MADISON COUNTY POLICIES AND PROCEDURES

I. SUBJECT: HEARING CONSERVATION PROGRAM

II. ISSUED: April 30, 1992
               Revised: November 25, 2003

III. PURPOSE:

Madison County recognizes its responsibility in providing the safest working conditions for our employees. We have therefore implemented a comprehensive hearing conservation program for our employees.

We recognize that prolonged exposure to noise of certain frequencies and intensities can cause varying degrees of hearing loss. This type of hearing loss is not repairable by medical or surgical treatment. However, noise-induced hearing loss can be prevented, for persons whose daily work is in hazardous noise, by the establishment of an appropriate hearing conservation program.

It is imperative that all employees of Madison County recognize the need for safety and contribute their full cooperation.

IV. SCOPE:

The County of Madison has undertaken the following plan for the protection of our employees' hearing.

I. Engineering Controls

   A. Determine, through engineering noise studies, noise within our facilities and outside of our facilities to which our employees are exposed.

   B. Utilize outside sources of assistance, such as our present insurance carrier.

   C. Establish guidelines for specifying and purchasing new equipment with noise levels taken into consideration.

   D. Implement engineering techniques to reduce noise levels at the source point.

   E. Re-monitor noise levels at a minimum of every two years or within 60 days of any changes in production processes, equipment, or controls. Employee or employee representation may observe monitoring.

   F. Initiate design and modification studies to reduce noise levels caused by friction, impact, vibration, transmission, air turbulence, and tolerances.
II. Management Controls

A. Establish an "Action Level" of 85 dBA on an 8 hour time-weighted average (TWA).

B. Utilize results of our engineering noise studies, to identify which employees and work areas are exposed at or above the "action level".

C. The Safety Officer, in writing, shall inform employees determined to be exposed at or above the "action level" within ten (10) days of monitoring.

D. Make hearing protection available for all employees and require and enforce hearing protection use.

E. Conduct baseline audiograms for all new employees on a post-offer pre-employment basis.

F. Annual re-check audiograms for all employees exposed to noise levels above the action level will be conducted.

G. Initial orientation training for all new employees will be provided by the Department Head or his/her designee.

H. Conduct annual re-training to promote ongoing awareness of hearing and the effects of noise.

I. The Safety Officer shall advise employees' in writing, with audiograms showing standard threshold shifts (STS), within 21 days of the date of determination. The employee(s) shall be referred to proper medical facilities for testing or rehabilitation.

J. Undertake administrative controls to reduce noise exposure, i.e. re-training of employees with persistent hearing loss for other jobs or job rotation to control the duration of exposure.

J. Maintain records for all employees exposed to or above, the action level and make them available for individual employee's access, review, or copy.

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John E. Gladney, Chairman
Government Operations Committee

DATE: November 25, 2003
HEARING CONSERVATION PROGRAM

ENGINEERING CONTROLS

MONITORING NOISE LEVELS

Our program will involve monitoring of noise levels within our facilities and outside of our facilities to identify noise levels to which our employees are exposed. We will undertake either personal or area sampling methods, as individual situations dictate, on a routine basis. Results of these routine noise level sampling studies will be documented and made available to all interested employees.

Our program will address those noise levels within the range of 80 to 130 decibels with engineering controls incorporated as the first avenue of control. Our engineering studies will seek to reduce or eliminate such adverse noise levels by adopting practices that efficiently and economically control noise whatever the cause (friction, impact, vibration, transmission, air turbulence, machine tolerances, and others).

Outside engineering consultation will be undertaken whenever practical and not be limited to OSHA, state, or insurance company's engineering personnel.

Re-monitoring of noise levels will be conducted a minimum of every two years or within 60 days of any change in production processes, equipment and machinery, or other controls.

Accurate records of our sampling data will be maintained by the Safety Officer for the duration of employment plus 30 years, with access to these records open to all County employees.

County instruments used for monitoring noise levels will be maintained by the Highway Department and calibrated in accordance with the manufacturer's suggested criteria. Accurate records of calibration will be maintained by our Highway Department for each instrument.

Department Heads or his/her designee, in coordination with the Purchasing Director will undertake joint reviews of all purchase requests for new machinery and equipment to ensure that the latest state of the art noise abatement techniques are incorporated and that any applicable noise regulations are met.
ADMINISTRATIVE CONTROLS

The Occupational Safety and Health Administration has adopted 85 decibels as measured on the "A" Scale, slow response, of an approved noise-measuring instrument, as the "action level" for implementing a hearing conservation program. The County will adopt this "action level" and develop our hearing conservation program with the following as minimum components.

