

SOUTHERN UTAH UNIVERSITY'S WRITTEN HEARING CONSERVATION PROGRAM

December 2017

1.0 PURPOSE:

The objective of the Southern Utah University hearing conservation program is to minimize occupational hearing loss by providing hearing protection, training, and annual hearing tests to all persons working in areas or with equipment that have noise levels equal to or exceeding an eight-hour time-weighted average (TWA) sound limit of 85 dBA (the action level).

Engineering controls are the first line of defense at Southern Utah University; however, engineering controls are not always feasible for some of our operations, or do not always completely control the identified hazards. In these situations, hearing protection and other protective equipment must be used. The work activities requiring hearing protection use at Southern Utah University are outlined in Appendix A of this program.

2.0 DEFINITIONS

Action Level: An 8-hour time-weighted average of 85 decibels A-weighted (85 dbA 8-hr TWA) established by OSHA.

Administrative Controls: Methods that limit an employee's exposure time to noise. This includes assigning the employee to less noisy areas in the workplace for a certain length of time so the employee shall not exceed the action level.

Audiogram Testing: Exams that measure the sensitivity of a person's hearing threshold in decibels as a function of frequency.

Audiometer: An instrument for measuring the threshold or sensitivity of hearing.

Audiologist: A professional specializing in the study and rehabilitation of hearing, who is certified by the American Speech-Language-Hearing Association or licensed by a state board of examiners.

Baseline Audiogram: An audiogram obtained after 14 hours of quiet. The audiogram against which future audiograms are compared.

Continuous Noise: Noise levels that vary with intervals of one second or less.

Decibels (dB): A measure of the sound level (loudness). The decibel scale is a logarithmic scale; as an example, a 90 dB noise is ten times louder than a 80 dB noise.

Decibels, A-Weighted (dBA): The A weighted is the scale used for most occupational noise measurements. The A weighting approximates the range of human hearing by reducing the effects of lower and higher frequency noises with respect to the medium frequencies.

Engineering Controls: May include purchasing quieter equipment using barriers, damping, isolating, muffling, installing noise adsorption material, mechanical isolation, variations in force, pressure or driving speed or any combination of methods to decrease noise levels.

Frequency: A sound's pitch measured in hertz (hz); high pitches are high frequency sounds.

Hearing Conservation Program (HCP): Program established when employees are exposed to noise exceeding the Action Level. Program must include noise surveys, audiometric testing, hearing protectors, training, and recordkeeping requirements.

Hearing Protection Devices (HPD's): Personal protective equipment that is designed to be worn in the ear canal or over the ear to reduce the sound level reaching the ear drum. Examples include ear muffs or plugs.

Hearing Threshold Level (HTL): The lowest threshold that the employee can hear the test tone during an audiometric test. The HTL's are recorded on the employee's audiogram.

Impulse/Impact Noise: Noise that is a sharp burst of sound, generally less than one-half second in duration, that does not repeat itself more than once per second.

Noise Dosimeter: An instrument worn by an individual that integrates the sound level exposure over a period of time.

Noise Reduction Rating (NRR): The Noise Reduction Rating of hearing protection devices (HPD) indicates the theoretical amount of reduction of noise levels that can be achieved if the HPD is worn correctly. This rating is shown on the HPD packaging.

Permissible Exposure Limit (PEL): 90 dBA 8-hr TWA.

Representative Exposure: Measurements of an employee's noise dose or 8-hour time weighted average sound level that is representative of the exposures of other employees in the workplace.

Sound Level Meter : An instrument used for the measurement of noise in sound level surveys.

Standard Threshold Shift (STS): An average shift from the baseline measurement in either ear of 10 dB or more at 2000, 3000 and 4000 Hz. These frequencies are the most important frequencies in communication and the most sensitive to damage by industrial noise exposure.

Threshold of Pain: A noise level of 120 dB causes pain.

3.0 RESPONSIBILITIES:

Program Administrator

The Program Administrator is responsible for administering the hearing conservation program. Duties of the program administrator include:

1. Issuing, administering, and evaluating this program and making sure that the program satisfies the requirements of all applicable federal, state or local hearing protection requirements.
2. Assist Supervisors with identifying work areas, processes or tasks that require workers to wear hearing protection, and evaluating hazards.
3. Assisting supervisors in the selection of appropriate hearing protection for use in their departments. Including the use of engineering and administrative controls to limit employee exposure.
4. Post signs and warnings in all high noise areas.
5. Conduct noise-monitoring surveys annually or when new equipment is added.
6. Coordinating annual hearing test for all employees.
7. Conduct hearing conservation training for all new employees.
8. Conduct annual hearing conservation training for all employees.
9. Maintaining the training, noise survey, and hearing test records of all affected employees under this program.
10. Ensuring proper storage and maintenance of hearing protection equipment.

