

Respiratory Protection Program

Purpose

Michigan Technological University has determined that certain employees are required to perform tasks involving actual or potential disturbance of asbestos containing materials which could result in respiratory exposures. These employees are trained to perform this work and at times may be required to wear a respirator. Other engineering and administrative methods are employed to control asbestos exposures during this work as required and appropriate.

A number of other tasks are performed by MTU employees that have the potential for exposure to harmful air contaminants. Engineering controls, for example laboratory fume hoods, have been provided to eliminate or reduce exposures to safe levels. It is the responsibility of faculty, supervisors, and managers to utilize these existing engineering controls as well as administrative controls to keep air contaminant exposures below the Michigan Occupational Health permissible exposure limit, PEL, if it exists. Where existing engineering controls are not adequate, it is their responsibility to determine the feasibility of installing additional engineering and administrative controls, including substitution of less toxic materials, necessary to maintain exposures below the PEL. It is highly encouraged that these engineering and administrative control methods be utilized to keep air contaminant concentrations not only below the PEL, but as low as reasonably feasible and below the applicable ACGIH threshold limit value, especially where a PEL does not exist. Respirators shall only be used to achieve compliance with a PEL when it is not feasible to do so with engineering or administrative controls. When respirators are used by employees at MTU, their use is subject to the requirements of this program and each request will be reviewed by Occupational Safety and Health Services.

In those cases where a respirator is desired during certain operations where it is not required by MTU, its use is also subject to the requirements of this program. Occupational Safety and Health Services will review each of these requests on a case-by-case basis.

Scope and Application

This program applies to all employees who are required to wear respirators during normal work operations or during non-routine operations such as spill clean-up or emergency operations. Voluntary use of a respirator when a respirator is not required is subject only to the medical evaluation, cleaning, maintenance, and storage elements of this program and must be provided with certain information specified in this section of the program.

Voluntarily use of filtering facepieces (dust masks) is not subject to the medical evaluation, cleaning, storage and maintenance provisions of this program.

Employees who are required to wear a respirator do so at no cost to them. The expense associated with training, medical evaluations, and respiratory protection equipment will be born by MTU.

Responsibilities

1. 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.
- Monitoring respirator use to ensure that respirators are used in accordance with their certifications.
- Arranging for and/or conducting training.
- Ensuring proper storage and maintenance of respiratory protection equipment.
- Conducting qualitative fit testing.
- Administering the medical surveillance program.
- Maintaining records required by the program.
- Evaluating the program.
- Updating the written program as needed.

The Program Administrator for MTU is Allen Niemi, of Occupational Safety and Health Services.

2. Supervisors, Managers, and Faculty

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

- Ensuring that employees under their supervision have received appropriate training, fit testing, and annual medical evaluation.
- Ensuring the availability of appropriate respirators and accessories.
- Being aware of tasks requiring the use of respiratory protection.

- 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.
- Coordination with the Program Administrator on how to address respiratory hazards or other concerns regarding the program.

3. Employees

Each employee subject to this program has the responsibility to wear his or her respirator when and where required and in the manner in which they were trained and to:

- Care for and maintain their respirators as instructed and store them in a clean, sanitary location.
- Inform their supervisor 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 which they have regarding the program.

Program Elements

1. 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 Michigan Occupational Health Standards. The Program Administrator will conduct a hazard evaluation for each operation, process, or work area where airborne contaminants may be present in routine operations or during an emergency. The hazard evaluation will include:

- Identification and development of a list of hazardous substances used in the workplace, by department, or work process.
- Review of work processes to determine where potential exposures to these hazardous substances may occur. This review shall be conducted by surveying the workplace, reviewing process records, and talking with employees and supervisors.
- Exposure monitoring to quantify potential hazardous exposures. Monitoring will be done

by Occupational Safety and Health Services or contracted out as needed.

As a result of this hazard evaluation, class III and IV asbestos work , except when a negative initial exposure assessment is made, requires employees within the regulated area to wear half-facepiece APRs with P100 filters.

