.8.1 Requirements

Approved fall protection is required any time employees are working seven and one half (7½) feet or more above floor level or within 5 feet of the perimeter of a structure with unprotected sides and edges. Approved fall protection is also required any time employees are working over water, above dangerous equipment, near a wall opening, a floor opening, or skylight which the employee could fall through, and the fall would be more than six (6) feet. Any time employees are working on roof surfaces steeper than a 40-degree slope, or other sloped surfaces steeper than 40 degrees, fall protection is required.

Approved fall protection may be achieved through a Personal Fall Arrest System or guardrails.

Guardrails shall be provided on all open sides of unenclosed elevated working locations, such as roof openings, open and glazed sides of landings, balconies, porches, platforms, scaffolding, ramps, or other similar working areas. Where temporary guardrail protection is impractical, employees shall be required to use an approved personal fall protection system. Guardrails shall be provided on any working level more than 30 inches above the floor or ground.



At no time will a horizontal opening such as a manhole be left unattended or unprotected. If openings or manholes are unattended, covers or physical barriers shall be put in place to protect employees and the public from falling through the hole.

Employees working near open manholes for inspection or sampling where the work subjects the employee to a greater risk of falling into the opening will wear a Personal Fall Restraint System. The restraint device will include a harness with a lanyard so attached to a fixed solid object to prevent the employee from being able to fall into the opening. In those situations, a minimum of two employees will be on site for that work. Anchorage points used for fall restraint shall be capable of supporting 4 times the intended load.

Employees are permitted to climb as high as 24 feet (e.g. ladders, walls) without continuous fall protection, but are required to tie off or in some manner, secure their position when they reach their work location by the use of a positioning device. Anchorage points for positioning devices shall be capable of supporting 3000 pounds. When tie offs are not available, ladders should only be used as work platforms for jobs of short duration (e.g. changing a light bulb or repositioning a valve.).

Floor, roof and skylights need to be covered with material strong enough to support the load or protected by railings, toeboards and other hazard warnings. Covers shall be designed to prevent accidental removal or displacement.

#### **4.8.2 Equipment Specifications**

Snaphooks and carabineers shall be self-closing and self-locking and must be so designed to require two consecutive deliberate actions to open or release the device. All fall protection fasteners shall be certified by the manufacturer to withstand a 5000-pound tensile load without breaking or distortion sufficient to release the closure.

A full body harness shall provide support for the body across the lower chest, over the shoulders and around the thighs. The fall arresting attachment shall be located at the mid-back position. The harness must be properly sized, fitted, and adjusted to prevent the employee from falling out of the harness.

Fall protection devices will:

- Limit maximum arresting force on an employee to 1,800 pounds when used with a body harness.
- A body belt used in conjunction with a fall restraint system shall limit the maximum arresting force on an employee to 900 pounds
- Be rigged so that an employee can neither free fall more than 6 feet nor contact any lower level or equipment below the working surface
- Bring an employee to a complete stop and limit maximum deceleration distance an employee travels to 3.5 feet
- Have sufficient strength to withstand twice the potential impact energy of an employee free falling a distance of 6 feet or the free fall distance permitted by the system, whichever is less.

Note: The use of body belts for fall arrest is only permitted as a positioning device when used with another fall restraint system.

### **4.8.3 Equipment Inspection and Maintenance**

The user will inspect anchors, lanyards, and harnesses for signs of damage before each use. Equipment manufacturers instructions will be incorporated into the inspecting and preventive maintenance procedures. Many devices have telltale indicators to alert the user that the equipment had been subjected to a stress load through a fall or other use. If the device indicates such use it shall be removed from service and tagged as unusable.

Fall protection equipment will be inspected and inventoried monthly during the Maintenance Safety Equipment Inspection. Self-retracting lifelines, winches, and combination winches shall be tested and certified as per the manufacturer's recommendation. Maintenance supervisors with the assistance of Safety and Risk Management will ensure blocks, winches, and lifelines are properly maintained and periodically serviced by a certified factory representative.

Any fall protection device that fails inspection, indicates excessive stress load or wear, or fails the factory service inspection shall be removed from service, tagged as unusable, and discarded or destroyed in such a manner so that no employee may deliberately or inadvertently use a defective device.

