Villanova University
Department of Environmental Health and Safety
Policy and Procedure Manual

Subject: Respiratory Protection Program

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<tr>
<th>Number:</th>
<th>S13</th>
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<td>Effective:</td>
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<td>4/15</td>
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I. Purpose

Villanova University has determined that certain employees are exposed to respiratory hazards during routine operations. These hazards can include; chemical vapors, certain biohazards, asbestos and other particulates. The purpose of this program is to ensure that all Villanova University employees and students are protected from over-exposure to these respiratory hazards.

Engineering controls, such as ventilation and substitution of less toxic materials, are preferred methods to manage respiratory hazards; however, they are not always feasible. In these situations, respirators and other protective equipment must be used. Respirators are also needed to protect employee health during emergencies. The work activities requiring respirator use at Villanova University are outlined in Table 1 in the Scope and Application section of this program.

In addition, some employees have expressed a desire to wear respirators during certain operations that do not require respiratory protection. As a general policy Villanova University will review each of these requests on a case-by case basis. As outlined in the Scope and Application section of this program, voluntary respirator use is subject to certain requirements of this program.

II. Scope and Application

This program applies to all employees who are required to wear respirators during normal work operations, and during some non-routine or emergency operations such as a spill of a hazardous substance. This includes employees in Environmental Health and Safety (EHS), Student Health Center, Academic Science Departments, and Facilities Management Organization (FMO). All employees working in these areas and engaged in certain processes or tasks (as outlined in table that follows) must be enrolled in the Villanova’s respiratory protection program.
Table 1: Work activities that require respirator protection. For more details please contact EHS at 610-519-6895.

<table>
<thead>
<tr>
<th>Work Process</th>
<th>Type of Respirator</th>
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<tbody>
<tr>
<td>Chemical Hazards</td>
<td>Full face Air-purifying Respirator (APR)</td>
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<td></td>
<td>Half-face Air-purifying Respirator (APR)</td>
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<tr>
<td>Biohazards</td>
<td>N95 disposable mask</td>
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<td></td>
<td>N99 disposable mask</td>
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<tr>
<td>Emergency response</td>
<td>Half, Full Face Air-purifying Respirator (APR), Self-Contained Breathing Apparatus (SCBA), Powered Air-purifying Respirator (PAPR)</td>
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III. Responsibilities

Program Administrator

The Program Administrator is responsible for administering the respiratory protection program. Duties of the program administrator include:

- Identifying work areas, processes or tasks that require workers to wear respirators, and evaluating hazards.
- Selection of respiratory protection options.
- Arranging for and/or conducting fit testing and training.
- Administering the medical surveillance program.
- Maintaining records required by the program.
- Evaluating the program.
- Updating written program, as needed.

The Program Administrator for Villanova University is designated by the EHS Director.
Supervisors

Supervisors are responsible for ensuring that the respiratory protection program is implemented in their areas of responsibility. In addition to being knowledgeable about the program requirements for their own protection, supervisors must also ensure that the program is understood and followed by the employees under their charge. Duties of the supervisor include:

- Ensuring that employees under their supervision (including new hires) have received appropriate training, fit testing and annual medical evaluation.
- Ensuring the availability of appropriate respirators and accessories.
- Enforcing the proper use of respiratory protection when necessary.
- Ensuring that respirators are properly cleaned, maintained, and stored according to the respiratory protection plan.
- Ensuring that respirators fit well and do not cause discomfort.
- Continually monitoring work areas and operations to identify respiratory hazards.
- Coordinating with the Program Administrator on how to address respiratory hazards or other concerns regarding the program.

Employees

Each employee has the responsibility to wear his or her respirator when and where required and in the manner in which they were trained. Employees must also:

- Only wear the respirator for the conditions specified in their Fit Test Report.
- Care for and maintain their respirators as instructed, and store them in a clean sanitary location.
- Inform their supervisor or EHS if the respirator no longer fits well, and request a new one that fits properly.
- Inform their supervisor or the Program Administrator of any respiratory hazards that they feel are not adequately addressed in the workplace and of any other concerns that they have regarding the program.
IV. PROGRAM ELEMENTS

Selection Procedures

The Program Administrator will select respirators to be used on site, based on the hazards to which workers are exposed and in accordance with all OSHA standards.

The hazard evaluation may include exposure monitoring to quantify potential hazardous exposures. Monitoring will be conducted if the industrial hygienist conducting the evaluation determines that it is required. Monitoring will be schedule by EHS staff when needed.

NIOSH Certification

All respirators must be certified by the National Institute for Occupational Safety and Health (NIOSH) and shall be used in accordance with the terms of that certification. Also, all filters, cartridges, and canisters must be labeled with the appropriate NIOSH approval label. The label must not be removed or defaced while it is in use.

Voluntary Respirator Use

Disposable N95 or N99 respirators are the only Voluntary Use respirators permitted by Villanova University. Villanova University does not permit its employees to use their own respirators.

