

PPRL HEARING CONSERVATION AND NOISE CONTROL PLAN

It is the policy of the Poisonous Plant Research Lab (PPRL) to protect employee hearing and effectively manage or eliminate hazardous noise exposures. In areas where engineering controls cannot reduce noise below harmful levels, employees will take part in a hearing conservation program.

The PPRL CDSO (collateral duty safety officer, Terrie Wierenga) has performed monitoring in areas and of processes suspected of presenting a hazardous noise exposure. While some equipment (animal treadmill, pelleting machine) or animals (particularly pigs) do exceed 85 dBA (decibels, A band), none of these are operated for an entire shift. Most are run for less than an hour for any given project. However, employees are encouraged to wear hearing protection (ear muffs or foam plugs) when operating any of these machines.

As part of the Occupational Medical Surveillance Program (OMSP), employees working around noisy equipment are offered an annual audiogram. The animal caretakers especially are encouraged to participate in the OMSP. Newly hired animal caretakers will be given a baseline audiogram when starting their employment.

As processes change or new projects are begun, the CDSO will assess the likelihood of hazardous noise being generated and will perform or arrange for monitoring.

RESPONSIBILITIES

The PPRL Safety Team/CDSO will:

- Perform or coordinate noise exposure monitoring
- Post areas requiring hearing protection
- Identify employees eligible to participate in the OMSP
- Supervise hearing protector selection and assist in proper fitting of such protection
- Develop policies relating to the use of hearing protectors
- Supervise employee training programs
- Coordinate and supervise recordkeeping
- Review and evaluate program at least annually
- Assist in exploring options for noise control

Supervisors will:

- Monitor and ensure the wearing of hearing protection in all posted areas
- Ensure workers attend safety meetings/talks on hearing protection
- Encourage workers to participate in the OMSP
- Notify the CDSO if additional high noise areas are suspected
- Notify the CDSO if new procedures are implemented which may affect noise levels

Workers will:

- Wear and maintain hearing protection in all posted areas
- Attend safety meetings/talks on hearing protection
- Participate in the OMSP
- Bring any hearing protection or noise related problems to the attention of their supervisor or the CDSO
- Report to their supervisor any changing conditions which may impact personnel noise exposures

PROGRAM REQUIREMENTS

Noise Monitoring

Noise levels in some areas at PPRL can exceed 85 dBA. The noise levels for areas and sources that have been measured are available from the CDSO. Additional noise monitoring will be conducted whenever employee exposures are expected to change (equipment changes, engineering controls installed, new work assignment, etc.).

Employees will be notified when noise level monitoring will take place and permitted to observe. Employees will be informed of the monitoring results.

Equipment or areas of potential hazardous noise levels:

- Power tools
- Chain saws
- Mowers, tractors, generators
- Animal handling—constraining pigs, animal treadmill
- Pelleting machine, grinders
- Air compressor

Audiometric Testing

Baseline and follow-up audiometric testing will be offered for all employees working in areas with sound levels exceeding 85 dBA. OSHA has determined that being exposed to noise levels under 85 dBA for eight hours a day does not present a hazardous noise exposure. However, PPRL policy is to be proactive and thus audiometric testing will be offered through the OMSP to any employee working with noisy equipment, etc.

Audiometric testing will be provided as part of the services contracted under the OMSP. The test results will be reviewed by the OMSP physician and also by the Federal Occupational Health physician. The employee will be informed of the results and suggested actions to take if a standard threshold shift (STS) has occurred.

Hearing Protection

If engineering and/or administrative controls are unable to reduce the amount of noise exposure below the allowed limit, appropriate personal hearing protective devices are issued to the employees. These devices are considered a temporary solution to the problem of overexposure until feasible controls are installed. A hearing protective device will be issued to any employee

desiring one who works in a noisy environment even if the noise levels are below 85 dBA. The CDSO will assist in determining the appropriate device and ensuring proper fit; Appendix A offers guidance in selecting hearing protection devices to reduce the noise exposure to an acceptable level.

