

Hamilton College Occupational Health and Safety Procedures

PROCEDURE 6.0—HEARING CONSERVATION PROGRAM

6.1 INTRODUCTION

Purpose

Personal Protective Equipment (PPE) in general, and hearing protection equipment specifically, is designed to help protect employees from anticipated or recognized workplace hazards. However, hearing protection equipment does not constitute the only method for controlling hazardous noise. It should be used in coordination with other hazard control measures, such as engineering controls (noise isolation devices), administrative controls (training, signage), and other safe work practices (SOP's). When applied properly, the use of multiple hazard control strategies will help to ensure all Hamilton College employees (and students) are adequately equipped to ensure one's health and safety.

Scope & Application

The Federal Occupational Safety and Health Regulations, specifically part 1910.95, requires employers to implement a hearing conservation program to protect employees from anticipated or recognized exposures to hazardous noise in the workplace. This plan will provide the necessary guidance to enable the college to do just that. The OSHA standard may be accessed [HERE](#).

Authority

The subject material in this procedure is based upon requirements of federal law, generally recognized occupational health and safety practices, and/or criteria established by the National Institute of Occupational Safety and Health (NIOSH).

Focus of This Procedure

The focus of program is to further describe Hamilton College's Personal Protective Equipment (PPE) programs principally as it relates to the use of hearing protection, when used to protect college personnel from known sources of hazardous noise in the work place. This Hearing Conservation Program (HCP) is intended to ensure that all employees exposed to sources of hazardous noise are protected by a combination of engineering, administrative, work practice, and personal protective equipment (PPE) controls. For those employees intermittently engaging in activities for short periods of time where high noise hazards are present, training upon and the use of hearing protection may be sufficient to comply with the OSHA requirements. However, where non-PPE control measures are otherwise infeasible to protect an employee from sound levels that exceed a time-weighted average level of 85 decibels over an 8-hour work day, or for higher levels of noise over shorter intervals (see table 1 below), the employer must institute a continuing, effective hearing conservation program.

6.2 RESPONSIBILITIES

1. Hamilton College

Hamilton College shall provide the proper hearing protection devices, and include personnel, when required, in the college's formal HCP, as is necessary to protect the health and safety of all of its employees, in accordance with OSHA regulations.

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2. Academic/Administrative Department Heads & Supervisors

Department heads and supervisors shall:

- Identify and report job areas that require or may require hearing protection equipment, as well as the personnel under their supervision required to such protection.
- Assure that employees are properly trained on the use, limitations, maintenance, cleaning, and disposal of hearing protection, in consultation with the Office of Environmental Protection, Safety & Sustainability.
- Purchase and maintain hearing protection devices as is necessary to conform with this written program.

3. Director of Environmental Protection, Safety & Sustainability (EPS&S)

The Director of EPS&S is responsible for the development, documentation, and administration of the Hamilton College HCP, and shall serve as the program administrator. The Director shall:

- Develop a written program;
- Evaluate hearing/noise hazards in the work environment;
- Provide guidance to departments for the selection and purchase of hearing protection;
- Provide instruction to departments on the proper use, maintenance, and storage of hearing protection;
- Administer the medical audiogram program with a suitable occupational health care provider; and
- Evaluate the overall effectiveness of the hearing conservation program on an on-going basis.

4. Hearing Protection Wearers

Those employees who wear hearing protection devices shall:

- Use hearing protection in accordance with instructions and training received;
- Store, clean, maintain, and guard against damage to hearing protection equipment;
- Report any deficiencies or malfunctions of hearing protection to the Director of EPS&S; and
- Those employees participating in the formal HCP have their hearing tested annually through an audiogram administered by an occupational health care provider:

6.3 ISSUANCE/ASSIGNMENT OF HEARING PROTECTION EQUIPMENT & PARTICIPATION IN THE FORMAL HEARING CONSERVATION PROGRAM

Many individual job assignments at Hamilton College involve the episodic use of equipment or work in locations where employees may be exposed to noise at or above the OSHA threshold of 90 decibels. However, not all employees are exposed to noise at levels high enough or for periods of time long enough, such that they qualify for full participation in the HCP.

Nonetheless, Hamilton College is obligated to protect all of its employees regardless of the duration and severity of exposure, in an effort to minimize that exposure to as low as reasonably achievable.

1. Employees Exposed to Hazardous Noise, But Who Are Not In The HCP

While most college departments do not have personnel fully participating in the HCP, there remains many good reasons to employ hearing protection, as follows:

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- Hearing protection may be specified as a work practice control by either the Job Hazard Analysis (JHA) or Standard Operating Procedure (SOP) methodology, or by an equipment manufacturer;
- Hearing protection may be specified as an administrative control via signage;
- Certain employees may have existing medical conditions or predispositions, making them more susceptible to hearing loss/damage from lower levels of noise; and
- Hearing protection may be a necessary protective device in the event of an emergency, like an accidental arc flash.

Should hearing protection be required or recommended in any of these situations, employees shall be trained on hearing protection devices and their conditions for use accordingly. In the event of changes to either the levels or noise and/or the duration of an employee's exposure to a piece of equipment or work location, department supervisors should consult with the Director of EPS&S to consider inclusion in the formal HCP.