Fall protection devices shall be secured to an anchorage point capable of supporting at least the potential impact load of an employee's fall or 5,000 pounds for each employee attached, whichever is greater.

Self-retracting lifelines, winches and combination winches shall be tested and certified as per the manufacturer's recommendation.

Equipment that is damaged or in need of maintenance will be tagged as unusable, and will be sent for repair or taken out of service.

Any fall protection equipment subjected to a fall or impact load will be removed from service immediately and sent back to the manufacturer for recertification. If the device is unfit for recertification or not economically feasible, the device shall be discarded.

Fall protection equipment shall be stored in a manner as to prevent damage from environmental factors such as heat, light, moisture, oil or chemicals that would degrade the product integrity.

### **4.8.4 Building Maintenance**

Building maintenance shall be performed to the greatest extent possible from the ground working from ladders or a man-lift device.

The Headquarters Office Building is designed with a ledge for the purpose of window washing. The ledge has provisions for fall protection through engineered structural holes and eyebolts. Any employee or contractor performing work from the ledge is required to use a full body harness with a double lanyard so to provide continuous fall protection while working on the ledge. Ensure at least one lanyard is attached at all times while re-positioning on the ledge.

# **EXHIBIT E**

## **HEARING CONSERVATION PROGRAM**



# CENTRAL CONTRA COSTA SANITARY DISTRICT

## HEARING CONSERVATION PROGRAM

SUBMITTED:

David Robbins  
District Safety Committee

RECOMMENDED:

Kimberly J. Greer  
Safety & Risk Management Administrator

APPROVED:

Charles W. Batts  
General Manager

**TABLE OF CONTENTS**

Section	Subject	Page
8.1	PURPOSE	3
8.2	AUTHORITY	3
8.3	SCOPE	3
8.4	DEFINITIONS	3
8.5	GENERAL REQUIREMENTS (POLICY)	4
8.6	RESPONSIBILITIES	5
8.7	TRAINING	7
8.8	HEARING CONSERVATION PROCEDURES	7
APPENDIX A		

Effective Date: December 2005

**CENTRAL CONTRA COSTA SANITARY DISTRICT**  
**SAFETY DIRECTIVE 8.0**  
**HEARING CONSERVATION PROGRAM**

**8.1 PURPOSE**

The purpose of this directive is to establish policies controlling excessive noise levels and to establish the policy, procedures, and minimum requirements for the safety and health of all employees regarding the hearing protection. A Hearing Conservation Program consists of monitoring and posting areas of high noise and providing hearing protection, audiometric examination and training for all employees who routinely work in such areas. The document further details individual responsibilities regarding the procurement, training and enforcement of the use of hearing protection.

**8.2 AUTHORITY**

California Code of Regulations, Title 8, General Industry Safety Orders, Sections 5095 – 5100 including Appendices A, B and F.

**8.3 SCOPE**

This Program applies to all Central Contra Costa Sanitary District employees, including temporary, contract, seasonal, and co-op employees. Contractors, vendors, visitors and their sub-contractors or agents, are also subject to this Directive when visiting or performing work on District property, or District-funded projects.

**8.4 DEFINITIONS**

Action Level – An 8-hour time-weighted average of 85 decibels, the noise level when Hearing Conservation must be initiated.

Administrative Controls - Methods of controlling employee exposures to noise by job rotation, work assignment, or time periods away from the noise.

Attenuate – A term that implies to a reduction in force, effect and measured value with respect to the sound pressure level.

Audiogram - A chart, graph, or table resulting from an audiometric test showing an individual's hearing threshold levels as it relates to the frequency of the sound.

dBA (decibels-A-weighted) - Sound level in decibels read on the A scale of a sound level meter.

Dosimetry - A time weighted average measurement of an employee's exposure to noise.

Engineering Controls - Methods of controlling employee exposure to noise by modifying the source or reducing the quantity of noise released into the work environment.

Impulse or Impact Noise - A sharp burst of sound less than one half second in duration that does not repeat more than once per second.

Noise Dose - A percent value of an employee's allowable noise dose over the entire work shift.

Permissible Exposure Level (PEL) - An exposure limit published and enforced by OSHA as a legal limit.

Sound Level Meter - An instrument used to measure sound pressure variations in air consisting of a microphone, an amplifier, a set of frequency response networks, and an indicating meter.