Villanova University may provide disposable N95 respirators filtering respirators at no charge to employees for voluntary use for the following work processes:

- FMO workers may wear disposable N95 respirators for dusty operations.

The Program Administrator will provide all employees who voluntarily choose to wear respirators with a copy of Appendix D of the OSHA respiratory protection standard (found in Appendix A of this document). Appendix D details the requirements for voluntary use of respirators by employees.

The Program Administrator shall authorize voluntary use of respiratory protective equipment as requested by all other Villanova University employees on a case-by-case basis, depending on specific workplace conditions and the results of the medical evaluations.
Medical Evaluation

Employees who are required to wear respirators, or have special permission by EHS to voluntarily wear a reusable air-purifying respirator (APR), must pass a medical exam before being permitted to wear a respirator on the job. Employees are not permitted to wear respirators until a physician has determined that they are medically able to do so. Any employee refusing the medical evaluation will not be allowed to work in an area requiring respirator use.

Medical evaluations are provided by a physician, or other licensed healthcare professional at WorkNet.

Medical evaluation procedures are as follows:

- The medical evaluation will be conducted using the questionnaire provided in Appendix C of the OSHA respiratory protection standard. The Program Administrator will provide a copy of this questionnaire to all employees requiring medical evaluations.
- Each affected employee will be given a copy of the medical questionnaire to fill out and will bring the completed questionnaire to the medical practitioner. Employees will be permitted to fill out the questionnaire on company time.
- Follow-up medical exams will be granted to employees as required by the standard, and/or as deemed necessary by the medical practitioner.
- All employees will be granted the opportunity to speak with the medical practitioner about their medical evaluations, if they so request.

The Program Administrator will provide the following for each employee requesting medical evaluation in a letter to WorkNet’s medical staff:

- a summary of the employee's exposure to a hazardous substance.
- his or her work area or job title.
- proposed respirator type and weight.
- length of time required to wear respirator.
- expected physical work load (light, moderate, or heavy).
- potential temperature and humidity extremes.
- any additional protective clothing required.
After an employee has received clearance and starts to wear his or her respirator, additional medical evaluations will be provided under the following circumstances:

- Employee reports signs and/or symptoms related to his/her ability to use a respirator, such as shortness of breath, dizziness, chest pains, or wheezing.
- A physician informs the Program Administrator that the employee needs to be reevaluated.
- Information from the program, including observations made during fit testing and program evaluation, indicates a need for reevaluation.
- A change occurs in workplace conditions that may result in an increased physiological burden on the employee.

All examinations and questionnaires are to remain confidential between the employee and the physician.

**Fit Testing**

Fit testing is required for Villanova University employees who are required to wear respirators. Employees who are required to wear half-facepiece APRs will be fit tested:

- Prior to being allowed to wear any respirator with a tight fitting facepiece.
- Annually thereafter.
- When there are changes in the employee's physical condition that could affect respiratory fit (e.g., obvious change in body weight, facial scarring, etc.).

Employees will be fit tested with the make, model, and size of respirator that they will actually wear. Employees will be provided with several models and sizes of respirators so that they may find an optimal fit.

The Program Administrator will conduct fit tests following the OSHA approved QNFT Protocol, Irritant smoke QLFT Protocol, or the Bitter Aerosol QLFT Protocol as outlined in the OSHA Respiratory Protection standard.

**General Use Procedures:**

Employees will use their respirators under conditions specified by this program, and in accordance with the training they receive on the use of each particular model. In addition, respirators shall not be used in a manner for which they are not certified by NIOSH or by the manufacturer or for an exposure or work activity that is not approved by EHS.
All employees not wearing disposable N95 respirators shall conduct user seal checks each time that they wear their respirators. Employees shall use either the positive or negative pressure check (depending on which test works best for them) specified in Appendix B-1 of the OSHA Respiratory Protection Standard.

All employees shall be permitted to leave the work area to maintain their respirator for the following reasons: to clean their respirators if the respirator is impeding the ability to work, change filters or cartridges, replace parts, or to inspect respirator if it stops functioning as intended. Employees should notify their supervisors before leaving the area.

**Respirator Malfunction**

For any malfunction of an APR (e.g., such as breakthrough, facepiece leakage, or improperly working valve), the respirator wearer should inform his or her supervisor that the respirator no longer functions as intended, and obtain a replacement.

**Cleaning**

Respirators (except for disposable respirators such as N95s) are to be regularly cleaned and disinfected at a suitable location by the employee.

Respirators issued for the exclusive use of an employee shall be cleaned as often as necessary.

