



Carnegie Mellon University

Environmental Health & Safety

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Quick Guide to Hearing Conservation

Occupational Noise Exposure Standard

The Occupational Health and Safety Administration's (OSHA) [Occupational Noise Exposure Standard](#) (i.e. hearing conservation standard) requires employers to:

- Measure workplace noise levels for individuals and areas;
- Provide free hearing protection to employees when they are exposed to certain levels of noise in their workplace;
- Provide free, annual hearing exams when employees are exposed to certain levels of noise in their workplace;
- Provide training to employees on hearing conservation; and,
- Keep records of noise assessments, hearing exam results, training, etc.

Noise Exposure Health Effects

Noise-induced hearing loss is 100% preventable, but when a person's exposure is not reduced or properly protected against, noise can cause **permanent** hearing loss. Hearing aids and surgery cannot correct the damage done to the ear by loud noise.

- If you are in a space and must raise your voice when speaking to someone within arm's length, you are likely in a high-noise area.

OSHA Noise Exposure Levels

- An employee may be exposed to noise up to 90 decibels over an 8-hour time weighted average.
 - This is called the permissible exposure limit (PEL).
 - Employees **MUST** wear hearing protection at or above this level.
- An employee must be enrolled in the [EHS Hearing Conservation Program](#) when exposed to noise at or above 85 decibels over an 8-hour time-weighted average.
 - This is called the action level.
 - Hearing protection is highly encouraged to be worn at or above this level.
 - Hearing protection must be provided to the employee by CMU at this level.

- The action level proactively prevents employees from being exposed to noise levels above the PEL without proper hearing protection and allows the employee to be monitored for hearing loss prior to working in areas with noise levels above the PEL.

Noise Monitoring

- Those employees who are engaged in tasks that have the potential to generate loud noise must be monitored for noise exposure. This may include, but is not limited to:
 - Groundkeepers involved in lawn mowing, leaf blowing, sawing, etc.;
 - Masons;
 - HVAC personnel; and,
 - General maintenance personnel involved in vacuuming, floor sanding or buffing, grinding, etc.

Audiometric Testing

- Annual audiometric tests, i.e. hearing exams, performed by an approved healthcare professional are required for all employees enrolled in the [EHS Hearing Conservation Program](#).
- These annual hearing exams monitor an employee's hearing over time.
- A baseline exam must be performed within 6 months of an employee's first noise exposure at or above the action level, 85 decibels over an 8-hour time-weighted average, and performed annually thereafter.

Hearing Protection

- CMU must provide hearing protection to employees exposed at or above the action level, i.e. an 8-hour time-weighted average of 85 decibels.
- Employees must wear hearing protection when exposed to noise at or above the PEL (90 dBA over an 8-hour time-weighted average).
- Hearing protection must provide adequate noise reduction so that the employee's exposure is below the PEL.

Training

- Annual training is required for all employees enrolled in the [EHS Hearing Conservation Program](#).
- Training is available in person and online. [Contact EHS](#) for questions, to schedule training or to request noise monitoring.