PHOENIX FIRE DEPARTMENT
Volume 1 – Management Procedures

HEARING CONSERVATION PROGRAM

MP 110.16	**Date Revised:** 05/22
This policy is for internal use only and does not expand an employee's legal duty or civil liability in any way. This policy should not be construed as creating duty to act or a higher duty of care, with respect to third party civil claims against employees or the Phoenix Fire Department (PFD). A violation of this policy, if proven, can only form the basis of a complaint by the PFD for non-judicial administrative action in accordance with the laws governing employee discipline.	

PURPOSE

The Safety and Prevention Section is responsible for the oversight and management of the Phoenix Fire Department's Hearing Conservation Program. In compliance with the OSHA Hearing Conservation Standard 29 CFR 1910.95, the Phoenix Fire Department has established a standard minimum requirement for the protection of the hearing of Fire Department members, and effectively manage or eliminate hazardous noise exposures associated with their work environment.

DEFINITIONS

- Action level: An 8-hour time-weighted average of 85 decibels measured on the A-scale, slow response, or equivalently, a dose of fifty percent.
- Attenuation: The estimated sound protection provided by hearing protective devices as worn in "real-world" environments.
- Audiometric testing: Test used to determine a subject's hearing ability with the help of an audiometer.
- Audiometer: Machine used to evaluate hearing loss.
- Audiogram: A standard table or diagram used to display a representation of a person's hearing loss.
- Decibel (dBA): A unit of measure used to express the intensity of a sound wave.
- Time-Weighted Average: Noise exposure measured over a conventional 8-hour workday and a 40-hour workweek, to which it is believed that nearly all workers may be repeatedly exposed, day after day, for a working lifetime without adverse effect.
- 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.

RESPONSIBILITIES

Safety and Prevention Section

- Shall ensure all elements of this written program are in compliance with OSHA standard 29 CFR 1910.95 and shall maintain, update, and annually review this written program.
- Shall perform or coordinate noise exposure monitoring as requested by management.

- Shall calibrate instruments used to measure employee noise exposure to ensure measurement accuracy.
- Shall evaluate hearing protector attenuation for the specific noise environments in which the protector will be used.
- Shall develop policies regulating the use of hearing protection.
- Shall coordinate annual audiometric examinations and audiologist referrals, as required, for employees exposed to 85 dBA or above.
- Shall coordinate retesting of annual audiometric examinations which indicate an STS in either ear of employees participating in the HCP.
- Shall conduct annual instruction in the use and care of all hearing protectors provided to employees.
- Shall train those employees identified on:
    - The effects of noise on hearing
    - The purpose of hearing protectors, the advantages, disadvantages, and attenuation of various types, and instructions on selection, fitting, use, and care; and
    - The purpose of audiometric testing, and an explanation of the test procedures.
- Shall maintain all training records associated with the Hearing Conservation Program.
- Shall Identify work areas that require the use of hearing protection, and post in those identified areas with the Hearing Conservation Standard and "Hazardous Noise Area" signage.

Management

- Shall comply with all elements of this written program
- Shall ensure that employees comply with all elements of this written program
- Shall ensure all employees attend training as required by this written program and in compliance with 29 CFR 1910.95.
- Shall make hearing protectors available to all employees exposed to an 8 hour time-weighted average of 85 decibels or greater at no cost to the employees.

Supervisor

- Shall ensure employees comply with this written program.
- Shall ensure workplace specific training is provided when employees are assigned to the facility, precinct, or work site, when applicable.
- Shall make hearing protectors available to all employees exposed to an 8 hour time-weighted average of 85 decibels or greater at no cost to the employees.

Employees

- Shall attend annual training on the use and care of hearing protection as directed.
- Shall wear and maintain hearing protection in all areas and during all activities requiring its use.
- Shall participate in annual audiometric testing or complete the Audiometric hearing Test Declination Statement each calendar year.
- Shall report to their supervisor any hearing protection or noise related problems.

- Shall report to their supervisor any changing conditions which may impact personnel noise exposure.

HEARING CONSERVATION

Scope of Hearing Conservation Program

- The permissible exposure level for the Fire Department's Hearing Conservation Program (HCP) is 90 decibels A-weighted (dBA) as an 8-hour time-weighted average (TWA). A 5 dB exchange rate, or doubling rate is also used to assess the effects of employee noise exposure. 8-hour TWA noise levels at or above 85 dBA constitute an Action Level, which require inclusion in the Hearing Conservation Program.
- Members who have not been exposed to noise levels equal to or exceeding 85 dBA (as an 8-hour TWA) for an entire year following their last annual audiogram may be removed from the program.
- When members are exposed to noise levels exceeding 85 dBA as a TWA, feasible administrative or engineering controls shall be utilized. If such controls fail to reduce noise levels below a TWA of 85 dBA, personal protective equipment (Hearing Protection…see section 4.0) shall be provided and used to reduce noise levels below 85 dBA.