**Follow manufacturer's recommendations if they differ from the following disinfection and cleaning procedures:**

- Disassemble respirator, removing any filters, canisters, or cartridges.
- Wash the facepiece and associated parts in a mild detergent with warm water. Do not use organic solvents.
- Rinse completely in clean warm water.
- Wipe the respirator with disinfectant wipes (70% Isopropyl Alcohol) to kill germs.
- Air dry in a clean area.
- Reassemble the respirator and replace any defective parts.
- Place in a clean, dry plastic bag or other air tight container.

Note: The employee's supervisor will ensure an adequate supply of appropriate cleaning and disaffection material at the cleaning station. If supplies are low, employees should contact their supervisor who will order the needed supplies.
Maintenance

Respirators are to be properly maintained at all times in order to ensure that they function properly and adequately protect the employee. Maintenance involves a thorough visual inspection for cleanliness and defeats. Worn or deteriorated parts will be replaced prior to use. No components will be replaced or repairs made beyond those recommended by the manufacturer.

Employees are permitted to leave their work area to perform limited maintenance on their respirator in a designated area that is free of respiratory hazards.

Inspection of the respirator must be conducted before every use. The following checklist will be used when inspecting respirators:

**Facepiece:** cracks, tears, or holes; facemask distortion; cracked or loose lenses/faceshield.

**Headstraps:** breaks or tears; broken buckles.

**Valves:** residue or dirt; valve distortion; cracks or tears in valve material.

**Filters/Cartridges:** NIOSH approval designation; gasket integrity; cracks or dents in housing; proper cartridge for hazard.

**Air Supply Systems:** breathing air quality/grade; condition of supply hoses; hose connections; settings on regulators and valves.

Change Schedules

Respirator users are informed of the proper cartridge change schedule during annual training. For more information on cartridge change schedules, contact the Program Administrator at EHS.

Storage

Respirators must be stored in a clean, dry area, and in accordance with the manufacturer's recommendations. Each employee will clean and inspect their own air-purifying respirator in accordance with the provisions of this program and will store their respirator in a plastic bag in their own emergency response bag or other suitable location.
**Defective Respirator**

Respirators that are defective or have defective parts shall be taken out of service and given to the supervisor. If, during an inspection, an employee discovers a defect in a respirator, he/she is to bring the defect to the attention of his or her supervisor. Supervisors will decide whether to:

- Temporarily take the respirator out of service until it can be repaired.
- Perform a simple fix on the spot such as replacing a headstrap.
- Dispose of the respirator due to an irreparable problem or defect.

**Training**

The Program Administrator will provide training to respirator users and their supervisors on the contents of the Villanova University Respiratory Protection Program and their responsibilities under it, and on the OSHA Respiratory Protection standard. Workers will be trained prior to using a respirator in the workplace. Supervisors will also be trained prior to using a respirator in the workplace or prior to supervising employees that must wear respirators.

The training course will cover the following topics:

- The Villanova University Respiratory Protection Program
- The OSHA Respiratory Protection standard
- Respiratory hazards encountered at Villanova University and their health effects
- Proper selection and use of respirators
- Limitations of respirators
- Respirator donning and user seal (fit) checks
- Fit testing
- Emergency use procedures (if applicable)
- Maintenance and storage
- Medical signs and symptoms limiting the effective use of respirators

Employees will be retrained annually or as needed (e.g., if they change departments and need to use a different respirator). Employees must demonstrate their understanding of the topics covered in the training through hands-on exercises, i.e. correctly donning and doffing the respirator. Respirator training will be documented by the Program Administrator and the documentation will include the type, model, and size of respirator for which each employee has been trained and fit tested.
V. PROGRAM EVALUATION

The Program Administrator will conduct periodic evaluations of the workplace to ensure that the provisions of this program are being implemented. The evaluations will include regular consultations with employees who use respirators and their supervisors, site inspections, air monitoring and a review of records.

Problems identified will be reported to employee's supervisor and will specific corrective actions and target dates for the implementation of those corrections.

VI. DOCUMENTATION and RECORDKEEPING

A written copy of this program and the OSHA standard is available on OSHA's website and also kept in the EHS office. It is available to all employees who wish to review it.

Copies of training and fit test records are maintained in the EHS office. These records will be updated when: new employees are trained, existing employees receive refresher training, and as new fit tests are conducted.

The Program Administrator will also maintain copies of the medical clearance records for all employees covered under the respirator program. The completed medical questionnaire and documented findings are confidential and will remain with the appropriate medical practitioner. EHS will only retain written recommendation regarding each employee's ability to wear a respirator.
APPENDIX A

Information for Employees who Voluntarily Use Respirators

SubPart Title: Personal Protective Equipment

APPENDIX D to Sec. 1910.134 (Mandatory) Information for Employees Using Respirators When Not Required Under the Standard

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 substance does not exceed the limits set by OSHA standards. If your employer provides respirators 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 warnings regarding the respirator's limitations.
2. Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or 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 into atmospheres containing contaminants for 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.

Employee Signature: ____________________________________ Date: ___________________

Program Administrator: _________________________________ Date: ___________________