

**Union County Public Schools  
Facilities Department**

**Respiratory Protection Program**

## **General**

The purpose of this program is to establish acceptable practices for respirator use, define responsibilities, provide guidance on proper selection, individual fit testing, use and care of respirators, and record-keeping practices in compliance with OSHA 29 CFR 1910.134.

In the control of those occupational diseases and injuries caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors, the primary objective shall be to prevent atmospheric contamination. This shall be accomplished, as far as feasible, by accepted engineering control measures (i.e. enclosure or confinement of the operation, general and local ventilation) and substitution of less toxic materials. When effective engineering controls are not feasible, or while they are being instituted, appropriate respiratory protection shall be used.

## **Responsibilities**

The provisions of the Respiratory Protection Program (RPP) apply to all personnel of Union County Public Schools Facilities Department. All Facilities Department employees shall follow the requirements of the Respiratory Protection Program.

### **Director and Assistant Director(s)**

- Implement the requirements of this program
- Provide a selection of respirators as required
- Enforce all provisions of this program
- Appoint an individual to administer the RPP

### **Facilities Safety Administrator (Program Administrator)**

- Review sanitation/storage procedures
- Ensure respirators are properly stored, inspected and maintained
- Monitor compliance for this program
- Provide training for affected employees
- Review compliance and ensure monthly inspection of all respirators
- Provide respirator fit testing

### **Designated Occupational Health Care Provider**

RPP 3/1/2013

Revised 10/27/2014

- Conduct medical aspects of program

## **Voluntary Use of Respirators**

OSHA requires that the voluntary use of respirators (when respirators are not required by UCPS to perform a job function) be controlled as strictly as if their use were required. Any employee wearing a respirator voluntarily shall fall under this RPP, be issued a copy of Appendix D of 1910.134, and fill out a medical questionnaire (Appendix C of 1910.134) and have it evaluated by an appropriate health care professional. Training will be conducted on the proper storage, cleaning, and maintenance of the respirator. All steps will be taken to ensure that the respirator does not pose a health risk to the person donning it.

Employees whose only use of respirators involves the voluntary use of filtering (non-sealing) facepieces (dust masks with one or two straps) do not fall under this program.

## **Program Evaluation**

Evaluations of the workplace are necessary to ensure that the written RPP is being properly implemented. This includes consulting with employees to ensure that they are using respirators properly. Evaluations shall be conducted as necessary to ensure that the provisions of the current written program are being effectively implemented and that it continues to be effective.

Program evaluation will include discussions with employees required to use respirators to assess the employees' views on program effectiveness and to identify any problems. Any problems that are identified during this assessment shall be corrected. Factors to be assessed include, but are not limited to:

- Respirator fit (including the ability to use the respirator without interfering with effective workplace performance)
- 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

## **Record Keeping**

Union County Public Schools will retain written information regarding medical evaluations, fit testing, and the respirator program. This information will facilitate employee involvement in the respirator program, assist UCPS in auditing the adequacy of the program, and provide a record for compliance determinations by OSHA.

## **Training and Information**

Effective training for employees who are required to use respirators is essential. The training must be comprehensive, understandable, and recur annually and more often if necessary. Training will be provided prior to requiring the employee to use a respirator in the workplace. The training shall ensure that each employee can demonstrate knowledge of at least the following:

- Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator
- Limitations and capabilities of the respirator
- How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions
- How to inspect, put on and remove, use, and check the seals of the respirator
- Procedures for maintenance and storage of the respirator
- How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators
- The general requirements of this program

Retraining shall be conducted annually and when:

- Changes in the workplace or the type of respirator render previous training obsolete
- Inadequacies in the employee's knowledge or use of the respirator indicate that the employee has not retained the requisite understanding or skill
- Other situation arises in which retaining appears necessary to ensure safe respirator use

Training will be conducted by instructors who have adequate knowledge of OSHA training requirements. Training is divided into the following sections:

### **Classroom Instruction**

1. Overview of the UCPS Respiratory Protection Program and OSHA Standard
2. Respiratory protection safety procedures
3. Respirator selection

4. Respirator operation and use
5. Why the respirator is necessary
6. How improper fit, usage, or maintenance can compromise the protective effect
7. Limitations and capabilities of the respirator
8. How to use the respirator effectively in emergency situations, including respirator malfunctions
9. How to inspect, put on and remove, use, and check the seals of the respirator
10. What the proper procedures are for maintenance and storage of the respirator
11. How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators
12. Change out schedule and procedure for air purifying respirators (APR)

### **Fit Testing**

- For each type and model of respirator used

### **Hands-on Training**

1. Respirator inspection
2. Respirator cleaning and sanitizing
3. Record keeping
4. Respirator storage
5. Respirator fit check
6. Emergencies

## **Basic Respiratory Protection Safety Procedures**

1. Only authorized and trained employees may use respirators. Those employees may use only the respirator that they have been trained on and properly fitted to use.
2. Only physically qualified employees may be trained and authorized to use respirators. A pre-authorization and annual certification by a qualified physician will be required and maintained. Any changes in an employee's health or physical characteristics will be reported to the program administrator and will be evaluated by a qualified physician.
3. Only the proper prescribed respirator may be used for the job or work environment.
4. Employees working in environments where a sudden release of a hazardous substance is likely will wear an appropriate respirator for that hazardous substance.

