

# Administration & Finance

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## BUSINESS POLICY LETTER

TO: All Members of the University Community 97:42

DATE: September 1997

### **Respiratory Protection Rules and Procedures** (Supersedes 88:2)

#### I. PURPOSE

The purpose of this procedure is to protect the health and safety of employees who must work in atmospheres which may be contaminated with harmful substances. Specific rules and procedures are established to ensure that employees are provided with the necessary respiratory protection when working in hazardous air conditions.

These rules and procedures are established in compliance with OSHA regulations requiring a respiratory protection program (29CFR 1910.134), and the respiratory protection requirements and medical surveillance requirements of the Asbestos Regulations for Construction Work (29CFR 1926.58).

#### II. SCOPE

These rules and procedures shall apply to all University employees while working on property owned or leased by Ferris State University.

#### III. PROGRAM ADMINISTRATION

The Environmental Health and Safety Office is responsible for the overall administration of the University's respiratory protection program. All University management and supervisory personnel shall provide full support and cooperation with the Environmental Health and Safety Office in carrying out their assigned functions in the program.

#### IV. MANAGEMENT RESPONSIBILITIES

- A. Respirators shall be provided by the University when such equipment is necessary to protect the health of the employee. The University shall provide the respirators which are applicable and suitable for the purpose intended.
- B. Each supervisor shall insure that his/her employees comply with these rules and procedures.

#### V. EMPLOYEE RESPONSIBILITIES

- A. The employee shall use the provided respiratory protection in accordance with instructions and training received.
- B. The employees shall comply with these rules and procedures.

#### VI. RESPIRATORS

##### A. Air-purifying respirators

The most common type of respirator used by the University's employees is an air-purifying respirator. An air-purifying respirator is a device that fits tightly to the face, covering at least the nose and mouth, and removes contaminants through the air-purifying elements (cartridges). Different air-purifying elements are designed to remove different contaminants; i.e., asbestos fibers, solvent vapors, etc. Therefore, an air-purifying element shall be used only for protection against contaminants covered by the "Approved" label. An air-purifying respirator does not supply oxygen. Therefore, it must not be used in oxygen-deficient atmospheres (less than 19.5% oxygen).

The useful service life of air-purifying elements will vary with the concentration and nature of air-contaminant and the activity of respirator wearer. Air-purifying elements shall be replaced as soon as inhalation becomes difficult due to plugging of the filter or as soon as a vapor or gas contaminant is detected to be penetrating the cartridge by the wearer sensing odor, taste, respiratory irritations or any other similar signal.

B. Approved Respirators

The only respirators that are to be used in this program shall be respirators that:

1. Are approved by NIOSH or MSHA or Bureau of Mines, and
2. Are available to the public, and
3. Have not been modified with non-approved parts, and
4. Have not been modified with approved parts of different types of makes of respirators.

VII. RESPIRATOR SELECTION

- A. A respirator may be used only after feasible engineering controls and work practices have been instituted to minimize employee exposure to hazardous substances.
- B. The selection of a proper respirator for a given situation shall consider the following factors:
  1. Nature of the hazard including the chemical and physical properties of the air contaminant, actual concentration of the toxic material, and the established exposure limits of the toxic materials.
  2. Characteristics of the hazardous operation.
  3. Period of time respirator used.
  4. The respirator characteristics, capabilities, and limitations.
- C. Where respiratory protection is needed for asbestos abatement work, a half-face air-purifying respirator may be used, provided the airborne asbestos fiber concentration does not exceed one tenth (0.1) fibers per cubic centimeter. If the fiber concentration in the work area exceeds this level, a powered air-purifying respirator or a supplied-air respirator shall be used.

VIII. MEDICAL EXAMINATIONS

- A. No employee shall be assigned to tasks requiring the use of respirators if, based upon his or her most recent examination, an examining physician determines that the employee will be unable to function normally wearing a respirator or that the safety or health of the employee and other employees will be impaired by the use of a respirator.
- B. All medical examinations required by these rules and procedures shall be performed by or under the supervision of a licensed physician and shall be provided without cost to the employee.
- C. Preplacement Examinations.

