SECTION 6–PERSONAL PROTECTIVE EQUIPMENT (PPE)

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6.1 PERSONAL PROTECTIVE EQUIPMENT

A. Objective

To provide a safe work environment from injuries or detrimental effects on health, which are not controllable through engineering or administrative means.

B. Scope

- Where required by law.
- Where exposure to the hazard has the potential for injury or illness to an employee.
- Where there is a potential for damage or contamination to property or the environment.
- Where the failure to utilize the equipment would expose non-employees to a safety or health hazard.

C. References

Department of Labor, Occupational Health and Safety Administration (OSHA) 29 Code of Federal Regulations 1910 Subpart I, Illinois Department of Labor 820 ILCS 225 Health and Safety Act.

D. Responsibilities

- Required Personal Protective Equipment (PPE) will be provided by the college.
- Departments that have jobs or tasks that require the use of PPE should budget for those items.
- Departmental managers/supervisors shall enforce the use of PPE.
- All personnel including management and supervisory personnel shall wear PPE when in areas so designated.
- All visitors including, but not limited to, vendors, salespersons and subcontractors shall wear PPE when in areas so designated.
- Contact the Office of Environmental Health & Safety (EHS) for technical support as to the use and selection of appropriate PPE.

E. Eye Protection

All employees, students and visitors exposed to flying particles, chips, etc., shall wear appropriate eye protection.

- Safety Glasses: Safety glasses look very much like normal glasses but are designed and manufactured to certain standards to protect against flying particles. Safety glasses have lenses that are impact resistant and frames that are far stronger than regular street wear. Safety glasses must have side shields and should be worn whenever there is the possibility of flying particles, like dust, wood chips, or paint entering the eye. Always wear safety glasses when using any power tool.

- Goggles: Like standard safety glasses, goggles are impact resistant. Goggles provide a secure shield around the entire eye area to protect against hazards coming from many directions. They should be worn to protect the eyes from splashes or airborne hazards such as dust that can enter the eye from all directions. Safety goggles may have regular or indirect ventilation. (Goggles with indirect ventilation may be required if you are exposed to splash hazards, e.g., solvents, paints, or thinners).

- Face Shield: In addition to safety glasses, a full-face shield shall be worn by employees involved in air-blast cleaning, chipping, chiseling, concrete breaking, equipment wash-down, grinding, handling/ using corrosive or toxic chemicals, high-speed sawing, power brushing or buffing, sandblasting and steam cleaning.

- Tinted Googles: In addition to safety glasses, appropriate tinted goggles shall be worn for all torch cutting or burning operations.

- Welding Hood: In addition to safety glasses, a welding hood shall be worn by all employees performing, assisting, or observing welding, burning, or cutting operations.

- Eye- and face-protective devices shall conform to the requirements of ANSI Z87.1–2015.

- Eye- and face-protective devices shall:
  - Be reasonably comfortable yet fit snugly and not unduly interfering with the movement of the wearer.
  - Be kept clean and in good repair.

F. Head Protection

Head protection shall be required where there is potential for injury to the head from falling objects or overhead obstructions. Management, with appropriate technical support, shall post signs identifying head protection requirements at appropriate locations. Protective helmets shall comply with ANSI/ISEA Z89.1-2014.

G. Foot Protection

Employees and authorized visitors shall wear shoes or boots, which are suitable for the areas of the facility in which they are working or visiting. Employees working in areas or jobs where there are dangers of foot injuries due to objects falling, rolling, crushing, or piercing the sole, and where such employee's feet are exposed to electrical hazards will wear protective footwear. Protective footwear shall comply with ASTM F2413 - Performance Requirements. Slip resistant footwear is also required for some employee groups that frequently work in wet areas.

H. Hand Protection

Supervisors shall select and require employees to use appropriate hand protection when employee's hands are exposed to hazards such as those from skin absorption of harmful substances; severe cuts or lacerations; severe abrasions; punctures; chemical burns; thermal burns and harmful temperature extremes.

I. Protective Clothing and Equipment

Protective clothing and equipment shall be provided to accomplish all assigned tasks in a safe and healthy manner. Cotton fiber (100%) clothing should be worn when working around electrical, heat or flame.

6.2 RESPIRATORY PROTECTION PROGRAM

A. Objective

To provide a safe work environment from detrimental effects on health from airborne hazards, which are not controllable through engineering or administrative means.

B. Scope

- Where required by law.
- Where exposure to an airborne hazard has the potential for injury or illness to an employee.

C. References

Department of Labor, Occupational Health and Safety Administration 29 Code of Federal Regulations 1910.134, Illinois Department of Labor 820 ILCS 225 Health and Safety Act.