5. Only SCBAs (self-contained breathing apparatus) will be used in oxygen deficient environments, environments with an unknown hazardous substance or unknown quantity of a known hazardous substance, or any environment that is determined “Immediately Dangerous to Life or Health” (IDLH). IDLH is nonexistent in any Union County Public Schools work environments.
6. Employees with respirators will be responsible for its sanitation, proper storage and security. Respirators damaged by normal wear will be repaired or replaced by UCPS when returned.
7. All respirators will be located in a clean, convenient and sanitary location.
8. In the event an employee must enter into a confined space requiring use of a respirator, all Confined Space Entry Program practices will be followed.
9. Management will establish and maintain surveillance of jobs and work place conditions and degree of employee exposure or stress to maintain the proper procedures and to provide the necessary respiratory protection equipment (RPE).
10. Management will establish and maintain safe operation procedures for the safe use of RPE with strict enforcement and disciplinary action for failure to follow all general and specific safety rules. Standard Operating Procedures for General RPE use will be maintained as an attachment to the RPP.

## Respirator Selection

Union County Public Schools has evaluated the respiratory hazards in each workplace, identified relevant workplace and user factors. Also included are estimates of employee exposures to respiratory hazard(s) and an identification of the contaminant’s chemical state and physical form. This section has limited the selection and use of air-purifying respirators. All selected respirators NIOSH certified.

<b>Air Contaminant</b>	<b>Estimated Exposure</b>	<b>Respirator Type</b>
Asbestos dust particles	TWA to be less than .01 fibers per cubic centimeter in an 8 hour period	Air-purifying half-face negative pressure
Lead dust particles	TWA to be less than 50 micrograms per cubic meter in an 8 hour period	Air-purifying half-face negative pressure

## Filter Classifications

These classifications are marked on the filter or filter package.

**N-Series: Not Oil Resistant**

- Approved for non-oil contaminants (dust, fumes, mists not containing oil)

**R-Series: Oil Resistant**

- Approved for all particulate contaminations, including those containing oil (dusts, mists, fumes)

**P-Series: Oil Proof**

- Approved for all particulate contaminants including those containing oil (dusts, mists, fumes)
- See manufacturer's time use restrictions on packaging

**Respirators for IDLH Atmospheres**

- Union County Public Schools has no work environments considered to be IDLH atmospheres and, therefore, has not specified a respirator for such conditions.

**Respirators for Non-IDLH Atmospheres**

- The respirators selected shall be adequate to protect the health of the employee and ensure compliance with all other OSHA statutory and regulatory requirements, under routine and reasonably foreseeable emergency situations. The respirator selected shall be appropriate for the chemical state and physical form of the contaminant.

**Identification of Filters & Cartridges**

All filters and cartridges shall be labeled and color coded with the NIOSH approval label. The user shall ensure that the label is not removed and remains legible. A change out schedule for filters and cartridges has been developed to ensure these elements of the respirators remain effective.

**Respirator Filter & Canister Replacement**

The RPP includes identifying the useful life of cartridges and filters used on air-purifying respirators. Each filter and cartridge shall be equipped with an end-of-service-life indicator (ESLI) certified by NIOSH for the contaminant.

If there is no ESLI appropriate for the conditions, a change schedule for canisters and cartridges based on objective information or data that will ensure that canisters and cartridges are changed before the end of their service life shall be implemented.

### **Filter & Cartridge Change Schedule**

A stock of spare filters and cartridges shall be maintained to allow immediate change when required or desired by the employee.

Cartridges shall be changed based on the most limiting factor below:

- Prior to the expiration date
- Manufacturers recommendations for the specific use and environment
- After each use
- When requested by employee
- When contaminant is detected
- When restriction to air flow has occurred and evidenced by increase effort by user to breathe normally

Cartridges shall remain in their original sealed package until needed for immediate use.

Filters shall be changed on the most limiting factor below:

- Prior to expiration date
- Manufacturers recommendations for the specific use and environment
- When requested by employee
- When contaminant odor is detected
- When restriction to air flow has occurred as evidenced by increased effort by user to breathe normally
- When discoloring of the filter media is evident

Filters shall remain in their original sealed package until needed for immediate use.