The Program Administrator for Southern Utah University is the Director of Safety and Risk Management (435) 586-7901.

Supervisors

Supervisors are responsible for ensuring that the hearing conservation program is implemented in their particular areas. In addition to being knowledgeable about the program requirements for their own protection, supervisors must also ensure that the program is understood and followed by the employees under their charge. Duties of the supervisor include:

1. Identify work areas, processes or tasks that require workers to wear hearing protection, and evaluating hazards.
2. Knowing the hazards in their area that require hearing protection and notify all employees of the hazards .
3. Provide adequate hearing protection for employees.
4. Knowing the types of hearing protection that need to be used.
5. Ensuring that employees under their supervision (including new hires) have received appropriate training and annual hearing test.
6. Ensuring the availability of appropriate hearing protection and accessories.
7. Purchase appropriate hearing protection equipment.
8. Enforcing the proper use of hearing protection when necessary.
9. Ensuring that hearing protection is properly cleaned, maintained, and stored according to this plan.
10. Ensuring that hearing protection fits well and does not cause discomfort.
11. Continually monitor work areas and operations to identify occupational noise hazards.

12. Coordinating with the Program Administrator on how to address occupational noise hazards or other concerns regarding the program.

Employees and Students

Each employee or student has the responsibility to wear his or her hearing protection when and where required and in the manner in which they were trained. Employees and students must also:

1. Participate in annual audiograms and annual training.
2. Inspect and maintain hearing protection devices and seek replacement or repair of hearing protection devices when necessary.
3. Inform their supervisor or the Program Administrator of any occupational noise hazards that they feel are not adequately addressed in the workplace and of any other concerns that they have regarding the program.

4.0 PROGRAM ACTIVITIES:

Noise Monitoring

1. Employee and/or area monitoring shall be performed when exposure is suspect of being at or above the action level of an 8-hour TWA of 85 dBA. Factors which suggest that noise exposures in the workplace may be at or above 85 dBA include employee complaints about the loudness of noise, indications that employees are losing their hearing, or noisy conditions which make normal conversation difficult.
2. All continuous, intermittent and impulsive/impact sound levels from 80 dB to 130 dB shall be incorporated into the noise measurement survey.
 - a. *Note:* Exposures to impulsive/impact noise shall not exceed 140 dB peak sound pressure level.

3. The degree of noise reduction required shall be determined by comparing the measured levels with OSHA's Permissible Noise Exposure Limits as presented in Table 1.
 - a. According to Table 1, hearing protection is required for noise levels at or above the designated exposure limits regardless of the 8 hour TWA monitoring results. For example, if an employee is exposed to 105 dBA for an hour or more, hearing protection is required.

| Noise Level | Exposure Limit |
|-------------|----------------|
| 90 dBA | 8.0 hours |
| 92 dBA | 6.0 hours |
| 95 dBA | 4.0 hours |
| 97 dBA | 3.0 hours |
| 100 dbA | 2.0 hours |
| 102 dBA | 1.5 hours |
| 105 dBA | 1.0 hours |
| 110 dBA | 30 minutes |
| 115 dBA | 15 minutes |

Table 1. OSHA's Permissible Noise Exposure Limits.

4. Monitoring shall be repeated whenever a change in processes,

production, equipment or controls increases noise exposure to the extent that additional employees may be exposed at or above the action level or the attenuation provided by hearing protection devices being used by employees may be rendered inadequate. The responsible supervisor must inform the Program Administrator when these types of changes are instituted.

5. Affected employees or their representatives shall be provided an opportunity to observe any noise measurements.
6. Employees shall be removed from the Hearing Conservation Program once noise levels have been measured and determined to be at acceptable levels.
7. Monitoring for noise exposure levels will be conducted by the Program Administrator. It is the responsibility of the individual departments to notify the Program Administrator when there is a possible need for monitoring. Monitoring will be performed with the use of sound level meters and personal dosimeters at the discretion of the Program Administrator.
8. See Appendix C for monitoring results.

Control Measures

When employees are subjected to sound exceeding those levels listed in Table 1, feasible engineering and administrative controls shall be utilized as the first step in noise control. If these controls fail to reduce sound to acceptable levels, hearing protection devices shall be used. During the implementation of administrative and/or engineering controls, affected employees shall be provided with hearing protection devices and trained in accordance with this program.