2. Updating the Hazard Assessment

The Program Administrator must revise and update the hazard assessment any time work process changes may potentially affect exposure. If an employee believes that respiratory protection is needed during a particular activity, she/he must contact his or her supervisor or the Program Administrator. The supervisor must contact the Program Administrator whenever respiratory protection is requested. The Program Administrator will evaluate the potential hazard, arranging for outside assistance as necessary. The Program Administrator will then communicate the results of that assessment to the supervisor and employee. If it is determined that respiratory protection is necessary, all other elements of this program will be in effect for those tasks and this program will be updated accordingly. When it is determined by the Program Administrator that voluntary use of a respirator is appropriate, its use will be in accordance with this program.

3. 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.

4. Voluntary Respirator Use

The Program Administrator will provide those who voluntarily choose to wear either any half-face air purifying respirator, APR, or filtering facepiece (dust mask) a copy of Appendix D of the standard. Employees choosing to wear a half facepiece APR must comply with the procedures for medical evaluation, respirator use, and cleaning, maintenance, and storage.

The Program Administrator shall authorize all voluntary use of respiratory protective equipment on a case-by-case basis upon request, depending on specific workplace conditions and the results of the medical evaluations.

5. Medical Evaluation

Employees who are either required to wear respirators, or who choose to wear an APR voluntarily, 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 will be performed by a physician or licensed health care professional, PLHCP. Medical evaluation procedures are as follows:

- The medical evaluation will be conducted using the questionnaire provided in Appendix C of the respiratory protection standard. The Program Administrator will provide a copy of this questionnaire to all employees requiring medical evaluations.
- Employees who are unable to read the questionnaire will be sent directly to the PLHCP's office for the medical evaluation.
- All affected employees will be given a copy of the medical questionnaire to fill out, along with a stamped and addressed envelope for mailing the questionnaire to the PLHCP. Employees will be allowed to fill out the questionnaire during work time.
- Follow-up medical exams will be granted to employees as required by the standard, and/or as deemed necessary by the PLHCP.
- All employees will be granted the opportunity to speak with the PLHCP about their medical evaluation if they so request.
- The Program Administrator has provided the PLHCP with a copy of this program, a copy of the Respiratory Protection standard, the list of hazardous substances by work area, and for each employee requiring evaluation: his or her work areas or job title, proposed respirator type, and weight, length of time required to wear the respirator, expected physical work load (light, moderate, or heavy), potential temperature and humidity extremes, and any additional protective clothing required.
- Any employee required for medical reasons to wear a positive pressure air purifying respirator, PAPR, will be provided with one.
- After an employee has received clearance and begun to wear his or her respirator, additional medical evaluations will be provided under the following circumstances:
 - ✓ Employee reports signs and/or symptoms related to their ability to use a respirator, such as shortness of breath, dizziness, chest pains, or wheezing.
 - ✓ The PLHCP or the employee's supervisor informs the Program Administrator that the employee needs to be reevaluated.
 - ✓ Information from this 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.

A list of MTU employees currently included in medical surveillance is maintained in the Occupational Safety and Health Services office. All examinations and questionnaires are to remain confidential between the employee and the PLHCP.

6. Fit Testing

Fit testing is required for employees wearing half-facepiece APRs for exposure to asbestos during class III and IV asbestos work. Employees voluntarily wearing half-facepiece APRs may also be fit tested upon request.

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.
- When there are changes in the employee's physical conditions 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 one that passes the fit test. Fit testing of PAPRs is to be conducted in the negative pressure mode.

Fit tests will be conducted following the OSHA approved irritant smoke protocol in Appendix B (B5) of the Respiratory Protection standard. The Program Administrator has determined that quantitative fit testing is not required for the respirators used under current conditions at MTU. If conditions change, the Program Administrator will evaluate on a case-by-case basis whether quantitative fit testing is required.

7. Respirator Use

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, the respirator shall not be used in a manner for which it is not certified by NIOSH or by its manufacturer.
- All employees shall conduct user seal checks each time that they wear their respirator. 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 Respiratory Protection standard.
- All employees shall be permitted to leave the work area to maintain their respirator for the following reasons:
 - ✓ To clean their respirator if the respirator is impeding their ability to work.
 - ✓ Change filters or cartridges.
 - ✓ Replace parts.