As an alternative strategy to avoid employee inclusion in the HCP, administrative controls utilizing employee time restrictions or work rotations is an acceptable methodology to avoid employee exposures to noise levels above the OSHA PEL of 90 decibels (A weighted). Table 1 below provides information relative to the maximum time an employee could be exposed to a fixed noise level, so as to avoid exposure to levels at or above the PEL. However, this administrative control measure would only be acceptable when applied intermittently. Routine exposures to levels of noise near the 90 decibel (A weighted) PEL over an 8-hour workday would almost certainly exceed the OSHA Action Level of 85 decibels (A weighted), which is the trigger for inclusion in the HCP. So this administrative control measure shall as a non-routine exposure mitigation strategy.

Duration per day, hours	Sound level dBA, slow response
8	90
6	92
4	95
3	97
2	100
1-1/2	102
1	105
1/2	110
1/4 or less	115

2. Employees Exposed to Hazardous Noise, Who Are In The Formal HCP

Based upon existing assessments of the Hamilton College work environment, the one department/shop that is routinely exposed to hazardous noise at a level and duration which necessitates inclusion in the formal HCP is the Physical Plant Grounds Department. Each of the

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4 distinct shops (Grounds, Athletic Grounds, Horticultural Grounds, and the Garage Maintenance Mechanics), currently have the potential for operating noisy equipment for such a period of time, that the threshold of 85 decibels (A weighted) over an 8-hour workshift is exceeded. As such, this department must be participants to the full HCP, as outlined herein.

6.4 NOISE MONITORING

Noise monitoring and analysis may be conducted whenever:

- There is knowledge or suspicion that noise levels exceed 85 dB (A weighted) over an 8-hour time-weighted-average (TWA): or
- Employees have shorter periods of routine exposure to higher levels of noise (see table 1 above).

A combination of noise dosimetry, integrated sound level meter field measures, and direct employee noise exposure interviews will be conducted in order to identify the employees who need to be enrolled in the HCP. Furthermore, noise monitoring shall be repeated when any production, equipment or administrative changes occur which might alter the noise exposure of any employee. When exposure levels that exceed 85db (A) TWA are found, all reasonable efforts will be made to use administrative and/or engineering controls to reduce exposure. If these control measures are infeasible or insufficient to reduce employee exposures to noise, PPE shall be worn and consideration for inclusion in the HCP will be performed.

6.5 AUDIOMETRIC TESTING

Audiometric testing will be conducted on all employees (without cost to the employee) participating in the formal HCP, who:

- Are exposed to levels which equal or exceed the 8-hour 85 dB (A) TWA; or
- Have shorter periods of routine exposure to higher levels of noise (see table 1 above).

An initial baseline audiogram will be obtained and subsequent annual audiograms will be compared to the baseline to ascertain if a significant threshold shift has occurred. All baseline and annual testing will be performed by an audiologist with an occupational health care provider, using the OSHA Amendment guidelines for testing, equipment, and calibration procedures.

6.6 HEARING PROTECTION

Hamilton College employs a number of different types of hearing protection devices, as described in section 4.4 of the Personal Protection Equipment program. It is the employer's responsibility to ensure such hearing protection devices are worn by employees, as follows:

- Hearing protection shall be worn as a PPE control, when other engineering or administrative controls are unsuccessful or otherwise infeasible at reducing employee exposure, to ensure the OSHA PEL of 90 dB (A) TWA is not exceeded;
- Hearing protection shall be worn as a PPE control by those employees participating in the HCP, during those routine activities that expose them above the OSHA action level of 85 dB (A) TWA;

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- Hearing protection shall be worn as specified by JHA's, SOP's, and/or equipment signage, or by those employees who have shorter periods of exposure to higher levels of noise (see table 1 above);
- Hearing protection shall be worn by any employee who has experience a Standard Threshold Shift (STS); and
- Hearing protection should be considered (as a general rule of thumb) any time an employee has trouble communicating with someone who is no further than 3 feet away, and speaking at a normal voice level.

6.7 EMPLOYEE TRAINING

An educational training program will be instituted as follows:

- Personnel who wear hearing protection equipment (whether the PPE is required or recommended only) will be trained on all required elements of the PPE program, including selection, conditions for use, donning/doffing/adjusting, limitations, inspection/disposal, whenever such PPE is used in the workplace.
- Personnel fully participating in the HCP, who have exposures over the OSHA Action Level of 85 decibels (A-weighted) over an 8-hour workday, or who have shorter periods of routine exposure to higher levels of noise (see table 1 above), will receive annual training upon the elements of the HCP included herein.

6.8 RECORDKEEPING & EVALUATION OF PROGRAM EFFECTIVENESS

1. Recordkeeping

The Director of EPS&S will be principally responsible for maintaining all records regarding the Hamilton College HCP, including but not limited to the following:

- Medical audiogram documentation (in consultation with the occupational health care provider);
- Training records;
- Noise monitoring records;
- Hazard assessments; and
- This written program.

2. Evaluation of HCP Effectiveness

Periodic review of the effectiveness of the HCP is essential. The Director of EP&S will conduct periodic surveys to determine the effectiveness of the HCP. This will include work site inspections, interviews with hearing protection wearers, noise monitoring/surveys, and review of other records. Acceptance of hearing protection by the user is especially important. Users will be consulted about their acceptance of wearing hearing protection during annual re-training, or otherwise as needed. The above information can serve as an indication of the degree of protection provided by hearing protection and the effectiveness of the HCP program. Action shall be taken to correct any insufficiencies found in the program.