North Carolina Agricultural and Technical State University
OFFICE OF ENVIRONMENTAL HEALTH & SAFETY

Safety Manual

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Hearing Conservation

Purpose: The purpose of the Hearing Conservation Program is to provide for the protection of North Carolina Agricultural and Technical State University employees from long term hearing loss associated with noise levels in the workplace in compliance with OSHA 29 CFR Part 1910.95 Occupational Noise Exposure.

All University employees whose noise exposures equal or exceeds an 8-hour time weighted average (TWA) of 85 decibels are enrolled in a hearing conservation program. The hearing conservation program includes:

- annual monitoring of noise exposures
- annual training on noise exposures
- use of hearing protectors
- annual audiometric testing

Recognition and evaluation of noise sources: When information indicates that any employee's exposure may equal or exceed an 8-hour time-weighted average of 85 decibels, the department is to notify the Environmental Health and Safety (EHS) Office to implement a monitoring program. The noise survey is performed using a sound level meter (A-scale, slow response) and/or noise dosimeter for evaluation of personal exposures. The employee is to be notified when he/she is exposed at or above an 8-hour time-weighted average of 85 decibels. Monitoring shall be repeated whenever a change in production, process, equipment or controls increases noise exposures to the extent that additional employees may be exposed at or above the action level; or the attenuation provided by hearing protectors being used by employees is not adequate.

Audiometric testing: Annual audiometric testing will be performed by a licensed or certified audiologist. A baseline audiogram is obtained within 6 months of an employee's first exposure at or above the action level. The baseline audiogram is established to compare against subsequent audiograms. The results of problem audiometric tests are sent to the University Employee Occupational Health Clinic for review and to determine whether there is need for further evaluation.

Audiometric tests are to be pure tone, air conduction, hearing threshold examinations, with test frequencies including as a minimum 500, 1000, 2000, 3000, 4000, and 6000 Hz. Tests at each frequency are to be taken separately for each ear.

Employees are to be notified, in writing, of the results of exams. If the annual audiogram shows a standard threshold shift, employees are to schedule a retest within 30 days to verify the shift. When there is a verified standard threshold shift, the employee must be notified within 21 days after verification.

Control of noise sources: When employees are subjected to sound levels exceeding 85 dBA TWA, feasible administrative or engineering controls are to be utilized. Types of administrative controls are rotation of employees, limiting time of certain operations, or restricting areas or work operations. Engineering controls include maintenance, modifying equipment, substitution of equipment, isolation, and acoustic material.

Hearing protection devices: If feasible engineering or administrative controls cannot be accomplished personal hearing protective devices must be provided and used to reduce sound levels in areas above 85 dBA. The hearing protection used will depend on the operation, employee preference and attenuation required. The industrial hygienist is to assist in supplying information on attenuation data and supervise the correct use of hearing protectors. Employees are given the opportunity to select their hearing protectors from a variety of suitable hearing protectors. Personal protective devices should also be used during non-routine, infrequent operations, which do not warrant special engineering control.

The University strongly encourages the use of hearing protection devices while working around noisy equipment. The use of hearing protection devices is required for the following:

- When the exposure is 90 dBA, or greater.
- When the exposure is 85 dBA, or greater, and the employee has experienced a threshold shift.
- When the exposure is 85 dBA, or greater, and the employee has not yet had a baseline audiogram established.

For employees who have experienced a standard threshold shift, hearing protectors must attenuate employee exposure to an 8-hour time-weighted average of 85 decibels or below. The adequacy of hearing protector attenuation shall be re-evaluated whenever employee noise exposures increase to the extent that the hearing protectors provided may no longer provide adequate attenuation.

Signs: Signs are to be posted in areas where noise levels are above 85 dBA stating that hearing protection is required. It is to read: “Caution: Hearing Protection Required.”

Training: An annual training program is provided for each employee included in the hearing conservation program. The training program includes effects of noise on hearing; the purpose of hearing protectors, and instruction on their selection, fitting, use, and care; and the purpose of audiometric testing.

Recordkeeping: Employee exposure measurements and assessments are maintained at the EHS Office. Employee audiometric test records are kept at the university human resources department and EHS office. Audiometric test records shall be retained for the duration of the affected employee’s employment. Employees can request access to their exposure information and audiometric test records.