Wearing of hearing protection is strongly encouraged in the following areas or when using the following equipment:

- Tractors, grinder
- Mower, edger, trimmer
- Power tools such as circular saws, drills, miter or chop saw
- Gas powered tools such as hedge trimmers or weed trimmers
- Constraining hogs for blood collection or other treatments
- Using the pelleting machine or animal treadmill

Noise Signs

All work areas where noise exposures may exceed 85 dBA will be posted with warning signs at entrances to those areas. All employees will wear hearing protection when working in the posted areas. Employees or visitors passing through those areas will also be required to wear hearing protection. Tools generating noise levels in excess of 95 dBA will be labeled; hearing protection must be used by the operator when this equipment is run.

Employee Training

Participation in the training program is required for employees exposed to noise at or above 85 dBA; it is encouraged for all employees working in noisy environments (animal handling, maintenance, plant collection, etc.). The training will include information on:

- Purpose and use of hearing protectors; advantages and disadvantages of various types
- Instruction on selection, fitting, use, and care of hearing protectors
- Purpose of audiometric testing and an explanation of test procedures
- Contents of OSHA occupational noise exposure standard
- Copy of the written program upon request

Records of training will be maintained by the CDSO.

Recordkeeping

Audiometric program records are maintained in the employee's personnel file and will be provided upon request from the employee. The audiometric test records and noise exposure measurement records are maintained for employment plus 30 years; program audit records will be kept for three years.

Program Evaluation

The success of the hearing conservation program is evaluated by comparing annual audiograms to the baseline audiogram. This helps to determine the effectiveness of the hearing conservation program and, as a result, ensures the protection of the employee's hearing. The CDSO is available to review the recommendations of the audiologist/physician with the employee and determine best options for their accomplishment. The Federal Occupational Health doctors or the OMSP physician can also provide further information.

The PPRL Safety Team and supervisors will make every effort to address concerns about hearing protection fit, comfort, etc. However, it is up to the employee to bring these concerns to the attention of their supervisor or the Team.

If an employee experiences a STS, the CDSO will evaluate the work areas to determine if feasible engineering controls can decrease the noise levels.

Engineering and Administrative Controls

PPRL recognizes the desirability of controlling the existing noise levels by engineering and/or administrative controls. The CDSO/USU EH&S can assist the supervisors in exploring such options. If engineering controls are not an option, administrative controls (work schedules) will be instituted.

Appendix A – Computation of Actual Noise Reduction Ratings (NRR)

- The degree of protection that a hearing protection device provides is referred to as the Noise Reduction Rating or NRR. Because the listed NRR is established for C-weighted noise measurements, and our measurements have been collected using an A-scale, 7 dB will be subtracted from the NRR to take this into account.
- NRRs for ear protection are established in laboratory settings under ideal conditions, and it is unlikely that the noise reduction in industrial areas will be as substantial as that recorded in the lab. Because of these differences between laboratory and “real world” performance, the following NIOSH derating scale will be used when calculating noise reduction:

Hearing Protection Device	Derating scale
Ear muffs	25% reduction
Formable ear plugs	25% reduction
All other earplugs or semi-aural devices	25% reduction

- Using this method, a formable earplug with a NRR of 30 dB actually provides:
 - 30 dB (listed NRR) - 7 (A-scale to C-scale adjustment) = 23 dBA reduction - laboratory measurement
 - 23 dBA x 75% = **17.3 dB** of "real-world" noise reduction.
- Products with the highest NRR are not always the best choice for hearing protection. Too much noise reduction, when not necessary, can lead to degradation of communication, especially in individuals who have some degree of hearing loss.
- Communication problems associated with maximum NRR devices may lead to accidents and poor employee acceptance of the hearing conservation program.
- The following general guide to protection levels will be used:

If the device reduces the noise to:	Then the protection is:
> 85 dB	Insufficient
80 - 85 dB	Acceptable
75 - 80 dB	Good
70 - 75 dB	Acceptable
<70 dB	Too high