

OCCUPATIONAL NOISE EXPOSURE HEARING CONSERVATION PROGRAM

**OSHA 1910.95
DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICES
332.15**

Approved by:

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Employer Name:	Menasha Utilities	
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Prepared by:	MEUW, Regional Safety Coordinator	Date: 06/18/2003
Revised by:	MEUW, Regional Safety Coordinator	Date: 11/16/2016
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Purpose

The purpose of this written Occupational Noise Exposure - Hearing Conservation Program is to protect employees from potential hazards associated with loud noise and to comply with SPS 332.15 and OSHA 29 CFR 1910.95 – “Occupational Noise Exposure- Hearing Conservation”.

Menasha Utilities is committed to providing a safe and healthy work environment. Therefore, all employees who can be reasonably expected, as the result of performing their job duties, to be exposed to loud noise while working in or around machinery/equipment shall comply with all policies and procedures outlined in this plan.

Program Administration

Primary responsibilities of the Program Administrator or his/her designee includes, but is not limited to;

- 1) Implement this program,
- 2) Make this program available to all employees for review,
- 3) Complying with all program procedures and regulations and holding employees accountable for safe work practices when exposed to permissible exposure limits,
- 4) Ensure that all employees comprehend the hazards associated with occupational noise,
- 5) Provide and maintaining proper engineering, administrative controls and PPE to comply with state and federal regulations,
- 6) Ensure proper selection of hearing protector for the job based on the hazard(s) involved,
- 7) Notify affected employees about the results of the exposure determination that was conducted in their work areas,
- 8) Ensure that employees with noise exposures at or above the action levels are included in the Hearing Conservation Program,
- 9) Assist with the assessment of noise hazards and exposure monitoring,
- 10) Post signs in noise hazard areas and placing labels on noisy equipment as identified,
- 11) Coordinate employee training/information sessions, as required by state and federal regulations,
- 12) Ensure employee hearing protectors are available, properly worn, adequately cleaned and stored in an appropriate manner,
- 13) Ensure that employees in the program receive an annual audiogram and appropriate training,
- 14) Communicate to employees in the Hearing Conservation Program their status annually, and initiate audiometric testing requirements,
- 15) Contact the Regional Safety Coordinator when questions or problems arise that involve the Hearing Conservation Program,
- 16) Provide any additional forms upon request to employees requesting referenced information in this program, and
- 17) Review the program annually with the Regional Safety Coordinator for any changes, revising as necessary.

Employee Responsibilities

- 1) Employees shall be familiar with and follow all safety rules, guidelines, and procedures complying with all applicable state and federal regulations, and adhere to proper engineering controls in place.
- 2) Employees shall use, maintain, inspect and properly store all appropriate PPE when exposed to occupational noise hazards.

- 3) Employees shall immediately report to a Manager any hazards that they observe.
- 4) Employees shall request from a Manager training or additional training if they do not comprehend the work practices, hazards, or any other related issues to be used during their job duties.
- 5) Employees shall request any additional forms referenced in this program that they do not comprehend or that are included.

Definitions

Action Level – an 8-hour time-weighted average of 85 decibels A-weighted (85 dbA 8-hr TWA), as established by OSHA/DSPS

Administrative Controls – methods that limit an employee's exposure time to noise. This includes assigning the employee to less noisy areas in the workplace for a certain length of time so the employee shall not exceed the action level

Audiogram – a chart, graph, or table resulting from an audiometric test showing an individual's hearing threshold levels as a function of frequency

Audiologist – a professional that specializes in the study and rehabilitation of hearing, who is certified by the American Speech-Language-Hearing Association or licensed by a state board of examiners

Baseline Audiogram – the audiogram against which future audiograms are compared

Criterion Sound Level – a sound level of 90 decibels

Decibel (dB) – unit of measurement of sound level

Department of Safety and Professional services (SPS) – regulatory authority for municipal employers in the state of Wisconsin

Engineering Controls – may include purchasing quieter equipment using barriers, damping, isolating, muffling, installing noise absorption material, mechanical isolation, variations in force, or any combination of methods to decrease noise levels