ADMINISTRATION

The County's hearing conservation program will be the responsibility of the Department Head or his/her designee in coordination with the Safety Officer.

No County employee or employee representative shall attempt to influence, alter, change, modify, or otherwise interfere with any noise results, noise measuring instruments, or audiometric test data.

GENERAL PROCEDURES

Monitoring - Upon completion of noise level surveys the Safety Officer will evaluate the results, and identify and classify employees, according to the following criteria:

Group 1 - Noise levels less than 85 dBA on an 8 hour TWA - No controls will be necessary however, hearing protection will be required to be worn.

Group 2 - Noise levels between 85 and 89 dBA on an 8 hour TWA - Employees within this group will adhere to the full context of the hearing conservation program. Hearing protection will be made available and required to be worn.

Group 3 - Noise levels between 90 and 99 dBA on an 8 hour TWA - Employees with this group will adhere to the full context of our hearing conservation program. Hearing protection will be made available and required to be worn.

Group 4 - Noise levels of 100 dBA or greater on an 8 hour TWA - Our emphasis here will be to permit no exposures to noise levels in this range. Emphasis will be placed on prompt engineering analysis to identify methods to reduce these noise levels through either engineering or administrative methods. Administrative controls will be used to reduce employee TWA exposure to below 100 dBA until noise levels can be reduced through engineering controls.
PROGRAM CONTENT

Employee Training - Our hearing conservation program will incorporate the following as minimum training requirements:

Initial Training - Prior to completion of our engineering noise surveys, an introductory safety meeting will be conducted with all employees to inform them of our plans, policy, and forthcoming procedures.

New Employees - All new employees will be given training during the initial orientation concerning the County's hearing conservation program and the effects of noise on hearing.

Permanent Employees - At least once a year, all permanent employees will be given refresher training on hearing conservation, the effects of noise on hearing, the proper use and fit of hearing protection and the effects of noise on the individual.

Training requirements of our programs will be the responsibility of the individual department head in coordination with the Safety Officer.

HEARING PROTECTION DEVICES

The County will select several varieties of earplugs and earmuffs. These hearing protection devices will be selected based on their ability to attenuate noise levels to a maximum of 89 dBA over an 8 hour Time Weighted Average. These are to be issued to the employee at the time of initial training.

NOTE: When using the Noise Reduction Rating (NRR) to evaluate hearing protector adequacy, the following method can be used:

1. Obtain employee's A-weighted TWA
2. Subtract 7 dB from the NRR and divide the difference by 2, then subtract the remainder from the employee's A-weighted TWA to obtain the estimated A-weighted TWA under the ear protector.

Enforcement of County policy on the wearing of hearing protection devices will be the direct responsibility of the department head or his/her designee, including any disciplinary action which may be necessary to ensure full compliance.
MEDICAL SURVEILLANCE

Our program incorporates the following components:

1. All employees exposed at or above the "action level" will be given baseline audiograms. All audiograms shall be conducted in accordance with OSHA Statute 1910.95(h). All new employees will be provided baseline audiograms prior to being employed by the County. The cost of baseline audiograms and annual re-check audiograms shall be borne by the County.

2. For employees exposed at or above the "action level" annual audiograms will be administered and compared to baseline audiograms to determine if an employee has lost a sufficient amount of hearing ability (standard threshold shift) to warrant follow-up procedures. Definition of OSHA standard threshold shift is included in the glossary section.

3. The administration and interpretation of audiometric exams shall be conducted by a recognized hearing professional as determined by the County. Coordinated efforts with a physician of the County's determination will be established for professional evaluation, assistance, and supervision.

4. The procedure for testing employees will be: to test employees prior to starting a normal work shift which would allow for 14 hours of occupational or non-occupational "quiet time". When this approach is impractical, or under unavoidable circumstances, an employee may be tested directly from the work environment provided they have worn proper hearing protection devices. It is important to recognize that contamination of audiometric examinations can result if hearing conservation controls are not followed.

5. Revision of any employee's baseline audiogram to reflect persistent hearing loss for any reason will be made only on the recommendations of a recognized hearing medical professional.