Standard Threshold Shift (STS) - An average shift (or loss) of hearing perception measured as 10 dB or more in either ear at the 2,000-, 3,000-, and 4,000-Hz frequencies.

## **8.5 GENERAL REQUIREMENTS (POLICY)**

It is the policy of the District to establish and maintain effective guidelines and procedures designed to protect personnel from injury. The effective application of hearing conservation will reduce or eliminate employee exposure to excessive noise through the use of engineering and administrative controls.

Engineering controls such as enclosures and mechanical sound absorbing devices shall be the primary methods used to eliminate or minimize hazardous exposure to noise in the workplace. Administrative controls such as minimizing exposure, following standard operating procedures, lockout, and manufacturers recommended practices will provide a second level of protection. When such controls are not practical, personal hearing protective equipment shall be provided and used to reduce or eliminate personnel exposure to high noise hazards and lessen the likelihood of occupational hearing loss.

This directive provides the means for the early detection, monitoring, and control of employee exposure to noise levels that equals or exceeds a Time Weighted Average (TWA) of 85 dBA for eight consecutive hours, referred to as the Action Level. The Time Weighted Average may be calculated by the combination of several different noise exposures throughout the day. Any employee who is exposed to noise or with a probability of exposure to noise at or above the Action Level will participate in the Hearing Conservation Program.

In areas where employee exposure to noise levels exceeds a TWA of 90 dBA for eight consecutive hours (the Permissible Exposure Limit or PEL), the noise exposure shall be

reduced to the PEL by engineering controls. Where that is not feasible, the application of administrative controls in combination with engineering controls will be used. If such controls fail to reduce the sound levels to below the PEL, personal hearing protective equipment shall be provided and used to reduce the effective noise exposure to below the permissible levels.

Exposure to impulse or impact noise shall not exceed a peak sound pressure level of 140 dBA.

## **8.6 RESPONSIBILITIES**

### **8.6.1 Managers and Supervisors**

It is the responsibility of Managers and Supervisors to:

- A. Ensure that employees and visitors are provided with appropriate hearing protective devices.
- B. Ensure employees comply with the Hearing Conservation Program.
- C. Rotate work assignments if possible to limit exposure to posted high noise areas.
- D. Ensure that high noise areas are posted as designated by Safety and Risk Management Division.
- E. Ensure employees are trained in the selection, use, inspection, storage, cleaning, and limitations of specific hearing protection devices.
- F. Monitor the use of hearing protection through spot inspections and routine observations.
- G. Ensure replacement hearing protection equipment is available when needed.
- H. Maintain the required noise control measures (engineering, administrative, and personal hearing protective equipment).
- I. Identify new potential noise hazards to the Safety and Risk Management Division for evaluation.
- J. Consider equipment noise as a factor when specifying new equipment purchases.
- K. Report employee concerns regarding noise to the Safety and Risk Management Division.
- L. Conduct tailgate sessions on the hearing conservation program.
- M. Notify employees who have sustained a standard threshold shift, in writing (Letter of Administrative Control) that the employee is now required to use hearing protection when working in any area where the exposure to noise is over 85 dBA.
- N. Be receptive to and consider new advances in noise reduction technologies and personal hearing conservation devices.



**8.6.2 Employees**

It is the responsibility of employees to:

- A. Properly use hearing protective equipment. Avoid any unnecessary exposure to high noise areas without the proper hearing protection.
- B. Always wear hearing protection devices within the limitations of the manufacturers recommendation and only after proper training or instruction.
- C. Assist with hazard assessments to identify specific tasks that require hearing protection.
- D. Attend employee training in the selection, use, inspection, storage, cleaning, and limitations of specific hearing conservation equipment or devices.
- E. Regularly inspect and if necessary, replace hearing protective equipment when the device is no longer effective or serviceable.
- F. Report to his/her supervisor any new hazards that would require the use of hearing protective equipment.
- G. If informed that your job description or work assignment requires participation in the Hearing Conservation Program, comply with all requirements of the program.
- G. Be receptive to and consider new advances in noise reduction technologies and personal hearing conservation devices, and make recommendations to the appropriate supervisor.
- H. Report suspected hearing loss to their supervisor.