Frequency – a sound's pitch, measured in hertz (hz); high pitches are high frequency sounds

Hearing Protection Devices (HPDs) – personal protective equipment that is designed to be worn in the ear canal or over the ear to reduce the sound level reaching the ear drum, such as earmuffs or plugs

Hertz (Hz) – unit of measurement of frequency, numerically equal to cycles per second

Medical Pathology – a disorder or disease. For purposes of this regulation, a condition or disease affecting the ear which should be treated by a physician specialist

Noise Dose – the ratio, expressed as a percentage, of (1) the time integral, over a stated time or event, of the 0.6 power of the measured SLOW exponential time-averaged, squared A-weighted sound pressure and (2) the product of the criterion duration (8 hours) and the 0.6 power of the squared sound pressure corresponding to the criterion sound level (90 dB)

Noise Dosimeter – an instrument that integrates a function of sound pressure over a period of time in such a manner that it directly indicates a noise dose

Noise Reduction Rating (NRR) – the Noise Reduction Rating of hearing protection devices (HPD) indicates the theoretical amount of reduction of noise levels that can be achieved if the HPD is worn correctly. This rating is shown on the HPD packaging

Otolaryngologist – a physician specializing in diagnosis and treatment of disorders of the ear, nose and throat

Permissible Exposure Limit (PEL) – 90 dBA 8-hr TWA

Personal Protective Equipment (PPE) – protective clothing, helmets, goggles, or other gear designed to protect the wearer's body or clothing from injury by electrical hazards, heat chemicals, and infection, for job-related occupational safety and health purposes

Representative Exposure – measurements of an employee's noise dose or 8-hour time-weighted average sound level that the employer deems to be representative of the exposures of other employees in the workplace.

Sound Level – ten times the common logarithm of the ratio of the square of the measured A-weighted sound pressure to the square of the standard reference pressure of 20 micropascals. Unit: decibels (dB). For use with this regulation, SLOW time response, in accordance with ANSI S1.4-1971 (R1976), is required

Sound Level Meter – an instrument used for the measurement of noise in sound level

Standard Threshold Shift (STS) – an average shift from the baseline measurement in either ear of 10 dB or more

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

Methods of Compliance

Hearing Conservation Program Participation

Employees will participate in the hearing conservation program whenever workplace noise exposures equals or exceeds and 8-hour time-weighted average sound level (TWA) of 85 decibels using an A scale or, a dose of fifty percent. Employee noise exposures shall be computed in accordance with the *Permissible Noise Exposure Limits* form in this program.

The following department employees are included in the hearing conservation program: Electric Department, Water Department, Operations, and/or any other employees that want to be involved with the hearing conservation program.

Exposure Monitoring

Exposure monitoring is conducted on a periodic basis to measure sound levels to determine if equipment noise exposure levels may be at or above the action decibels. Results of all noise surveys are recorded on the Noise Survey Form. The noise exposure levels shall be reviewed and based on the results, and shall be used to determine whether employees should be

included in the Hearing Conservation Program and the appropriate hearing protection to be used. Affected employees will have the opportunity to observe any sound testing that is performed.

Employee Notification of Noise Monitoring Results is used to notify affected employees about the results of the exposure monitoring that was conducted in their work areas. This form is sent to all employees where the monitoring indicates the noise exposure is at or above the action level. If feasible, administrative or engineering controls will be instituted. Employees with noise exposures at or above the action level will be included in the Hearing Conservation Program.

Employee Notification of Inclusion in the Program and Scheduled Hearing Test is sent to employees in the Hearing Conservation Program to inform them of their status and to initiate audiometric testing requirements. This form is typically sent by the Program Administrator to employees on an annual basis at the time of their required hearing test.

In situations of high worker mobility, variations in sound level or impulse noise makes area monitoring inappropriate representative personal sampling will be used to maintain compliance. All equipment and process sound levels from 80 to 130 dBA's will be integrated into the *Noise Survey Form*.

In order to maintain current noise hazard assessment and on-going exposure monitoring, Managers shall notify the Program Administrator when there are significant changes in machinery, new equipment purchases or production processes that may result in increased noise levels.