Before an employee is assigned to a task requiring the use of a respirator, a preplacement medical examination shall be provided by the University. The examination shall include:

1. A complete physical examination of all systems with emphasis on the respiratory system, the cardiovascular system and digestive system.
  2. Completion of the respiratory disease standardized questionnaire specified in Title 29, Code of Federal Regulations, Part 1926.58, Appendix D. Part 1.
  3. A chest roentgenogram (posterior-anterior 14 x 17 inches).
  4. Pulmonary function tests to include forced expiratory volume at 1 (one) second.
  5. Any additional tests deemed appropriate by the examining physician.
- D. Periodic Examinations and Termination of Employment Examination.

An annual and termination of employment medical examination shall be provided by the University of each employee assigned to tasks requiring the use of a respirator. The termination examination shall be given 30 days before or after the date of termination of employment. The medical examination shall include:

    1. A complete physical examination of all systems with emphasis on the respiratory systems, the cardiovascular system and digestive tract.
    2. Completion of the respiratory disease standardized questionnaire specified in Title 29, Code of Federal Regulations, Part 1926.58, Appendix D, Part 2.
    3. A chest roentgenogram (posterior-anterior 14 x16 inches) (Asbestos workers only)
    4. Pulmonary function tests to include forced vital capacity and forced expiratory volume at 1 (one) second.
    5. Any additional tests deemed appropriate by the examining physician.
  - E. Information provided to the examining physician.

Prior to the required examinations, the Environmental Health and Safety Office shall provide the following information to the examining physician:

    1. A description of the employee's duties as they relate to the employee's exposure.
    2. The employee's representative exposure level or anticipated exposure level.
    3. A description of any personal protective and respiratory equipment used or to be used.

Information from previous medical examinations of the affected employee that is not otherwise available the examining physician.

F. Physician's written opinion.

The examining physician shall provide to the Environmental Health and Safety Office and the employee's department head a signed written opinion containing the results of the medical examination and shall include:

- G. The physician's opinion as to whether the employee has any detected medical conditions that would place the employee at an increased risk of material health impairment from exposure to asbestos or from using a respirator.
- H. Any recommended limitations on the employee or upon the use of personal protective equipment such as clothing or respirators.
- I. A statement that the employee has been informed by the physician of the results of the medical examination and of any medical conditions resulting from asbestos exposure that require further explanation or treatment.
- J. The physician's opinion **shall not** include specific findings or diagnosis unrelated to occupational exposure to asbestos or the use of a respirator.
- K. The Environmental Health and Safety Office shall provide the employee with a copy of the physician's written opinion within 30 days of its receipt.

IX. Recordkeeping.

The Environmental Health and Safety Office shall establish and maintain an accurate record for each employee subject to the required medical examinations. The record shall be maintained for the duration of employment plus thirty (30) years. The record shall include the following items:

- 1. The name and social security number of the employee.
- 2. Physician's written report.
- 3. Any employee medical complaints related to exposure to asbestos.
- 4. A copy of the information provided to the physician as required by Section VIII-E.

X. RESPIRATORY PROTECTION TRAINING

- A. Prior to using any respirator, each employee shall attend a training course on the proper use of respirators conducted by the Environmental Health and Safety Office. The training course shall include the following:
  - 1. Reasons for needing respiratory protection.
  - 2. The nature, extent, and effects of the hazards to which the person may be exposed.
  - 3. An explanation of why engineering controls are not being applied or are not adequate.
  - 4. An explanation of why a particular type of respirator has been selected for a specific respiratory hazard.
  - 5. An explanation of the operation and the capabilities and limitations of the respirators selected.
  - 6. Instruction in inspecting, putting on, checking the fit of, and wearing the respirator.
  - 7. An opportunity for each respirator wearer to handle the respirator, learn how to put on and wear properly, check its seals, wear it in a safe atmosphere, and wear it in a test atmosphere.
  - 8. An explanation of how maintenance and storage of the respirator is carried out.
  - 9. Instructions in how to recognize and cope with emergency situations.
  - 10. Regulations concerning respirator use.

XI. FIT TESTING

- A. At the time a respirator is assigned to an employee, the Environmental Health Safety Office shall insure that the respirator issued to the employee exhibits the least possible facepiece leakage and that the respirator is fitted properly.
- B. For each employee who is assigned a negative pressure respirator, the Environmental Health and Safety Office shall perform qualitative face fit tests at least every six months thereafter. A record of each fit test shall be maintained by the Environmental Health and Safety Office for at least 3 (three) years. The record shall include:
  - 1. Name and social security number of test subject
  - 2. Date of testing
  - 3. Name of test conductor
  - 4. Respirators selected, and
  - 5. Testing agent

Employees must be clean shaven in order to receive a fit test. Employees with noticeable beard growth will be asked to shave before receiving a fit test. A neatly trimmed mustache is permissible.