D. Responsibilities

Supervisors shall be familiar with the chemicals and products that are being used in the workplace. Supervisors shall contact the Office of Environmental Health & Safety (EH&S) if they have employees working with chemicals or processes that create an airborne hazard.

E. Procedure

- Where chemicals or products that must be used create an airborne hazard, personal air sampling shall be conducted to determine the exposure and appropriate respiratory protection. The Office of EH&S will conduct or hire an outside consultant to conduct personal and/or area air sampling for the airborne hazard.
- EH&S will determine if respiratory protection is needed and if so the appropriate type of respiratory protection.
- All respirator selection and purchase shall be through EH&S.
- If it is found that respiratory protection is needed, the employee must be medically approved to wear a respirator by Northwest Community Healthcare (NCH) in building M.
- NCH will provide a medical evaluation of the employee.
- The EH&S will conduct training and fit testing on the employee on an annual basis.
- In areas or during chemical processes that have been determined to create an airborne hazard, all personnel, including management and supervisory personnel, shall wear a respirator when in the designated areas.

F. Types of Respirators

EH&S will determine the type of respirator to be worn based on the type of work, the toxicity of the hazard, and the particle size of the hazardous substance. Only National Institute for Occupational Safety and Health (NIOSH) approved respiratory protection equipment shall be worn.

There are three basic respirator types:

1. **Air-purifying**: Use the wearer's breath to draw air through filters or chemical cartridges to purify the air before it is inhaled. This is the most common type of respirator.
2. **Powered air-purifying:** A pump draws air through a filter or cartridge to the wearer.

3. **Air-supplying:** Bring a supply of fresh air to the wearer, usually by means of pressurized gas cylinders or air compressors. This type of respirator is the only type that may be used in oxygen-deprived atmospheres.

The most common type of respirator is the **air-purifying respirator**, in which there are three types:

1. **Filtering face piece (dust masks),** which often look like paper dust masks and are thrown away after they are used.
2. **Half-face**, which covers the mouth, nose and chin and has replaceable filters and cartridges.
3. **Full-face**, which look like old-fashioned gas masks and have a replaceable canister.

Additionally, these air-purifying respirators must have the proper type of filter or respirator cartridge. EH&S will identify the proper type of filter or cartridge based on the physical and chemical composition of the hazardous substance. Air purifying respirators shall never be used in oxygen-deficient atmospheres.

G. Training

Training shall be provided on the different hazards to which they are potentially exposed. The training shall include:

- Explanations and discussions of respiratory hazards and misuse.
- The need for respiratory protection.
- The reason for selecting a particular respirator.
- The function, capabilities, and limitations of the selected respirator.
- The method for donning the respirator and checking its fit and operation.
- Proper wearing instructions; respirator maintenance.
- Recognizing and handling emergency situations.
- Special instructions as required.
- Regulations concerning respirator use.
- Identification of the appropriate respirator cartridges and canisters used, by printed label and color code.

H. Employee Care and Use of Issued Respirators

Employees or student workers that have been issued respirators either for required use or voluntary use must follow the following guidelines:

1. Conduct a “self-fit check” or “user seal check” when the respirator is first put on to make sure the respirator is properly sealed around the face. This is done by putting on the respirator and seeing if it will briefly maintain negative pressure when the wearer inhales or will maintain positive pressure when the wearer exhales. The respirator does not fit properly if the wearer feels air escaping near the nose, under the chin, or from some other place where the seal is broken.
2. Facial hair is not allowed to contact the seals of a tight-fitting air-purifying respirator; this includes, but is not limited to, stubble beard growth, beard, mustache, or sideburns. If an employee or student with facial hair requires a respirator, a hooded supplied-air or powered air-purifying respirator must be used.
3. At the end of the work period, clean the respirator and store it out of sunlight in a sealable plastic bag. Respirators should never be hung on hooks in the open or left on counters in the work area. Cartridges left out will continue to capture contaminants from the air; they should also be stored in sealable plastic bags.
4. Respirators should not be shared. Keep track of your respirator so that you do not mistakenly use some else’s respirator.

5. Inspect respirators carefully and periodically for wear and damage. If there is damage to the respirator, return the respirator to the supervisor for repair or replacement.

I. Voluntary Use of Respirators

Supervisors may provide respirators at the request of the employees or permit employees to use their own respirators if the respirator they have will not, itself, create a hazard.

Employees using a respirator voluntarily must still participate in the Respiratory Protection Program, which entails being medically evaluated, fit tested, and trained. For those employees that voluntarily wear dust masks (filtering facepiece respirators), no medical examination is required. EH&S shall be contacted to review the type of respirator.

