

Hearing Conservation Program (HCP)

Intent:

The University of Wisconsin - Eau Claire attempts to control noise exposures on campus, certain operations, job tasks and workstations that may expose faculty, staff, or students to significant noise levels. This HCP has been established to help ensure that staff on campus do not suffer health effects from exposure to excessive noise while working at UW- Eau Claire/Barron.

Scope:

This Hearing Conservation Program applies to all University employees who work in noise hazard areas or who have the potential to develop noise induced hearing loss because of their occupation. This includes employees with measured or projected, where noise levels are at or exceed the OSHA Action Level (AL) of 85 dBA for an 8-hour time weighted average (TWA).

Definitions:

Action Level (AL) - An 8-hour time-weighted average of 85 decibels measured on the A-scale slow response, or equivalently, a dose of fifty percent.

Audiogram - The record of a given individual's hearing sensitivity. An audiogram shows hearing threshold level measured in decibels as a function of frequency measured in hertz.

Decibel (dB) - A unit of measurement of sound pressure level.

Hearing Protection Attenuation - The estimated reduction in the noise level at the eardrum as a result of the use of hearing protection. Estimated using the formula: Attenuated TWA, dBA = TWA - (Noise Reduction Rating, NRR, - 7) for A - scale weighted sound levels. Attenuated TWA, dBC = TWA - NRR for C-scale weighted sound levels.

Hertz (Hz) - The unit of measure for noise frequency in cycles per second. (1 cycle/ second= 1Hz)

Noise Monitoring - The sampling of noise levels using a sound level meter, octave band analyzer, or personal noise dosimeter.

Permissible Exposure Limit (PEL) - The exposure limit at which feasible noise controls and hearing protection would be required. Note: OSHA sets the PEL at 90 dBA. UW-Eau Claire’s policy is to have these requirements triggered at the Action Level of 85 dBA.

Standard Threshold Shift (STS) - A change in hearing threshold, relative to the most recent audiogram for that employee, of an average of 10 decibels (dB) or more at 2000, 3000, and 4000 hertz in one or both ears and substantiated within 30 days with a follow-up audiogram.

Time Weighted Average (TWA) - The average of various levels of exposure encountered over some specific time.

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Procedures

When employees who are at risk for noise induced hearing loss, workplace noise exposures need to be identified and evaluated.

Responsibilities

Risk Management, Safety and Sustainability (RMSS)

Step	Responsibilities
1	Be responsible for ensuring the development & implementation of this policy
2	Provide necessary resources as available to carry out the program
3	Conduct the initial monitoring for employees exposed to noise levels at or above 85dBA for an 8-hour time weighted average (TWA)
4	Conduct or coordinate monitoring in high noise areas for investigating engineering controls and verifying the effectiveness of engineering controls
5	Ensure that equipment or shop areas that are subject to high noise levels are clearly marked by stickers and/or signs
6	Provide training that includes the proper fitting, care, and cleaning of hearing protection devices
7	Conduct an evaluation to determine the continued effectiveness of the program

Supervisors

Step	Responsibilities
1	Request noise assessment in areas that may expose employees to levels equal to or above an 8-hour time-weight average of 85dBA
2	Ensure that all employees are aware of the requirements for hearing protection in any area that has been identified as having are at or above (AL)
3	When practical, limit employees scheduled work time in a noisy area
4	Provide appropriate hearing protection devices and other control measures
5	Coordinate employee attendance at training on hearing conservation and the proper use and care of hearing protection devices
6	Request additional noise monitoring when processes or procedures change that may affect noise levels
7	Ensure that audiograms are provided annually to all employees exposed to noise levels 8-hour TWA or 85dBA or more
8	Ensure that employees are following the Hearing Conservation Program

Employees

Step	Responsibilities
1	Comply with the recommendations of this Hearing Conservation Program
2	Wear hearing protectors when using equipment generating noise at or above 85dBA or in designated hearing conservation areas
3	Report any new sources of excessive noise, or noticeable changes in noise levels of existing equipment to the immediate supervisor
4	Maintain hearing protection equipment and supplies in good condition
5	Attend hearing conservation training classes offered by (RMSS)

Noise Identification

Employee noise exposures are influenced by multiple factors including work task (tools/equipment used), location, and duration. Some of the sources of noise exposures on campus include the following:

Step	Location, Tools/equipment
1	Building Mechanical Equipment (HVAC equipment, fans, chillers, compressors, motors, pumps, emergency generators, etc.)
2	Power Tools (located in academic shops and Facility Maintenance shops)
3	Landscaping Equipment (typically used by University Grounds Department.)
4	Construction equipment (typically used by University Grounds Dept. and construction crew)
5	Research/testing equipment

Noise Assessment Process

RMSS will monitor and assess noise exposure in the workplace, and there are two types of evaluations:

Step	Action
1	<p>Preliminary Noise Survey – An overview of noise exposure, this is a "walk-through" survey of the facility with a sound-level meter. Variations in noise levels due to shifting changes or operation of noise-generating equipment are taken into consideration.</p> <ul style="list-style-type: none"> • Use of a sound level meter and estimates of the length of time individuals are exposed to sound levels to calculate an 8-hour (TWA) dBA. See more information: Noise Levels Recording Form
2	<p>Detailed Noise Survey – Performed when data from the preliminary survey indicate the need for more specific monitoring, the detailed survey will:</p> <ul style="list-style-type: none"> • Use a noise dosimeter to provide specific information about the noise levels at individual workstations. • Re-monitoring, if a change in equipment, process or controls increases the noise level to the extent that: <ul style="list-style-type: none"> a. Additional employees may be exposed at or above the action level. b. The attenuation provided by the hearing protectors used by the employee(s) does not reduce the exposure level to 90dBA for an 8-hour TWA or 85dBA as 8-hour TWA for employees that have experienced a standard threshold shift. c. Follow-up monitoring if a Standard Threshold Shift (STS) has occurred. • Identify by measuring noise levels in the workplace, conducting personal monitoring, investigating accidents and incidents, investigating complaints, etc. • Define areas that should be designated as a noise hazard area and require the use of hearing protection.

Noise Assessment

A noise risk assessment is required whenever it is likely that exposure will occur at or above the OSHA Action Level or (85dBA). In addition, noise assessments should be conducted when the following conditions have been reported to RMSS:

Step	Action
1	New equipment or work processes that generate noise are introduced to the workplace.
2	Noise levels change due to equipment deterioration, changes in work practices or procedures, or other alterations to the work environment.

3	Workers indicate they experience ringing in the ears, temporary changes in hearing, or increased levels of noise in their work area or during their work activities.
4	Assessment and Control Procedure where hazard elimination, the use of engineering controls, and the use of administrative controls supersede the use of personal protective equipment as a hazard control measure.
5	Employee's noise exposure level. This shall be measured whenever any change relating to noise production is suspected of increasing exposures to the extent that additional employees may be exposed at or above the action level.

Controlling Noise Exposure

Where an assessment shows that an employee's exposure to noise in the workplace is likely to exceed the action level and employees are required to work in such areas the following measures shall be taken:

Step	Action
1	<p>Noise Control Plan</p> <ul style="list-style-type: none"> • Summary of background of noise assessment & any current noise controls • Description of the additional measures proposed • Estimated reduction in noise levels and exposure of employees • Timeframes for implementing proposed control measures & their priority • Assessment of the effectiveness of the control measures
2	<p>Hierarchy of Control Measures</p> <ul style="list-style-type: none"> • Elimination - A permanent solution. This should be attempted in the first instance. • Substitution - A control involving replacing the hazardous equipment or work process with a less hazardous means. • Engineering - Any modification or replacement of equipment or related physical change at the noise source or along the transmission path that reduces the noise level at the employee's ear in the workplace. In addition, engineering controls include barriers, damping, isolation, muffling, noise absorption, mechanical isolation, and variations in force. • Administration - Any change in work assignment, production schedules or policy decisions that reduce workers' noise exposure that include: <ul style="list-style-type: none"> a. Change the work schedule and change operations b. Transfer workers, rotation, and training • Personal Protective Equipment - When engineering and/or administrative controls either fail to reduce noise to within required limits or are not technologically feasible, hearing protectors must be used including earmuffs or earplugs, and canal caps.

Hearing Protectors

Hearing protection is provided at no cost to all employees exposed to noise levels at or above the Action Level (AL) of an 8-hour TWA of 85dBA. The use of hearing protection is mandatory for those exposed at or above the AL.

