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Operating Policy and Procedure

OP 60.05: Respiratory Protection Program

DATE: November 11, 2022

PURPOSE: The purpose of the Texas Tech University (TTU) respiratory protection program is to ensure the protection of all employees and students who are required to wear a respirator while performing their duties.

REVIEW: This OP will be reviewed every two years after publication by the Assistant Vice President for Environmental Health & Safety (EHS) and the Managing Director of Planning and Design within the Operations Division. Substantive revisions will be forwarded to the Associate Vice President for Operations.

POLICY/PROCEDURE

1. Intent

Employee and student protection will be accomplished by complying with guidance in 29 CFR [1910.134](#), [1910.1001](#), and [40 CFR 763.121 Subpart G](#). No employee or student will be given a respirator or instructed to use one without approval from EHS. Respirators shall be used only where engineering or administrative controls are not practical and where a respirator assigned protection factor is sufficient for respiratory wearer protection.

2. Responsibilities

Texas Tech University Environmental Health & Safety (EHS) is the authority for approving respirators and monitoring their use. The Occupational Safety Manager is the approval authority for requests to use respirators and direct employees or students into the program. Supervisors and users of respirators in each department will be responsible for following this policy and guidance provided by EHS.

3. Training

All employees or students required to wear a respirator will be trained annually in the proper use and limitations of the equipment. The employee or student must be given time to handle the respirator and wear it in a normal air situation. He/she must adjust the equipment until it is comfortable and wear the mask for at least five minutes before a fit test is performed. Those employees or students required to wear respirators in IDLH (immediately dangerous to life or health) atmospheres shall be trained in rescue procedures. EHS will retain training records for all personnel requiring training.

Training will include the following:

- The nature of respiratory hazards and what could happen if respiratory protection is not worn properly;
- Engineering and administrative controls being used and the added protection of the respirator;
- Reasons for the selection of respirator types;
- The limitations of the respirator;
- Methods for donning and checking for proper fit; and
- Proper maintenance, cleaning, sanitizing, and storage of respirators.

4. Fit Testing

Fit testing will be performed annually by EHS to ensure all employees or students required to wear respirators have equipment that fits and functions properly. Some factors to be considered regarding respirator use and fit testing are:

- a. Facial Hair – Any facial hair along the sealing area of the respirator such as beards, sideburns, mustaches, or even a few days' growth of stubble will not be permitted on employees who are required to wear a respirator. This facial hair will prevent a good face-to-face piece seal. EHS will not approve or fit test employees or students for respirator use if interfering facial hair is present. The supervisor must not allow a respiratory wearer to enter a contaminated work area when conditions prevent a good seal of the respirator.
- b. Eyeglasses – Ordinary eyeglasses should not be worn with a full-face respirator because the temple bars will prevent a good face-to-face piece seal of the mask. Special corrective lenses are available that can be mounted inside the mask.
- c. Contact Lenses – Wearing contact lenses is acceptable while using a respirator.
- d. Facial Abnormalities – Facial abnormalities such as scars, deep skin creases, prominent cheekbones, severe acne, or the lack of teeth or dentures can prevent a respirator from sealing properly.

During fit testing, the employee or student shall be trained on how to don and adjust the respirator correctly. After donning and adjusting the mask, the employee shall perform positive and negative pressure checks. To perform a positive pressure check, the employee shall seal the exhalation valve with the hand and exhale lightly into the mask. This should cause the mask to expand without leaking around the seal. If there is a leak, the mask must be reset to the face to obtain a good seal. In order to perform a negative pressure check, the employee shall seal the inhalation ports or filters and draw air into the lungs to cause the mask to collapse on the face. If the mask holds this position until the employee exhales, the fit is good. EHS will perform a quantitative fit test on the employee or student because this type of test offers the most accurate, detailed information on respirator fit. It measures particles in the outside air and inside the respirator while the wearer performs exercises that could induce face piece leakage. The particle count outside and inside the face piece is then compared and a fit factor calculated. EHS will retain fit test records until the next fit test is administered.

5. Medical Examinations

Persons assigned to tasks that require wearing a respirator must be physically able to perform the work while using the respirator. Every year, each respirator wearer must obtain a physician's statement of medical qualification to wear a respirator. This may be accomplished through a medical examination or use of the questionnaire in [CFR 29, Part 1910, Subpart I, 134, Appendix C](#), which is then evaluated by a physician or other licensed health care professional. No employee or student will be approved or fit tested for respirator use by EHS without a current physician's statement that he/she is medically qualified to perform her/his duties while wearing a respirator. Medical records will be retained by the service provider for at least the duration of employment plus thirty (30) years.