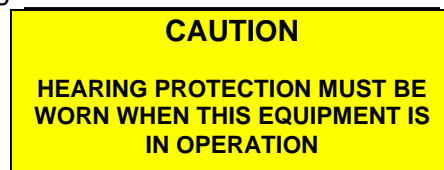
Instruments used to test sound should be calibrated to ensure measurement accuracy periodically and per manufacturer's recommendations. Calibration Certifications should be kept with the *Noise Survey Form*.

After testing is completed, all employees will be notified if they are found to be exposed at or above the action level or if there are changes in the *Noise Survey Form*.

Signs and warning labels should be used to alert employees to noise hazards. All areas with noise levels exceeding 85 dB(A) will be labeled thus to warn employees and visitors entering of the need for hearing protection:



Stationary sources exceeding 85 dB(A) which are activated periodically (such as table saws) should have the following label affixed:



Small, mobile high noise sources exceeding 85 dB(A) (such as weed trimmers and circular saws) should have stickers that warn the user to ear hearing protection.

Notice to Employees Included on the Hearing Conservation Program

This document is updated if new loud piece of equipment is introduced to the workplace and on an as needed basis.

Audiometric Testing

Employees involved in the Hearing Conservation Program receive, at no cost, annual audiometric testing by a licensed health care professional or other competent person as defined in OSHA 1910.95(g)(3). The audiometric testing program complies with the requirements of the OSHA Occupational Noise Exposure standard.

Initial baseline testing is required within the first six months of an employee's first exposure at or above the action level, unless a mobile van testing service is utilized; then the employee must be tested at the next annual testing (if a mobile van test service is used, employees will be required to wear HPDs during exposures above the action level for any time exceeding 6 months of first exposure). Employees will be notified to avoid high levels of occupational and non-occupational noise exposure during the 14-hour period preceding their baseline audiometric examination. The audiometric testing program complies with the requirements of the OSHA Occupational Noise Exposure standard and the SPS.

The Employee Audiometric Record is used by the licensed health care professional to summarize the results of an employee's audiometric tests. The licensed health care professional shall compare the employee's baseline and annual audiogram to determine if a standard threshold shift has occurred and note it on the Corresponding Employee Audiometric Record sent to the Personnel files. In the event a health care professional determines a need for further evaluation, the program administrator shall ensure the following is provided to the health care professional:

- A copy of the hearing conservation requirements
- Baseline and most recent audiogram of the employee evaluated
- Measurements of background sound pressure levels in test room as required in 1910.95 Appendix D "Audiometric Test Room Form"
- Records of audiometer calibration

The employee's Program Administrator and Regional Safety Coordinator shall receive a confidential copy of the employee's hearing test results after the annual audiometric testing. This information is used by the Program Administrator and Safety Coordinator to document the employee hearing status, determine if follow-up testing is required, and provide additional hearing protection, if necessary.

An annual audiogram may be substituted for the baseline audiogram when, in the judgment of the audiologist, otolaryngologist or physician who is evaluating the audiogram when the STS revealed by the audiogram is persistent or indicates significant improvement over the baseline.

The following appendices can be found in OSHA 29 CFR 1910.95: *Appendix A, Noise Exposure Computations; Appendix B, Methods for Estimating the Adequacy of Hearing Protection Attenuation; Appendix C, Audiometric Test Rooms; Appendix D, Audiometric Test Rooms; Appendix E, Acoustic Calibration of Audiometers.*

Employee Notification of a Normal Hearing Test

Affected employees shall be notified of the results of their audiometric test.

Employee Notification of a Standard Threshold Shift

If a standard threshold shift (STS) has occurred, the employee is notified within twenty-one days by their Program Administrator, and a hearing re-test shall be conducted within thirty days of the original test. Employees who experience a work-related STS will be refitted and retrained on the care and use of hearing protectors, will be required to use them to reduce noise hazards below the 85 dBA TWA, and, if necessary, will be provided a hearing protector that offers better attenuation (i.e. reduce employee exposure below the action level).

