

**EMPLOYEE HEARING CONSERVATION PROGRAM  
MICHIGAN STATE UNIVERSITY**

**Office of Radiation, Chemical and Biological Safety  
Department of Audiology and Speech Sciences  
MSU Occupational Health**

**July 2, 2002**

**BACKGROUND:**

The Federal Occupational Safety and Health Administration (OSHA) promulgated a noise standard in 1974 and published a Hearing Conservation Amendment to this standard in 1983. The current Michigan requirements are based on regulations promulgated by the Michigan Occupational Safety and Health Administration (MIOSHA) on June 16, 1993 (R325.60101-R325.60128 and Appendices A-D).

The OSHA standard provides worker protection against the effects of noise exposure when sound levels exceed a time-weighted average level of 85 decibels over an 8-hour workday, or for higher levels of noise exposure over shorter periods (see Table I). If noise monitoring identifies workers who are exposed to these levels, the employer must institute a continuing, effective hearing conservation program.

**TABLE 1 – Permissible Noise Exposures**

Duration per day, hours	Sound level dBA, slow response
8	90
6	92
4	95
3	97
2	100
1-½	102
1	105
½	110
¼ or less	115

MSU's Hearing Conservation Program (HCP) consists of five distinct areas:

**Monitoring (MIOSHA Standards R325.60110)**

Noise analysis (a sound level survey) is conducted whenever:

- there is knowledge or a suspicion that noise levels exceed 85 dB (A weighted) on an 8-hour time-weighted-average (TWA), or
- employees have shorter periods of exposure to higher levels of noise (see Table I).

A combination of noise dosimetry, integrated sound level meter field measures, and direct employee noise exposure interviews will be implemented for a sensitive noise evaluation on campus in order to identify the employees who need to be enrolled in the HCP.

Furthermore, noise monitoring shall be repeated when any production, equipment or administrative changes occur which might alter the noise exposure of any employee.

When levels that exceed 85db(A) TWA are found, all reasonable efforts will be made to use administrative and/or engineering controls to reduce exposure.

### **Audiometric testing (MIOSHA Standards R325.60112 – R325.60120)**

Audiometric testing will be conducted on all employees (without cost to the employee) who:

- are exposed to levels which equal or exceed 85 dB (A) TWA, or
- have shorter periods of exposure to higher levels of noise (see Table I).

An initial baseline audiogram will be obtained and subsequent annual audiograms will be compared to the baseline to ascertain if a significant threshold shift has occurred.

All baseline and annual testing will be performed by an audiologist or by an Audiology graduate student under the direct supervision of a certified audiologist. OSHA Amendment guidelines for testing procedures, equipment and calibration requirements will be followed.

### **Hearing Protection (MIOSHA Standards R325.60121 – R325.60122)**

All employees exposed to 85dB(A) TWA noise must have available hearing protectors. It is the employer's responsibility to ensure such hearing protectors are worn by employees:

- whose noise exposure exceeds 90dB(A) TWA; or
- whose exposure equals or exceeds 85dB(A) TWA and have not yet had a baseline evaluation;  
or
- who have experienced a Standard Threshold Shift (STS)
- who have shorter periods of exposure to higher levels of noise (see Table I).

The adequacy of hearing protector attenuation shall be reevaluated whenever noise exposure increase.

### **Employee Training Program (MIOSHA Standards R325.60123)**

An educational program will be instituted for all employees:

- whose noise exposure exceeds 85dB(A) TWA, or
- who have shorter periods of exposure to higher levels of noise (see Table I).

This program will cover specific topics outlined in the OSHA document and be repeated annually. These specific topics include the following:

1. The effects of noise on hearing.
2. The purpose of hearing protectors, the advantages, disadvantages, and attenuation of various types, and instructions on selection, fitting, use and care.
3. The purpose of audiometric testing and an explanation of test procedures.