1. Administrative Controls - Administrative controls normally involve a change in work schedules or operations, which reduce noise exposures. Examples include operating a noisy machine on the second or third shift when fewer people are exposed or shifting an employee to a less noisy job once a hazardous daily noise dose has been reached.
2. Engineering Controls - Engineering controls shall be used when any modification or replacement of equipment, or related physical change at the noise source or along the transmission path can be altered which reduces the noise level to the employee's ear. Typical engineering controls may involve the following:
 - a. Reducing noise at the source;
 - b. Interrupting the noise path;
 - c. Reducing reverberation;
 - d. Reducing structure-borne vibration;
 - e. Employee/equipment isolation; and
 - f. Equipment/process substitution.
3. Hearing Protection Devices
 - a. Hearing protection devices shall be made available to all employees exposed to an 8-hour TWA of 85 dB or greater at no cost to the employees and shall be replaced as necessary.
 - b. Hearing protection devices shall be worn by employees required to wear personal protective equipment and by any employee who is exposed to an 8-hour TWA of

- 85 dB or greater, and who has not yet had a baseline audiogram or has experienced a standard threshold shift.
- c. Employees shall be given the opportunity to select their hearing protection from a variety of suitable hearing protection devices.
 - d. Management, supervisors, and employees shall properly wear the prescribed hearing protection while working or traveling through any area that is designated as a high noise area.
 - e. Personal stereo headsets and audio earbuds are not approved by OSHA for hearing protection and therefore cannot be used during work activities that require mandatory hearing protection covered by this Program. See Appendix A for a list of work activities that require mandatory hearing protection.
 - f. Signage is required in areas that necessitate hearing protection. It is the responsibility of the Program Administrator to provide signage to the appropriate areas.
 - g. Preformed earplugs and earmuffs should be washed periodically and stored in a clean area. Foam inserts should be discarded after each use. Hands should be washed before handling preformed earplugs and foam inserts to prevent contaminants from being placed in the ear.
 - h. The Program Administrator will keep a log of the areas or job tasks designated as requiring hearing protection, as well as the personnel affected by this Program (see Appendix A).
 - i. Some types of hearing protection include (See Appendix B):
 - i. Single-use earplugs are made of waxed cotton, foam, silicone rubber or fiberglass wool. They are self-forming and, when properly inserted, they work as well as most molded earplugs.
 - ii. Pre-formed or molded earplugs must be individually fitted by a professional and can be disposable or reusable. Reusable plugs should be cleaned after each use.
 - iii. Earmuffs require a perfect seal around the ear. Glasses, facial hair, long hair or facial movements such as chewing may reduce the protective value of earmuffs.

Employee Training

1. Affected employees will be required to attend training concerning the proper usage and wearing of hearing protection. The training will be conducted by the Program Administrator, or a designated representative, within a month of hire and annually thereafter.
 - a. Training shall consist of the following components:
 - i. how noise affects hearing and hearing loss;
 - ii. review of the OSHA hearing protection standard;
 - iii. explanation of audiometric testing;
 - iv. rules and procedures;
 - v. locations within company property where hearing protection is required; and
 - vi. how to use and care for hearing protectors.

- b. Training records will be maintained by the Program Administrator.

Audiograms/Hearing Tests

1. Employees subject to the Hearing Conservation Program who have time-weighted average (TWA) noise exposures of 85 dBA or greater for an eight (8) hour work shift will be required to have both a baseline and annual audiogram. The audiograms will be provided by Southern Utah University and conducted by the Program Administrator with no cost to the employee.
2. The baseline audiogram will be given to an employee within one (1) month of employment with Southern Utah University and before any exposure to high noise levels.
3. Annual audiograms will be performed within one year from the date of the previous audiogram. It is the responsibility of the individual and the Program Administrator to schedule the annual audiogram.

If an annual audiogram shows that an employee has suffered a standard threshold shift, the employee will be retested within thirty (30) days of the annual audiogram. If the retest confirms the occurrence of a standard threshold shift, the employee will be notified in writing within twenty-one (21) days of the confirmation. Employees who do experience a standard threshold shift will be refitted with hearing protection and provided more training on the effects of noise.

5.0 PROGRAM EVALUATION

The Program Administrator will conduct periodic evaluations of the workplace to ensure that the provisions of this program are being implemented. The evaluations will include regular consultations with employees who use hearing protection and their supervisors, site inspections, noise-monitoring surveys and a review of records. These findings will be reported to the employee's supervisor with specific corrective actions and target dates for the implementation of those corrections.