Employee Notification of a Follow-up Referral

If a standard threshold shift has occurred, referrals for further evaluation of employee hearing problems may be necessary. Such referrals are initiated by the licensed health care professional when additional testing is necessary, or the problem is thought to be caused or aggravated by wearing hearing protectors.

Where the problem is not thought to be caused or aggravated by wearing HPD, the employee shall be informed of the need for an audiological examination.

In referral cases, the employee is scheduled for either an audiological evaluation or an ontological examination, as appropriate. The Safety Coordinator will provide all necessary information to accommodate the referral, as suggested by the licensed health care professional, and inform the employee of the need for further examination.

Revising the Baseline after an STS

Where audiograms reveal that the STS is persistent, the audiogram for that ear shall replace the baseline. Where the annual audiogram shows significant improvement over the baseline, it shall be used as the employee's baseline (OSHA (g) (9) (2)).

Hearing Protection Devices

In the event administrative or engineering controls cannot reduce employee's exposures below the action level, Hearing protection devices (HPD) will be evaluated and administered. HPD will be provided to all employees exposed to noise at or above the action level of 85 dBA (TWA). Employees who have experienced an STS are required to wear special hearing protection to reduce noise hazards below the 85 dBA TWA. All other HPD's for employees will be provided and required for a task, process, or area that will provide, at minimum, attenuation below 90 dBAs TWA. The Program Administrator shall ensure that hearing protectors are available, correctly used, cared for, and properly worn by the employee as specified above.

Employees will be given the opportunity to select between different types of suitable hearing protection devices.

Adequacy of hearing protector attenuation for those devices worn by employees in the Hearing Conservation Program will be determined by the Program Administrator. The methods will, at minimum, follow guidelines in 1910.95 Appendix B, "Methods for Estimating the Adequacy of Hearing Protection Attenuation".

Where changes in monitoring show that HPDs are no longer effective in reducing noise below the action level, additional HPD's will be provided to reduce sound levels below the action level.

Employee Training

Employees in the Hearing Conservation Program shall receive training upon hire and annually thereafter, or when procedural changes take place, regarding:

- the effects of noise on hearing,
- the purpose of hearing protectors (advantages and disadvantages),
- noise reduction rating of various types and attenuation,
- instructions on selection, fitting, use, care and storage,
- the purpose of audiometric testing,
- an explanation of the test procedures, access to information and training materials, and
- review of all applicable OSHA and SPS regulations.

The program administrator is responsible for coordinating training and maintaining all training record to meet regulatory compliance.

New or transferred employees shall receive required training prior to being exposed to occupational noise hazards.

If it is determined that an employee has experienced a standard threshold shift, the person will be retrained on the care and use of hearing protectors by the Program Administrator at the time the STS is determined.

Employee attendance at training sessions shall be documented on the *Employee Training Log* and kept in the safety files. Training documentation shall also include a summary of the topics covered in training and any handout material distributed.

Recordkeeping

Training records are completed for each employee upon completion of training. These documents will be kept for at least **(3) three years**.

The training documentation shall include:

- The dates of the training sessions,
- The contents or a summary of the training sessions,
- The name of the trainer,
- The names, job titles, and signatures of all persons attending the training sessions,
- The completed tests of all persons attending the training sessions, when applicable.

Records regarding the Hearing Conservation Program are compiled and maintained by the Safety Coordinator. Noise exposure measurement records will be retained for a minimum of two years.

Audiometric test records are retained for at least the duration of the affected employee's employment, plus 30 years. This record will include name, job classification, date of audiogram, examiner's name, last audiometric acoustic or exhaustive calibration of the audiometer, most recent employee noise exposure assessment, and test room sound pressure levels.

All records stated in this section will be provided upon request by current and former employees or by representatives appointed by either.

Program Evaluation and Review

The Hearing Conservation written program shall be reviewed annually by the Program Administrator in conjunction with the Regional Safety Coordinator to determine its effectiveness and provide input for potential revisions. The Program Administrator or his/her designee shall coordinate corrective actions and update to reflect necessary changes.