## **Record Keeping (MIOSHA Standards R325.60125)**

This system requirement includes employee annual hearing test data (test documentation should include the date, place, test equipment serial number; date of calibration; and specific examiner certification information); employee damage risk category; annual certification of test room performance; annual electro-acoustic calibration of test instrumentation (both audiometers and noise measurement equipment), and daily biological calibration of audiometers.

Adjustments or revisions to recorded hearing data are solely the responsibility of an audiologist or qualified physician; all hard copy documentation of hearing testing may serve as medico-legal evidence in cases of workman's compensation.

Records of exposure measurements and audiometric testing will be maintained.

### **RESPONSIBILITIES:**

Based on the MIOSHA requirements as described above the following areas of responsibility are designated:

1. The Office of Radiation, Chemical and Biological Safety (ORCBS):

The ORCBS is responsible for the overall coordination and implementation of the HCP. This includes:

- providing regulatory guidance and assistance in compliance with OSHA regulations.
- coordinating efforts to reduce hazardous noise by engineering and/or administrative controls where feasible.
- providing Unit Administrators with a copy of the Occupational Noise Standard, which is to be posted in the workplace as required by the standard.
- conducting a comprehensive noise survey for identification of employees to be included in the program. The ORCBS will follow the recommendation made by the National Institutes for Occupational Safety and Health (NIOSH) to conduct noise surveillance on employees using noise dosimeter and integrated sound level meters in two-year intervals.
- providing noise surveys on a requested or as needed basis;
- provide an on-line annual training program, and
- oversee a worker training database

2. Department of Audiology and Speech Sciences (ASC):

ASC is responsible for audiometric testing of employees, and for record keeping and notification regarding these tests. This includes:

- completion of hearing evaluations on all employees exposed to 85dBA noise levels for both baseline and annual testing;
- hearing conservation consultations either on an individual or group basis;
- record keeping and notifications

Record keeping includes sound level surveys, hearing test data, and required employee and employer notification. Results of testing will be provided to the employee and MSU's Occupational Physician at Olin Health Center.

ASC, along with the ORCBS is responsible for notifying the Unit Administrators of Departments with employees who are currently in the HCP of the annual hearing test requirement. The Unit Administrator of those affected departments is responsible for delegating an individual within the department to act as a liaison with ASC in arranging testing and training with the employee's unit.

3. MSU Occupational Health:

MSU Occupational Health is responsible for the maintenance of employee health records and will include hearing test data as it is received from ASC. MSU Occupational Health is also responsible for required MIOSHA notifications based on hearing loss as a reportable disease.

MSU Occupational Health processes new employee physical examinations and is responsible for arranging baseline testing with ASC.

4. Unit Administrator:

The Unit Administrator is responsible for compliance with MSU's HCP within his/her area of responsibility. It is expected that each administrator will appoint a contact person to serve as a liaison with the ORCBS and ASC to coordinate sound level surveys, annual hearing testing and training efforts. The Unit must identify that appointed person for the ASC for ease of communication and scheduling. The Unit Administrator is also responsible for providing affected employees or their representatives with access to a copy of the Occupational Noise Standard, as well as posting a copy in their workplace. Note that a copy of this standard is available through the ORCBS web site at [www.orcbs.msu.edu](http://www.orcbs.msu.edu).

The unit must provide the ORCBS with a list of personnel who are exposed to hazardous noise areas (as identified by previous noise surveys). It is also each unit's responsibility to evaluate programs, processes and jobs and notify the ORCBS of possible noise hazards that require a survey.

5. First line supervisors:

It is the direct responsibility of an employee's first line supervisor to ensure appropriate safety measures are followed. This includes enforcement of hearing protector use where required and accommodation with hearing test requirements.

6. Employee:

Safety is each individual's responsibility. Use of hearing protection where indicated is first and foremost the individual employee's concern. It is also incumbent on each employee to appear for required hearing evaluations, follow instructions regarding noise exposure prior to testing and participate in annual training as directed.

**PROGRAM COSTS:**

The Department or Unit is responsible for costs related to services from Audiology and Speech and MSU Occupational Health.