### **Respiratory Protection Schedule by Job and Working Condition**

Union County Public Schools maintains a Respiratory Protection Schedule by Job and Working Condition. This schedule is provided to each authorized and trained employee. The schedule provides the following information:

- Job/Working conditions
- Work location

- Hazards present
- Type of respirator required
- Type of filter/canister required
- Location of respirator
- Filter/cartridge change out schedule

The schedule will be reviewed and updated at least annually and whenever any changes are made in the work environments, machinery, equipment, or processes or if respirator different respirator models are introduced or existing models are removed.

## **Physical and Medical Qualifications**

Records of medical evaluations must be retained and made available in accordance with 29 CFR 1910.1020.

### **Medical Evaluation Required**

The employee will be provided a medical questionnaire by the designated Occupational Health Care Provider. Union County Public Schools utilizes OccMed as their designated health care provider. The local OccMed office utilized by UCPS may be contacted at 704-282-2400.

### **Follow-Up Medical Examination**

Union County Public Schools shall ensure that a follow-up medical examination is provided employees who must wear respirators. The follow-up medical examination shall include any medical tests, consultations, or diagnostic procedures that the physician deems necessary to make a final determination on the health of the employee before the need arises for a respirator to be worn.

### **Administration of the Medical Questionnaire and Examinations**

The medical questionnaire and examinations shall be administered confidentially during the employee's normal working hours by the designated Occupational Health Care Provider. The medical questionnaire shall be administered in a manner that ensures that the employee understands its content. UCPS shall provide the employee with an opportunity to discuss the questionnaire and examination results with the physician.

### **Supplemental Information for the Physician**

The following information must be provided to the physician before the physician makes a recommendation concerning an employee's ability to use a respirator:

- The type and weight of the respirator to be used by the employee
- The duration and frequency of respirator use (including use for rescue and escape)
- The expected physical work effort
- Additional protective clothing and equipment to be worn
- Temperature and humidity extremes that may be encountered
- Any supplemental information provided previously to the physician regarding an employee need not be provided for a subsequent medical evaluation if the information and the physician remain the same

Union County Public Schools has provided OccMed with a copy of the written RPP and a copy of the OSHA Standard 29 CFR1910.134.

### **Medical Determination**

In determining the employee's ability to use a respirator, Union County Public Schools shall obtain a written recommendation regarding the employee's ability to use the respirator from the physician. The recommendation shall provide only the following information:

- Any limitations on respirator use related to the medial condition of the employee, or relating to the workplace conditions in which the respirator will be used, including whether or not the employee is medically able to use the respirator
- The need, if any, for follow-up medical evaluations
- A statement that the physician has provided the employee with a copy of the physician's written recommendation
- If the respirator is a negative pressure respirator and the physician finds a medical condition that may place the employee's health at increased risk if the respirator is used, UCPS shall provide an APR if the physician's medical evaluation finds that the employee can use such a respirator. If a subsequent medical evaluation finds that the employee is medically able to use a negative pressure respirator, then UCPS is no longer required to provide an APR.

### **Additional Medical Evaluations**

At a minimum, Union County Public Schools shall provide additional medical evaluations that comply with the requirements of this section if:

- An employee reports medical signs or symptoms that are related to ability to use a respirator.
- A physician, supervisor, or the respirator program administrator informs UCPS that an employee needs to be reevaluated

- Information from the RPP, including observations made during fit testing and program evaluation, indicates a need for employee reevaluation
- A change occurs in workplace conditions (physical work effort, protective clothing, temperature, etc.) that may result in a substantial increase in the physiological burden placed on an employee.

## **Respirator Fit Testing**

Before an employee is required to use any respirator with a negative or positive pressure tight-fitting facepiece, the employee must be fit tested with the identical make, model, style, and size of respirator, whenever a different respirator facepiece (size, style, model or make) is used, and at least annually thereafter.

Union County Public Schools has established a record of the qualitative and quantitative fit tests administered to employees including:

- The name or identification of the employee tested
- Type of fit test performed
- Specific make, model, style, and size of respirator tested
- Date of test
- The pass/fail results for QLFTs or the fit factor and strip chart recording or other recording of the test results for QNFTs

Additional fit tests will be conducted whenever the employee reports, or UCPS, physician, supervisor, or program administrator makes visual observations of changes in the employee's physical condition that could affect respirator fit. Such conditions include, but are not limited to, facial scarring, dental changes, cosmetic surgery, or an obvious change in body weight.

If after passing a QLFT or QNFT, the employee notifies UCPS, the program administrator, supervisor, or physician that the fit of the respirator is unacceptable, the employee shall be given a reasonable opportunity to select a different respirator facepiece and to be retested.