Identification of Exposure

- The Health and Safety Section has established a list of work tasks that generate noise levels at or above 85 dBA.
- This list includes:

Sound Level (dB)	Common Sounds
85	City Traffic (ie 962, car fires)
90	Electric Fan
93	PASS alarm
94	Hydraulic spreader for extrication
100	Circular saw, gas-powered fan, pneumatic hammer
105	Helicopter rotor blades, sawing concrete, sawing drywall, pneumatic chisel to open vehicle
110	Chain saw, air horn
115	Typical maximum volume for earbuds
120	**Threshold for pain**
120	Fire engine / Ambulance siren
125	**Pain initiates**
130	Jackhammer, pneumatic drill

Monitoring

- The Safety and Prevention Section sampling strategy is designed to monitor noise exposure levels in a manner that will accurately identify members who are exposed to noise at or above 85 dBA averaged over 8 working hours, or an 8-hour TWA.
- The exposure measurement must include all continuous, intermittent, and impulsive noise within an 80 dB – 140 dB range and must be representative (taken during a typical work situation).
- Where circumstances such as high worker mobility, significant variations in sound level, or a significant component of impulse noise make area monitoring generally inappropriate, the member shall use representative personal sampling to comply with the monitoring requirements of this written plan unless it is possible to show that area sampling produces equivalent results.
- Instruments used to measure employee noise exposure shall be calibrated to ensure measurement accuracy.
- Monitoring should be repeated when there are changes in equipment, production, process, or noise controls.
- Members are entitled to observe the testing and monitoring procedures and must receive notification of the results of the tests in their workplace.

Hearing Protection

- Hearing protectors must be made available to all members exposed to 8-hour TWA noise levels of 85 dBA or above.
- Types of hearing protectors selected for member protection must attenuate the noise to levels less than 85 dBA.
- The wearing of hearing protection devices by members will be mandatory under the following conditions:
    - Members who are exposed to average noise levels at an 8-hour time weighted average of 85 dBA or above.
    - Members who have not had a baseline audiogram and are exposed to 8-hour average noise levels of 85 dBA or above.
    - Members who have experienced a standard threshold shift (STS) of 10 dB or greater, averaged from the 2000, 3000, & 4000 hertz (Hz) frequencies, when the 2, 3, 4K average is above 25 dB from baseline.

TRAINING

- Members exposed to an 8-hour time weighted average noise of 85 dBA and above must be trained annually in the effects of noise; the purpose of hearing protectors; the advantages and disadvantages of the various types of hearing protectors; the selection, fitting, and care of protectors; the purpose of audiometric testing and an explanation of the test procedures.

AUDIOMETRIC TESTING

- The Safety and Prevention Section is responsible for arranging annual audiometric testing of all members exposed to 8-hour time weighted average noise of 85 dBA or above.
    - Audiometric tests shall be performed by a licenses or certified audiologist, otolaryngologist, or other physician, or by a technician who is certified by the Council of Accreditation in Occupational Hearing Conservation, or who has satisfactorily demonstrated competence in administering audiometric examinations, obtaining valid audiograms, and properly using, maintaining and checking calibration and proper functioning of the audiometers being used.
- Members exposed to average noise levels of 85 dBA or above must have a baseline audiometric exam within 30 working days of the exposure.
- Members shall be reminded that they are not to be exposed to loud levels of noise for at least 14 hours prior to the audiometric exam. If the member believes that exposure to noise is unavoidable for this 14-hour period, he/she shall be instructed to wear hearing protection while exposed to noise.
- Declination Option- Applicable members enrolled in the program must complete an annual audiometric test. Members do have the option to decline participation in the audiometric test. Those who do not wish to complete an audiometric test must complete an "Audiometric hearing Test Declination Statement" each calendar year that a test is not performed.

Standard Threshold Shift— Follow up Procedures	*If Employee has a STS on initial test, the following procedure will be utilized.*

- A standard threshold shift (STS) is 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.
- Members with audiometric results that indicate an STS must be retested within 30 days to confirm that a standard threshold shift exists.
- If the second audiometric exam, performed within 30 days of the first test, confirms a standard threshold shift, the affected member must be notified in writing within 21 days of this determination, and scheduled to see an audiologist.
- Unless a physician determines that the standard threshold shift is not work related or aggravated by occupational noise exposure, the following steps must be taken:
    - Members not wearing hearing protectors shall be fitted with hearing protectors, trained in their use and care, and required to use them.
    - Members already using hearing protectors shall be refitted and re-trained in the use of hearing protectors and provided with hearing protectors offering greater attenuation, if necessary.
    - The member shall be referred for a clinical audiological evaluation or an otological examination, as appropriate, if additional testing is necessary or if the member suspects that a medical pathology of the ear is caused or aggravated by the wearing of hearing protectors.

- The member will be informed of the need for an otological examination if a medical pathology of the ear, unrelated to the use of hearing protectors, is suspected.
- If subsequent audiometric testing of a member, whose noise exposure is less than an 8-hour TWA of 85 dBA, indicates that a standard threshold shift is not persistent, the employer:
  - Shall inform the member of the new audiometric interpretation; and
  - May discontinue the required use of hearing protectors for that member.

RECORD KEEPING

- Noise exposure measurement records shall be retained for two years.
- Records of audiometric test results must be maintained for the duration of the affected member's employment plus 30 years.
  - Audiometric test records must include the name and job classification of the member the date of the test, the name of the examiner, the date of acoustic calibration of the testing equipment, background sound pressure levels in the audiometric test room, and the member's most recent noise exposure measurements.

REFERENCES

MP 110.16 Hearing Conservation Program

OSHA 29 CFR 1910.95 Hearing Conservation Standard