- ✓ Inspect the respirator if it stops functioning as intended.
- Employees performing class III asbestos work must follow all cleanup procedures required under the Asbestos Standards for Construction before leaving a regulated area.
- Employees are not permitted to wear tight-fitting respirators if they have any condition, such as facial scars, facial hair, or missing dentures, that prevents them from achieving a good seal. Employees are not permitted to wear headphones, jewelry, or other articles that may interfere with the facepiece-to-face seal.
- For any malfunction of an APR (e.g., contaminant 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 leave the work area to maintain the respirator. The supervisor must ensure that the employee receives the needed parts to repair the respirator, or is provided with a new respirator.

Cleaning, Maintenance, Change Schedules, and Storage

Cleaning

Respirators are to be regularly cleaned and disinfected at the location designated by the supervisor for this purpose. Respirators issued for the exclusive use of an employee shall be cleaned as often as necessary.

The following procedure is to be used when cleaning and disinfecting respirators:

- Disassemble the respirator, removing any filters, canisters, or cartridges.
- Wash the facepiece and associated parts in a mild detergent with warm water or use a cleaner supplied by the manufacturer. Do not use organic solvents.
- Rinse completely in clean warm water or follow the directions for the manufacturer-supplied cleaner.
- Wipe the respirator with disinfectant wipes 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.

The Program Administrator will ensure that an adequate supply of appropriate cleaning and disinfection materials are available at the MTU Central Stores facility.

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 defects. Worn or deteriorated parts will be replaced prior to use. No components will be replaced or repairs made beyond those recommended by the manufacturer and only parts approved by the manufacturer shall be used.

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
 - ✓ cracks or tears in valve material
 - ✓ missing valves
- Filters or Cartridges:
 - ✓ approval designation
 - ✓ gaskets
 - ✓ cracks or dents in housing
 - ✓ proper cartridge for hazard

Employees are permitted to leave their work area to perform limited maintenance on their respirator in an area that is free of respiratory hazards. Situations when this is permitted include: to wash their face and respirator facepiece to prevent any eye or skin irritation, to replace the filter or cartridge, if they detect vapor or gas breakthrough or leakage in the facepiece, or if they detect any other damage to the respirator or its components.

Change Schedules

Employees wearing APRs or PAPRs with P100 filters for protection against asbestos fibers or other particulates shall change the cartridges on their respirator when they first begin to experience difficulty breathing while wearing their masks or at the end of each shift, whichever occurs first.

Employees with approval for voluntary use of APRs with cartridges other than particulate filters shall change the cartridges on their respirators on a schedule to be determined by the manufacturer and the Program Administrator on a case-by-case basis.

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 APR in accordance with the provisions of this program and will store their respirator in a plastic bag or other sealed container. Each employee will have his/her name on the bag or other storage container and that bag or container will only be used to store that employee's respirator.

Defective Respirators

Respirators that are defective or have defective parts that can not be replaced shall be taken out of service immediately. If, during an inspection, an employee discovers such a defect in a respirator, he/she is to bring the defect to the attentions of his or her supervisor. Supervisors will dispose of all such defective respirators.

8. Training

The Program Administrator will provide training to respirator users and their supervisors on the contents of the MTU Respiratory Protection Program and their responsibilities under it, and on the Michigan Occupational Health Respiratory Protection Standard. Employees 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.

Respirator training will cover the following topics:

- The MTU Respiratory Protection Program
- The Michigan Occupational Health Respiratory Protection Standard
- Respiratory hazards encountered at MTU 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 need to use a different respirator). Employees must demonstrate their understanding of the topics covered in the training through hands-on exercises and a written test. 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.

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 used by the Program Administrator to develop plans and target dates for the implementation of corrections to the program.

Documentation and Recordkeeping

A written copy of this program and the Michigan Occupational Health Respirator Protection Standard is kept in the Occupational Safety and Health Services office and is available to all employees who wish to review it.

Also maintained in the Occupational Safety and Health Services office are copies of training and fit test records. These records will be updated as new employees are trained, as existing employees receive refresher training, and as new fit tests are conducted.

Portage Health Group will maintain copies of the medical records for all employees covered under this respirator program. The completed medical questionnaire and the physician's documented findings are confidential and will remain at the Portage Medical Clinic offices. MTU will only retain the physician's written recommendation regarding each employee's ability to wear a respirator.