Step	Action
1	Hearing Protectors shall be worn by the following: <ul style="list-style-type: none"> • Employees who are exposed at or above the permissible level. • Employees who are exposed at or above the action level but less than the permissible level and who have not yet had a baseline audiogram taken or have experienced a standard threshold shift.
2	Employees shall be given the opportunity to select their own hearing protectors from a variety of suitable hearing protectors provided by the University. <ul style="list-style-type: none"> • Provide a variety of suitable hearing protectors, including at least one type of earplug and one type of earmuff.
3	The University shall provide training in the use and care of all hearing protectors provided to employees.
4	The University shall ensure proper initial fitting and supervise the correct use of all hearing protectors.
5	Hearing protection must reduce exposure to below 90 dBA, or to below 85 dBA for those exhibiting a Permissible Noise Exposure. See more information: Table G-16 Permissible Noise Exposures

Audiometric Testing Program

Audiometric testing will be provided to all employees whenever employee noise exposures equal or exceed an 8-hour TWA of 85 dBA following the requirements of 1910.95(g). Annual re-testing will be offered to all personnel enrolled in the Hearing Conservation Program. Employees routinely exposed to hazardous noise in the workplace, as identified through the risk assessment process.

Step	Action
1	A baseline test to be completed within 6 months of the employee's first exposure above the action level for all new hires at the University.
2	Audiometric testing is performed annually for each employee at UW-Eau Claire who has a sound pressure level of 85 dBA or greater.

3	<p>If an employee has a Standard Threshold Shift (STS) when exposed to noise at or above action level, the following items shall be reviewed:</p> <ul style="list-style-type: none"> • Employees shall be notified within 21 days from the time the determination is made that their audiometric test results showed a STS. • A retest may be obtained within 30 days and the results of the retest can be considered as the annual audiogram. • Employees not using hearing protectors shall be fitted with hearing protectors, trained in their use and care, and required to use them. • Employees already using hearing protectors shall be refitted and retrained in the use of hearing protectors and provided with hearing protectors offering greater attenuation if necessary. • Some employees with a STS may need to be referred for further testing if the professional determines that their test results are questionable or if they have an ear problem of a medical nature which is thought to be caused or aggravated by wearing hearing protectors. If the suspected medical problem is not thought to be related to wearing protectors, employees must be informed that they should see a physician. • A subsequent audiogram may be substituted for the original baseline audiogram if the professional supervising the program determines that the employee's STS is persistent.
4	<p>Training of affected employees regarding the hazards of noise exposure, and where necessary the fitting of employees with appropriate hearing protection devices and training about their use, care, and limitations.</p>
5	<p>Employees must be retested at least annually if they are exposed above the 85-dBA limit. The results of each employee's annual audiogram must be compared with the baseline audiogram to determine if the employee's hearing has changed. The employee will be notified of the finding.</p>
6	<p>Audiometric testing reviewed by an audiologist. The audiologist will determine if further evaluation or retraining is needed.</p>

Noise Record Keeping

Noise exposure measure records and audiograms shall be kept for the duration of a worker's employment, plus 30 years with the Medical Administrator.

Step	Action
1	Sound level surveys and personal dosimetry results shall be kept with RMSS.
2	The RMSS will maintain documentation of Hearing Conservation Training.

Training Program

UW-Eau Claire employees who are required to work in hearing protection areas shall receive training in all aspects of this policy.

Step	Actions
1	Training will be provided to employees upon initial work assignment to areas that are identified as excessively noisy, and annually thereafter or as needed.
2	Each covered employee must receive annual training that includes the following topics: <ul style="list-style-type: none"> • Effects of noise on hearing. • Use of hearing protection. • Purpose of audiometric testing. • Access to records.
3	UW-Eau Claire is required all employees exposed to noise levels 8-hour TWA or 85 dBA or more to have audiograms annually.

Related Policies:

UW Milwaukee: [Hearing Conservation Program](#)

Occupational Safety and Health Administration (OSHA) regulation, [Occupational Noise Exposure Standard \(29 CFR 1910.95\)](#)

Administration:

Approval Details

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Revision History

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Contact Person/Department

Contact Person:	Brian Drollinger, Director of Risk Management, Safety & Sustainability
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