**8.6.3 Safety and Risk Management Division**

It is the responsibility of the Safety and Risk Management Division to:

- A. Provide Managers and Supervisors guidance on the laws and regulations governing the requirements for hearing conservation. Conduct the necessary research to determine those requirements and the standards that apply.
- B. Ensure the manufacturers of the hearing protection products selected meet or exceed the applicable standards and provides the best level of employee protection with regards to use, fit, and function.
- C. Coordinate or perform noise hazard assessments through sound level testing and monitoring to specify hearing protection for specific tasks or work areas.
- D. Where appropriate, assist with employee training in the selection, use, inspection, storage, cleaning, and limitations of specific hearing protection equipment.

- E. Monitor the use of hearing conservation devices through spot inspections and routine observations.
- F. Be keenly aware of any new hazards that would require the use of hearing protection.
- G. Coordinate employee audiometric testing and comparative analysis of the test data. Inform supervisors of employees with hearing degradation.
- H. Notify an employee, in writing (Letter of Administrative Control) when the employee's annual audiometric exam reveals a standard threshold shift in their hearing. Review the audiometric test results with the employee; provide counseling on the damaging effects of noise and instruction regarding the proper fit and mandatory use of hearing protection devices.
- I. Be aware and attentive for new advances in noise reduction technologies and personal hearing conservation devices and make suggestions and recommendations to management, as applicable.

## **8.7 TRAINING**

An annual training program shall be provided for employees who are exposed to noise at or above an 8-hour time-weighted average of 85 decibels. A list of job classifications where the employee may be exposed to that noise level is provided in Appendix A. Training subjects will include:

- A. Information on noise-induced hearing loss
- B. Hearing protective devices, the advantages, disadvantages, and attenuation characteristics of various types
- C. Instructions on selection, fitting, use, and care of hearing protectors
- D. Audiograms, and audiometric testing procedures
- E. The concept of time-weighted average as it applies to measuring sound
- F. The short-term and long-term effects of noise exposure on hearing loss
- G. Techniques to reduce exposure to damaging sound pressure.

Tailgate sessions shall be held regularly regarding the use, and selection of hearing protective equipment.

## **8.8 HEARING CONSERVATION PROCEDURES**

Exposure to high noise levels can cause hearing loss or impairment. There is no cure for noise-induced hearing loss, so the prevention of excessive noise exposure is the only way to avoid hearing damage. Specifically designed protection is required, depending on the type of noise encountered and the auditory condition of the employee.

### **8.8.1 Audiometric Testing**

A baseline audiogram shall be taken for each new employee who is expected in the course of their employment to be exposed to noise levels that would require hearing protection. A list of the job classifications that would apply is provided in Appendix A.

An annual audiogram shall be given to each employee who is exposed to a Time Weighted Average (TWA) of 85 dBA or above. By Cal-OSHA regulation, a TWA of 85 dBA is the action level that initiates the Hearing Conservation Program, including audiometric testing.

The employee will be informed to avoid loud noise (more than 80 dBA) in the workplace and non-occupational noise for 14 hours prior to the audiometric test.

If a comparison of the annual audiogram to the baseline audiogram indicates a standard threshold shift, the employee shall be notified in writing of their audiometric test results, counseled and instructed regarding the proper use of hearing protection devices. A sudden shift in the hearing threshold will be confirmed by an audiogram retest to be performed within 30 days. If the retest data results in normal trended data, the retest shall be used as the annual test data.

Audiograms and records of equipment calibration shall be maintained for the duration of affected employee's employment and shall include the following information:

- A. Employee's name and Job Classification
- B. Date and location of the audiometric test
- C. Name of person who performed and evaluated the test
- D. Latest calibration data for the audiometer
- E. Most recent noise exposure assessment by job classification
- F. Interpretation of audiometric test and recommendations

Employees are entitled to view the results of their own audiometric test, compare results with earlier testing for trending purposes and have the results explained. An employee who has sustained a standard threshold shift must wear hearing protection when working in any area where the exposure to noise is over 85dBA.

### **8.8.2 Noise Level Monitoring and Controls**

Sound level testing and documentation shall be coordinated and performed by the Safety and Risk Management Division. Employees may be asked to wear a sound level recording device to measure the representative noise exposure during a normal shift. Data collected during that survey is used to estimate the time-weighted average noise exposure for that job classification.

