Respiratory Protection Program

Presented by the Office of Environmental Health & Safety
Safety through teamwork

“Nothing is so important that it can not be done safely.”
Training Outline

- Introduction
- Respiratory Hazards
- Medical Evaluations
- Respirator Selection
- Proper Wear of Respirators
- Fit Testing
- Respirator Maintenance
- Use and Limitations of Respirators
- QUIZ
OSHA Respiratory Protection Standard

- Standard 29 CFR 1910.134
- Assess the workplace and provide respirators when necessary to protect the health of employees
- Develop and implement a written respiratory protection program
- Provide training on how to properly use respirators
- Provide medical evaluations at no cost to the employees
The Lungs

- Inhalation is the most direct route to the bloodstream
- Inhalation of hazardous materials damages the delicate structures of the lungs
- Damaged lungs are more susceptible to respiratory disease
Respiratory Hazards

• Respiratory protection is required when employees are in areas where effective engineering controls are not feasible to protect the health of the employee from:
  – lack of oxygen
  – harmful dusts, fogs, fumes, mists, gases, smokes, sprays or vapors

• Respiratory Protection must comply with NIOSH/MSHA
Respiratory Protection

- Exposure levels exceed PEL
- During installation of engineering or work practice controls
- Maintenance and repair activities that may result in exceeding the PEL
- Emergency Response where type and/or concentration of contaminant is unknown
- Voluntary Usage
Voluntary Use of Respirators

- ECU may provide respirators at the request of the employees or permit employees to use their own respirators.
- The University must ensure that any employee using a respirator voluntarily is medically able to use that respirator.
Voluntary Use of Respirators

Employee precautions:

• Read instructions on use, maintenance, cleaning and care, and warnings
• Use NIOSH certified respirators only
• Wear respirators designed for your specific use
• Keep track of respirator so you do not mistakenly use someone else’s
Medical Surveillance

- Medical evaluations must be provided to determine each employee’s fitness to wear a respirator.
- These evaluations are required for all respirator users except for employees who voluntarily use dust masks and for the use of escape-only respirators.
- Medical evaluation records will be retained for 30 years beyond the employee’s employment.
Respirator Selection

The selection of respirators depends on what the hazard is and its extent, choosing approved equipment, and ensuring the device is certified.
Respirator Selection

- Chemical & physical properties of the contaminant
- Toxicity & concentration of hazardous material
- Amount of oxygen present
- Limitations & characteristics of available respirators
TYPES OF RESPIRATORS

Air-Purifying

Supplied-Air

Combination
Proper Wear

Employers shall not permit the use of respirators for employees that:

- Have facial hair that interferes with the seal or valve function of the respirator
- If PPE is used such as corrective glasses, the employer will ensure that the PPE will not interfere with the seal of the respirator
Criteria for Determining Comfort

- mask position on nose
- room for eye protection
- room to talk
- mask position on face and cheeks
Criteria for Determining Adequacy of Fit

- Chin properly placed
- Adequate strap tension, not too tight
- Fit across nose bridge
- Respirator of proper size to span distance from nose to chin
- Tendency of respirator to slip
- Self-observation in mirror to evaluate fit and respirator position
Fit Testing

- Fit testing is required for all employees using negative or positive pressure tight-fitting respirators
- Must be repeated annually and whenever a different respirator is used
- Qualitative Fit-Testing is used for this program
Fit Testing

- Employee shall be allowed to pick the most acceptable respirator from all the models and sizes that will provide most adequate protection.

- Fit test shall be performed wearing any applicable safety equipment that may be worn during actual respirator use.

- No respirator will provide adequate protection without a tight seal between the facepiece and the face of the wearer.
Fit Testing

• Employer shall demonstrate:
  – how to put on a respirator
  – how it is positioned
  – how to set strap tension
  – how to determine an acceptable fit

• Employee shall conduct:
  – Negative seal check
  – Positive seal check
Fit Test Exercises

- Normal breathing
- Deep breathing
- Turning head side to side
- Moving head up and down
- Talking
- Grimace (smile or frown)
- Bending over
Taste Threshold Screening

- EH&S will conduct a Taste Threshold Screening to help determine adequate fit of the respirator
- If the test fails, a different respirator must be tried
Respirator Maintenance

All respirators must be cleaned, stored and inspected regularly. This is necessary to provide complete protection.
Cleaning

- Must be cleaned regularly
- Respirator should be cleaned and disinfected if used by more than one person
- Disassemble the respirator and soak in warm water and rinse with clean water
- Respirators may be washed in a detergent solution and then disinfected in a sanitizing solution
- Air dry all parts of the respirator or wipe
Storage

- Respirators must be stored to protect against dust, sunlight, temperature, moisture, and chemicals
- Not to be stored in lockers or tool boxes
- Stored so that facepiece and valves will rest in a normal position
- Respirators should not be stored by hanging them by the headband
Inspection

- Respirators should be inspected before and after each use to ensure all parts are present and operating.
- Rubber and elastomer parts should be checked for pliability and signs for deterioration.
- Any worn or deteriorated parts should be replaced.
Special Maintenance Features

- Filters and cartridges must be changed periodically
- All filters must be properly labeled and color coded
- Self-contained breathing apparatus must be inspected monthly
- Use of SCBA’s is restricted to employees of the Office of Environmental Health and Safety
Remember: Respirators Do Have Limits!
Use and Limitations

• The respirator is the last control measure to ensure safety to the employee

• The respirator is necessary to prevent the inhalation of aerosols and contaminants

• Employees must be familiar with the respirator and its operations

• The respirator must have a proper seal and effective valves in order to perform its job
Use and Limitations

Use and limitation information for the respirators utilized in this program include the following:

- Employees must leave the area if the contaminant can be detected by dizziness.
- If the respirator is damaged or breathing becomes difficult, the employee must leave the area.
- Not all respirators supply oxygen to employees.
- The manufacturer’s operation manual should be used as a reference for additional use.
Program Evaluation

The Respiratory Protection Program will be evaluated annually by the Office of Environmental Health and Safety.

Factors that will be assessed include:

- Respirator fit
- Appropriate respirator selection for the hazards to which the employee is exposed
- Proper respirator use under the workplace conditions the employee encounters
- Proper respirator maintenance
Click the link to complete the QUIZ