NOISE EXPOSURE REPORT



Employer	Menasha Utilities	Test Conducted by	MEUW Regional Safety Coordinator
Date of Survey	2016	Department	Electric Utility, Water Department

EQUIPMENT	DEPARTMENT / LOCATION of EQUIPMENT	OPERATION	NOISE LEVELS (dBA)				Hearing Protection Signs Posted	NOISE PROTECTION REQUIRED		TYPE OF PROTECTION REQUIRED/ COMMENTS
			IDLE no load	LOADED/ High throttle	OUTSIDE Cab/ Room	INSIDE Cab/ Room	Y/N or N/A	Y	N	

Noise Instrument Type _____ Serial # _____ Calibration Before (Yes No) Calibration After (Yes No) PAGE _____ of _____

Hearing Conservation Program OSHA Acceptable Exposure Limits

The table below indicates the **maximum time period allowed** at the listed **noise exposure limits** for continuous / intermittent sound (without the aid of appropriate hearing protection). The acceptable exposure limit listed in dBA should be compared with the time weighted average noise level that is measured in the work place. Work place values must not exceed the exposure limit for a given time period. Continuous/intermittent noise exposures above 115 decibels (dBA) must NEVER be allowed.

Table 1
Noise Exposure Limits

Maximum Time (Hours)	Exposure Limit (dBA) (Time Weighted Average)
16.00	85
8.00	90
4.00	95
2.00	100
1.00	105
0.50	110
0.25 or less	115

Example (no hearing protection provided): A time weighted noise exposure of 95 dBA would be acceptable for up to 4 hours in an eight-hour workday. A time weighted noise exposure of 110 would be acceptable up to 1/2 hour in an eight-hour workday.

Hearing Conservation Program Noise Hazard Warning Signs and Labels

Signs are used to identify noise hazard areas and warning labels are used to identify noisy equipment. These materials are available through the Program Administrator.

Managers should post noise hazard warning signs in work areas that have noise levels at or above the action level (85 dBA, TWA). Likewise, all equipment generating noise above the action level should be marked with a warning label.

Signs posted in the noise hazard area have wording similar to the following:

HEARING PROTECTION REQUIRED IN THIS WORK AREA

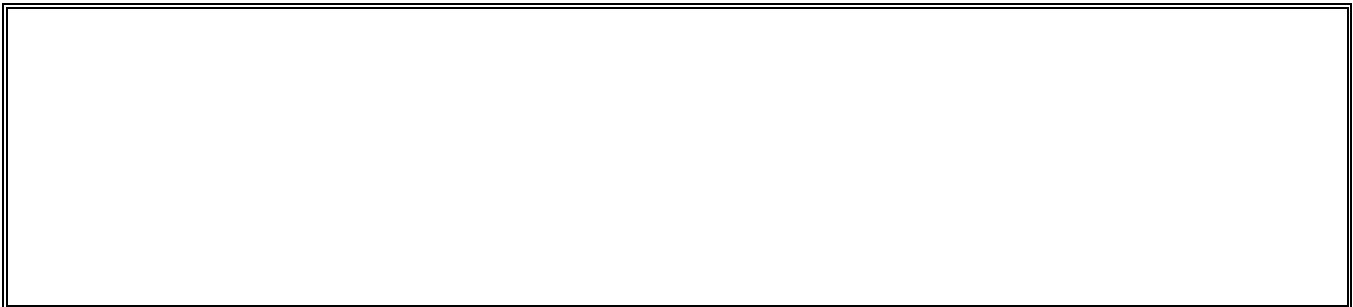
OR

HEARING PROTECTION REQUIRED BEYOND THIS POINT

Labels placed on noisy equipment have wording similar to the following:

WARNING:
WEAR HEARING PROTECTION WHILE OPERATING THIS EQUIPMENT

Other examples of signs and warnings are shown below.



Hearing Conservation Program Hearing Protection Devices

Examples of hearing protection devices (HPD) available through the Program Administrator are identified below. Managers are responsible for ensuring the appropriate HPD is used and worn correctly by the employee. Consult the Program Administrator if assistance is needed in regards to proper attenuation, use, and/or care of HPD's.

Hearing Protection Device	Type (Plug, Muff, etc.)	NRR	Manufacturer Name and Address	Order #/ Phone Numbers