6. Inspection, Cleaning, Maintaining, and Storage

- a. All respirators must be inspected for wear and deterioration of their components before and after each use. Special attention should be given to rubber, silicone, or plastic parts that can deteriorate. The face piece, especially the sealing surface, headband, valves, and filters, must be in good condition. All self-contained breathing apparatus must be inspected at least monthly. Air cylinders must be fully charged at all times. Regulators and warning devices must be checked to ensure their proper function. Records must be kept of inspection dates and findings. Cylinders may only be filled with air that meets the standards for grade D medical or breathing air. Gaskets, seals, fittings, and regulators shall be inspected on all powered air-purifying respirators (PAPR) and air-line respirators before and after each use.
- b. Chemical cartridges and filters shall be replaced at least every 20 hours of service or sooner if needed. Respirator repairs must be made only by experienced persons and using only parts from the same manufacturer specifically for that respirator model. Respirators shall be cleaned after each use. This can be done with towelettes or cleaning solution designed for that purpose. In addition to this cleaning, respirators shall be disassembled, thoroughly cleaned, and sanitized at least twice a year (more often if used in very dirty environments). This will prolong the life of the respirator and lessen the chances of constant re-infection if the employee contracts a cold or other virus. The cleaning and sanitizing shall be accomplished as follows:
 - Remove all filters and cartridges.
 - Disassemble the respirator.
 - Wash the respirator in a mild soap solution using a sponge or soft brush.
 - While the respirator is disassembled, inspect it and replace any worn parts.
 - Rinse in clean, warm running water.
 - A thorough rinse will remove all soap solution that might irritate the face or damage the respirator.
 - To disinfect the respirator, add one tablespoon of household bleach per gallon of water in a sink or container.
 - Immerse the respirator parts in this solution and allow to stand for two minutes.
 - Remove parts, thoroughly rinse under warm running water.
 - Allow to air-dry or blot dry with a clean, lint-free cloth.
 - Reassemble the respirator.
 - At least once a year, the inhalation and exhalation valves must be replaced during the cleaning procedure.

- c. Respirators must be stored in a manner to protect against dust, sunlight, extreme heat or cold, excessive moisture, or damaging chemicals. A heavy-duty resealable plastic bag is recommended for respirator storage. Store the respirator in a position to prevent mechanical damage from occurring. Respirators shall be stored so that face pieces and exhalation valves rest in a normal position to prevent the mask from becoming deformed. Respirators shall never be hung from their straps or stored in a contaminated environment.

7. Respirator Use and Approval

Only respirators approved and fit tested by EHS will be used at the university. Where required, all respirators, other than those for emergency use, will be issued on an individual basis. No respirators will be shared among employees. As part of the fit test, EHS will provide specific information about the manufacturer's respirator, model, size, and cartridges the employee is authorized to wear. This combination of equipment will be selected to protect the employee from the hazards identified in her/his work environment. It should never be used as protection against any other hazards. If an employee encounters new or unusual hazards, he/she should contact EHS for advice concerning protection from those hazards. The employee should not assume her/his respirator provides protection. The selection of respiratory protection equipment will be based on the characteristics of the hazardous substance, the concentration present, and the limitations of the respiratory protection equipment itself.

8. Voluntary Dust Mask Respirator Use

Dust mask respirators (disposable N-95 type) are designed to filter dust particles of non-toxic airborne contaminants at levels below permissible limits. Dust mask respirators that are part of a job requirement are considered mandatory and employees must complete a medical review, annual training, and annual fit test to be certified to wear a respirator at Texas Tech University. Certification is not required when employees choose to wear a dust mask respirator voluntarily. Regardless of the reason for use, all dust mask respirator users must read and follow these use, storage, and disposal guidelines.

- a. Read and follow all instructions provided by the respirator manufacturer on use, maintenance, cleaning, care, and warnings regarding respirator limitations.
- b. Ensure a good face-to-face piece seal is achieved before each use. Respirator users must be clean-shaven in areas where the respirator contacts the face.
- c. Choose respirators certified by NIOSH (National Institute for Occupational Safety and Health). A label or statement of certification should appear on the respirator or respirator packaging.
- d. Wear dust mask respirators only for atmospheric contaminants for which they are designed. DO NOT use them for lead, asbestos, cadmium, gases, vapors, or very small particles, fumes, or smoke.
- e. Do not share dust mask respirators with other users.
- f. Protect respirators from moisture, dust, or other contaminants by storing them in plastic ziplock bags or containers that can be sealed.

- g. Ensure that no objects are resting against stored respirators. This could damage the face piece and result in improper fit when worn.
- h. Destroy dust masks when discarded. Break straps or tear the respirators to make them unusable for anyone else.