- C. Before each use of a negative pressure respirator, the employee shall perform both a negative pressured positive pressure face fit test while wearing the respirator but before entering a contaminated atmosphere.

## XII. ASSIGNMENT OF RESPIRATORS

### A. Assignment and Repairs.

The assignment of all respirators and all replacement of parts and necessary repairs shall be made by the Environmental Health and Safety Office.

### B. Exclusive use.

Wherever possible, an appropriate respirator shall be supplied and assigned to an employee for the employee's exclusive use. After the required initial fit testing, the employee shall be responsible for the periodic inspection, cleaning and storage of the respirator. The employee shall be responsible for maintaining the respirator in proper operating condition.

### C. Periodic use.

Wherever respirators are not assigned for an employee's exclusive use but are assigned periodically for use by the different employees, the Environmental Health and Safety Office shall be responsible for maintaining the respirators in proper operating condition. The respirators shall be inspected, cleaned and necessary repairs made between each use.

### D. Facial Hair.

Employees with beards or other substantial growth will not be issued a respirator equipped with a face piece. Facial hair will prevent the respirator from sealing properly around the nose and mouth and, therefore, the user is afforded essentially no protection.

## XIII. RESPIRATOR MAINTENANCE

### A. Respirator Cleaning and Sanitizing.

Each respirator shall be cleaned and sanitized at the end of each day the respirator is used. The respirator shall be cleaned in accordance with the following procedure

1. Remove the air-purifying elements (filter cartridges). Air-purifying elements must never be washed. Dispose of elements which have become wet.
2. Wash the respirator using warm water and cleaner-sanitizer solution. The respirator body and parts may be scrubbed with a cloth or brush. All foreign matter must be removed carefully from all surfaces of the valve assemblies. Disassemble if necessary. Wipe any areas still showing accumulations of foreign matter with a cloth moistened in a detergent or solvent. After all foreign matter is removed wash again using warm water and cleaner-sanitizer solution.
3. Rinse the respirator **thoroughly** in warm water to remove all cleaners. Remove excess water and allow to dry away from direct heat or sunlight.

### B. Respirator Inspection and Maintenance.

After cleaning a respirator, the entire respirator shall be carefully inspected. All damaged or missing parts shall be replaced. The respirator shall be discarded if any uncorrectable defect is present and the respirator cannot be repaired. Defects may include but are not limited to the following:

1. Cracks, tears, pits, decomposition, stiffening, swelling and distortion of rubber.
2. Distorted or badly worn plastic adapters.
3. Rubber inhalation valve flap that is stiffened, decomposed or contains cuts.
4. Headband that is permanently stretched, stiffened, decomposed, frayed or contains cuts.

### C. Respirator Storage.

When a respirator is not in use, it shall be stored in a clear plastic film bag in a clean, dry, cool place away from sunlight and contaminating vapors, gases and particles. The respirator and bag shall be protected from the distortion from the weight or pressure of surrounding objects.

### D. Emergency Self Contained Breathing Apparatus (SCBA)

A SCBA that is not routinely used but is kept ready for emergency use shall be inspected after each use and at least monthly to assure that it is in satisfactory working condition. A record shall be kept of inspection dates, findings, and remedial actions. Each air and oxygen cylinder shall be inspected monthly to insure that it is fully charged according to the manufacturer's instructions. Emergency and rescue-use SCBA's

shall be quickly accessible, and the storage cabinet or container in which they are stored shall be clearly marked. A department possessing a SCBA shall be responsible for the maintenance and monthly inspection of the respirator.

**XIV. WORK AREA SURVEILLANCE**

The work area of the respirator wearer shall be monitored periodically by the Environmental Health and Safety Office for respiratory hazards. The use of respirators shall be monitored to ensure that the correct respirators are properly worn and the respirators are in good working order.

**XV. EVALUATION OF RESPIRATORY PROTECTION PROGRAM**

The effectiveness of the University's respirator protection program shall be evaluated by the Environmental Health and Safety Office at least annually and corrective action taken to correct defects found in the program.

The evaluation shall include but not be limited to:

1. Wearer acceptance of respirator and program.
2. Assignment and use of respirators.
3. Maintenance and storage of respirators.
4. Effectiveness of respirator protection.

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Richard P. Duffett,  
Vice President for Administration and Finance  
Contact: Physical Plant