6. Any employee whose audiometric examinations show shifts in hearing ability in accordance with the current OSHA definition will be notified by the Safety Officer in writing within 21 days and referred for further professional medical evaluation. Re-test evaluations will be conducted at the discretion of the County.

Administration of the aforementioned controls will be the responsibility of the Department Head in coordination with the Safety Officer.
RECORDKEEPING

Monitoring Test Results - These records will be maintained by the Safety Officer and retained for the duration of the worker's employment plus 30 years.

Audiometric Testing - These records will be maintained by the Safety Officer for the duration of the worker's employment plus 30 years.

Work-Related Hearing Loss - Any claim of a work-related hearing loss will be properly identified on the OSHA form SH-900 (Record of Work-Related Injury and Illness) in accordance with 29 CFR 1904.2.

EMPLOYEE ORIENTATION

1. Explain county policy on noise exposure.

2. Explain county rules and regulations and disciplinary procedures regarding the wearing of hearing protection.

3. Explain results of initial pre-employment audiograms.

4. Instruct employees on how to insert, wear and care for hearing protection.

5. Instruct employees on how to obtain replacement hearing protection.

6. Instruct employees on their responsibility to wear personal protective equipment as required in their job.
I, __________________________________________ , certify that I have been instructed in the Madison County Hearing Conservation Program, received initial instruction in the use of hearing protection, and have been provided hearing protection for my use. I also agree that I will utilize personal protection equipment that is required for the job I am doing.

Signed____________________________________
(Employee)

Signed____________________________________
(Supervisor)

Date: _____________________________
Action Level - An 8-hour time weighted average of 85 dBA measured on the "A" scale, slow response; or equivalently, a dose of 50%.

Area Monitoring - Any method of sampling with sound-measuring instruments where the microphone is not placed in the vicinity of the employee's ear.

Audiogram - A record of hearing loss or hearing level measured at several different frequencies, from 500 to 6000 HZ.

Audiologist - A person trained in the specialized problems of people with decreased hearing and deafness.

Audiometer - An electroacoustical generator, that provides pure tones of selected frequencies and calibrated output, to test an individual's hearing.

Baseline Audiogram - Measures present hearing status to compare with future audiograms.

dBA - The weighting scale is though to provide a rating of broadband noises that indicates the injurious effects of such noise on the human ear.

Decibel (DB) - A unit of measurement of sound level. It is a logarithmic expression.

Hearing Conservation - The prevention of noise-induced hearing loss by controlling noise through engineering methods or administrative procedures, and by the use of a hearing program.

Hearing Level - A measured threshold of hearing at a specified frequency, expressed in decibels relative to a specified standard of normal hearing.

Hearing Loss - Any hearing which is poorer than the established norm as the result of normal aging, disease, or injury to the hearing organs, that can range from a minor handicap to serious impairment.

Types of hearing loss are as follows:

1. Conductive - A hearing loss originating in the conductive mechanisms of the outer or middle ear, usually treatable.

2. Sensory Neural - A hearing loss originating in the cochlea or the fibers of the auditory nerve.

Hearing Protection - A device worn to reduce the passage of ambient noise into the auditory system. Ear plugs are inserted into the external ear canal. Ear muffs fit over the entire ear and snug against the head.

Impact Noise - Sharp burst of sound. In general sounds repeated more than once per second are considered steady. Impulse or impact noise is generally less than 1/2 second in duration, and is not repeated more often than once per second.

Noise Dose - Employee TWA noise exposure may also be represented as noise dose or percentage of exposure as compared to the PEL of 90 dBA,

EXAMPLES:  
Dose of 50% = 85 dBA (TWA)  
Dose of 100% = 90 dBA (TWA)

Personal Monitoring - Measurements taken with the instrument microphone in the proximity of the employee's ear.

Presbycusis - Decline in hearing acuity that normally occurs with the aging process.

Standard Threshold Shift (STS) - A change in hearing threshold relative to the baseline audiogram of an average of 10 decibels or more at 2000, 3000 and 4000 HZ, in either ear. (Now becomes a revised baseline.)

Temporary Threshold Shift (TTS) - A shift which shows a change in hearing threshold relative to the baseline audiogram that will improve over time when the cause (usually noise) is removed.

Time Weighted Average (TWA) - That sound level, which if constant over an 8 hour exposure, would result in the same noise dose as is measured.

Tinnitus - A subjective sense of noises in the head or ringing in the ears for which there is no observable external cause.