Employees shall be given a copy of Section 6.3 -*Information for Voluntary Use of Respirators.*

Surgical masks that are just for the physical hazard of splashes and viruses are not required to participate in the Respiratory Protection Program.

J. Program Evaluation

Supervisors shall conduct an evaluation of their employees in the respirator program to assess the employee's views on program effectiveness and to identify any problems. The evaluation should ensure employees are using their respirators appropriately, maintaining their respirators, and that they do not interfere with work.

6.3 INFORMATION FOR VOLUNTARY USE OF RESPIRATORS

Respirators are an effective method of protection against designated hazards when properly selected and worn. Respirator use is encouraged, even when exposures are below the exposure limit, to provide an additional level of comfort and protection for workers. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the worker. Sometimes, workers may wear respirators to avoid exposures to hazards, even if the amount of hazardous substances does not exceed the limits set by OSHA standards. If you are given a respirator by your supervisor for your voluntary use, or if you provide your own respirator, you need to take certain precautions to be sure that the respirator itself does not present a hazard.

You should do the following:

1. Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warning regarding the respirator's limitations.
2. Choose respirators certified for use to protect against the contaminant of concern. The National Institute for Occupational Safety and Health (NIOSH) of the U.S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator packaging. It will tell you what the respirator is designed for and how much it will protect you.
3. Do not wear your respirator in an atmosphere containing contaminants which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke.
4. Keep track of your respirator so that you do not mistakenly use someone else's respirator.

I have decided voluntarily to wear a respirator. I have read and understand proper respirator use and care.

Name (print): _____

Signature: _____ Date: _____

Department: _____

Check Box for Type of Respirator:

☐ Filtering Face Piece Respirator (Dust Mask)

OR

☐ Half-face Cartridge, Air Purifying Respirator

6.4 HEARING CONSERVATION PROGRAM

A. Objective

To provide a safe work environment from detrimental effects of noise exposure, which are not controllable through engineering or administrative means.

B. Scope

- Where required by law.
- Where exposure to noise has the potential for injury to an employee.
- Where noise exposure equals or exceeds an 8-hour time-weighted average sound level (TWA) of 85 decibels measured on the A scale (slow response) or an equivalent dose of fifty percent, this *Hearing Conservation Program* will be implemented.

C. References

Department of Labor, Occupational Health and Safety Administration 29 Code of Federal Regulations 1910.95, Illinois Department of Labor 820 ILCS 225 Health and Safety Act.

D. Responsibilities

Supervisors shall contact the Office of Environmental Health & Safety (EH&S) to conduct sound level readings in areas that are thought to have sound levels equal to or exceeding 85 decibels.

Employees who work in posted hearing protection areas or whose jobs require participation in the *Hearing Conservation Program* must take part in sound level monitoring, baseline and annual audiogram, training, and use of hearing protection.

Areas that have been determined to have noise levels equal to or exceeding 85 decibels should have posted and enforced hearing protection. All personnel including management and supervisory personnel shall wear hearing protection when in these posted areas.

E. Procedure

- **Monitoring** shall be conducted by the Office of Environmental Health & Safety or an outside agency when information indicates that any employee's exposure may exceed 85 decibels. Employees will be informed of the monitoring results.
- **Audiometric testing and evaluation** shall be conducted for employees within their first 6 months on a job that is identified to participate in the *Hearing Conservation Program* and annually thereafter. Audiometric testing will be conducted by a qualified audiologist, or a designated healthcare provider.
- **Audiometric evaluation** shall be conducted by a qualified audiologist, or an approved health care provider. The evaluation shall compare the annual audiograms to the baseline audiograms to determine if there is a standard threshold shift (as defined in the OSHA standard as change in hearing of 10 decibels or more at 2000, 3000, and 4000Hz in either ear, allowances may be made for age). If it has been determined an employee has a standard threshold shift, they shall be retested within 30 days. If follow-up still indicates a standard threshold shift the employee must be notified in writing within 21 days of the determination.
- **Hearing protection** shall be selected by the Office of Environmental Health & Safety and provided to employees by their supervisors.
- **Training** shall be conducted annually by the Office of Environmental Health & Safety, a qualified audiologist, or the designated health care providers conducting the audiometric testing will inform employees of the following:

1) The effects of noise on hearing
2) The purpose of hearing protectors, the advantages, disadvantages and attenuation of various types, and instructions on selection, fitting, use and care.
3) The purpose of audiometric testing, and an explanation of the test procedures.

- **Recordkeeping** of audiometric testing and exposure measurements of specific jobs shall be kept by the Office of Environmental Health & Safety, Department of Risk Management.