Noise level measurements shall be made with a calibrated sound level meter. The instrument will meet or exceed the requirements of the American National Standards Institute's (ANSI) publication S1.4-1983. The accuracy of the sound level meter shall be verified through the use of a sound level calibrator prior to taking any sound level measurements to be used for setting employee exposure parameters or for documentation purposes.

In work areas where the noise level exceeds 90 dBA for an 8-hour shift, signs shall be posted in a prominent location. The sign will state "Caution - Hearing Protection Required." The intent of the sign is to caution employees that while working in that area they are exposed to noise in excess of 90 dBA. Except under special circumstances where the employee has been informed differently, short-term exposure of 15 minutes or less would not require hearing protection.

In work areas where the operation of specific equipment would cause the noise levels to exceed 105 dBA, danger signs shall be posted adjacent to the equipment. If the equipment is installed inside a closed room, the sign shall be posted outside the room. Examples include engine rooms and some pump rooms. The sign shall state "Danger - Hearing Protection Required." The intent of the sign is to alert an employee that while the equipment is operating, working in that area exposes them to noise capable of causing hearing damage and therefore, appropriate hearing protection is mandatory. The sign may include amplifying instructions as to the type of hearing protection required.

Hearing protection shall be provided near entrances to areas where the noise level exceeds 90 dbA.

Sound level testing or noise monitoring shall be performed for any of the following reasons:

- A. Initial evaluation of suspected high noise areas to determine where noise levels may be a problem.
- B. Respond to requests by supervisors and managers to survey any suspected high noise areas.
- C. Conduct noise level surveys of new equipment, facilities, and work procedures.
- D. Perform noise level surveys when notified by supervisors, design engineers and/or project managers of changes in equipment and operation that affect noise levels.

Perform the following steps if the noise monitoring survey indicates the noise exceeds the permissible exposure level (PEL):

- A. Post areas where noise levels exceed the PEL of 90 dbA as "Caution – Hearing Protection Required."

- B. Verify the designed and engineered noise reduction controls are in place. Establish new engineering controls if feasible and implement new administrative controls if possible.
- C. Maintain records on noise measurements made within the District for Cal-OSHA compliance.
- D. Evaluate success of engineering and administrative controls for noise reduction purposes.

Records of noise level monitoring shall be maintained in the Safety and Risk Management Office for a minimum of two years and shall include the following information:

- A. Employee's name or Job Classification if applicable
- B. Work area surveyed
- C. Date noise monitoring was performed
- D. Equipment operating in the area affecting the noise level
- E. Surveyor and type of Sound Level instrument
- F. Instrument calibration data/date
- G. Noise levels, exposure duration, employee's daily noise and/or other applicable evaluation of the employee's exposure to noise

### **8.8.3 Hearing Protective Equipment**

Hearing protectors must attenuate employee noise exposure to an 8-hour time-weighted average of 90 dBA or less. For an employee who has been diagnosed with a hearing standard threshold shift, the hearing protectors must attenuate the noise exposure to an 8-hour time-weighted average of 85 dBA or less.

It is important to know the Noise Reduction Rating (NRR) on hearing protective earplugs and earmuffs. All hearing protective equipment available through the Material Services Building will have a minimum manufacturer's NRR of 20 dBA. However, that level of noise attenuation is only realized if the devices are worn properly.

Most earplugs issued at the District are disposable, to be used one time and then thrown away. The non-disposable type should be cleaned frequently for proper protection. Plain cotton is ineffective as protection against hazardous noise.

Earmuffs need to make a perfect seal around the ear to be effective. Glasses, long sideburns, long hair, and facial movements, such as chewing, can reduce the protection.

## APPENDIX A

<u>Collection System Operations Division</u>	<u>Plant Operations Division</u>
Maintenance Crew Leaders	Plant Operator I/II/III
Construction Equipment Operators	Mechanical Supervisor
Maintenance Crew Members I/II	Maintenance Crew Leader
Vehicle & Equipment Mechanic	Maintenance Technician I/II/III
Vehicle & Equipment Service Worker	Instrument Technicians
Pumping Station Operator I/II/III	Electrical Technicians
	Machinist
	Utility Workers