6.0 DOCUMENTATION and RECORDKEEPING

A written copy of this program and the OSHA Hearing Conservation Standard, 29 CFR 1910.95, is kept in the Program Administrator's office. It is available to all employees who wish to review it. A copy of the standard will also be posted on the Safety and Risk Management website. Also maintained in the Program Administrator's office are copies of training, noise-monitoring surveys, and audiogram records. These records will be updated when: new employees are trained, existing employees receive refresher training, and as new audiograms and noise monitoring surveys are conducted.

7.0 APPENDICES

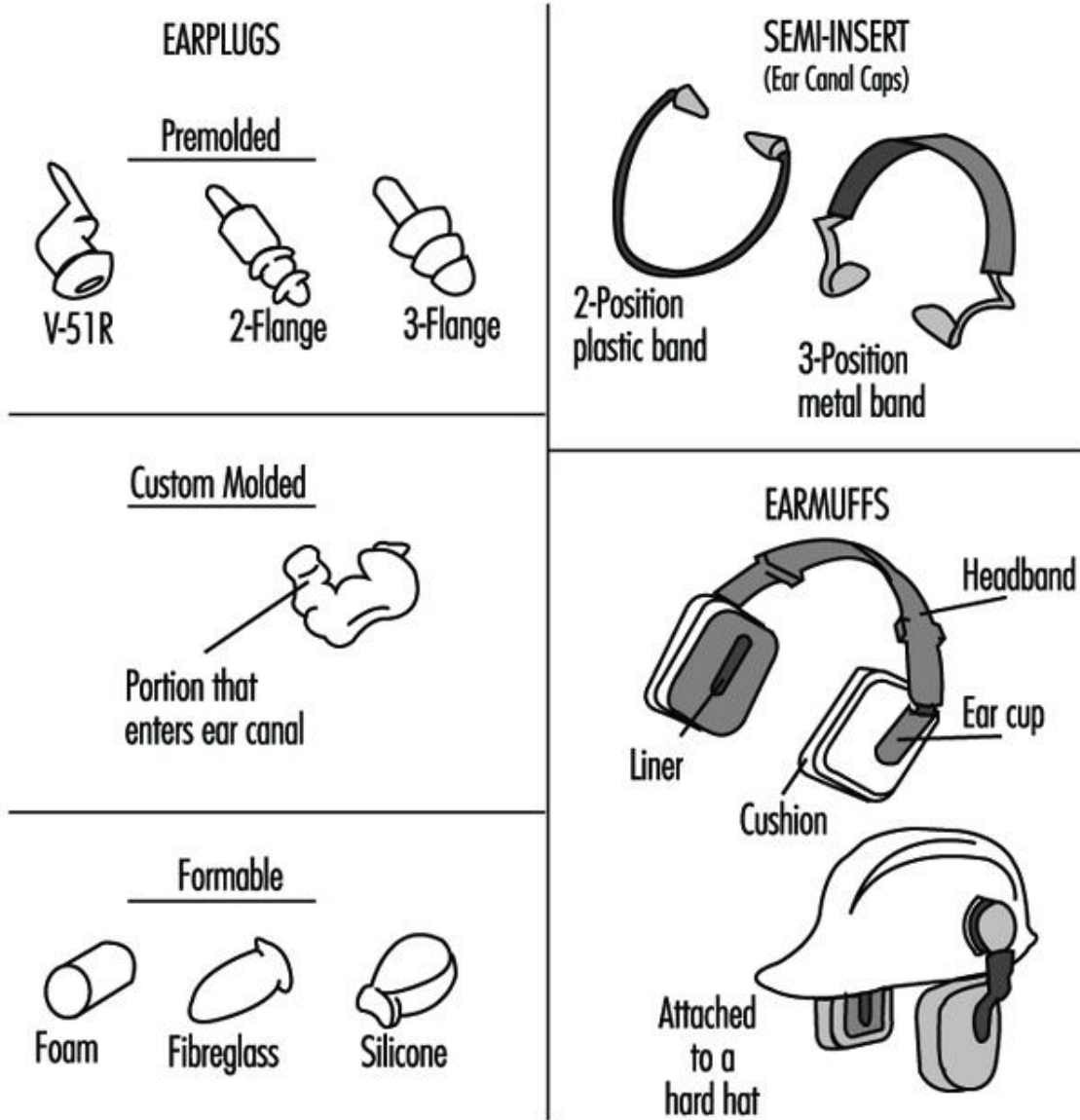
Appendix A: Locations and Work Practices that Require Hearing Protection

Appendix B: Types of Hearing Protection

Appendix C: Noise Monitoring Results

APPENDIX B

Types of Hearing Protection



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