### **Types of Fit Tests**

The fit test shall be administered using an OSHA-accepted QLFT or QNFT protocol. The OSHA-accepted QLFT or QNFT protocols and procedures are contained in Appendix A of OSHA Standard 29 CFR 1910.134.

- QLFT may only be used to fit test negative pressure air-purifying respirators that must achieve a fit factor of 100 or less.
- If the fit factor, as determined through an OSHA-accepted QNFT protocol, is equal to or greater than 100 for tight-fitting half facepieces, or equal to or greater than 500 for tight-fitting full facepieces, the QNFT has been passed with that respirator.
- Fit testing of tight-fitting atmosphere-supplying respirators and tight-fitting powered air-purifying respirators shall be accomplished by performing quantitative or qualitative fit testing in the negative pressure mode, regardless of the mode of operation (negative or positive pressure) that is used for respiratory protection.
- Qualitative fit testing of these respirators shall be accomplished by temporarily converting the respirator user's actual facepiece into a negative pressure respirator with appropriate filters, or by using an identical negative pressure air-purifying respirator facepiece with the same sealing surfaces as a surrogate for the atmosphere-supplying or powered air-purifying respirator facepiece.
- Quantitative fit testing of these respirators shall be accomplished by modifying the facepiece to allow sampling inside the facepiece in the breathing zone of the user, midway between the nose and mouth. This requirement shall be accomplished by installing a permanent sampling probe onto a surrogate facepiece, or by using a sampling adapter designed to temporarily provide a means of sampling air from inside the facepiece.
- Any modifications to the respirator facepiece for fit testing shall be completely removed, and the facepiece restored to NIOSH approved configuration, before that facepiece can be used in the workplace.

Fit test records shall be retained for respirator users until the next fit test is administered. Written materials required to be retained shall be made available upon request to affected employees.

## **Respirator Operation and Use**

Respirators will only be used following the respiratory protection safety procedures established in this program. The Operations and Use manuals for each type of respirator will be maintained by the program administrator and be available to all qualified users.

Surveillance by the direct supervisor shall be maintained of work area conditions and degree of employee exposure or stress. Where there is a change in work area

conditions or degree of employee stress that may affect respirator effectiveness, UCPS shall reevaluate the continued effectiveness of the respirator.

For continues protection of respirator users, the following general rules apply:

- Users shall not remove respirators while in a hazardous environment
- Respirators are to be stored in sealed containers out of harmful atmospheres
- Store respirators away from heat and moisture
- Store respirators such that the sealing area does not become distorted or warped
- Store respirator such that the facepiece is protected

### **Facepiece Seal Protection**

Union County Public Schools does not permit respirators with tight-fitting facepieces to be worn by employees who have:

- Facial hair that comes between the sealing surface of the facepiece and the face or that interferes with valve function
- Any condition that interferes with the face-to-face seal or valve function

If an employee wears corrective glasses or goggles or other personal protective equipment, UCPS shall ensure that such equipment is worn in a manner that does not interfere with the seal of the facepiece to the face of the user. A facepiece seal check will be conducted by trained personnel before performing job duties that require the use of a respirator.

### **Continuing Effectiveness of Respirators**

Union County Public Schools shall ensure that employees leave the respirator use area:

- To wash their faces and respirator facepieces as necessary to prevent eye or skin irritation associated with respirator use
- If they detect vapor or gas breakthrough, changes in breathing resistance, or leakage of the facepiece, Union County Public Schools will replace or repair the respirator before allowing the employee to return to the work area.

### **Cleaning and Disinfecting**

Union County Public Schools shall provide each respirator user with a respirator that is clean, sanitary, and in good working order. UCPS shall ensure that respirators are

cleaned and disinfected using the Standard Operating Procedure (SOP): Cleaning, Disinfecting, Inspection and Repair.

The respirators shall be cleaned and disinfected when:

- Respirators issued for the exclusive use of an employee shall be cleaned and disinfected as often as necessary to be maintained in a sanitary condition.
- Respirators issued to more than one employee shall be cleaned and disinfected before being worn by different individuals.
- Respirators maintained for emergency use shall be cleaned and disinfected after each use.
- Respirators used in fit testing and training shall be cleaned and disinfected after each use.

Cleaning and storage of respirators assigned to specific employees is the responsibility of that employee.

## **Respirator Inspection**

All respirators, both available for general use and those permanently issued to employees, will be inspected after each use and at least monthly. Should any defects be noted, the respirator will be taken to the program administrator. Damaged respirators will be repaired or replaced. The inspection of permanently issued respirators is the responsibility of that trained employee.

Respirators shall be inspected as follows:

- All respirators used in routine situations shall be inspected before each use and during cleaning.
- All respirators maintained for use in emergency situations shall be inspected at least monthly and in accordance with the manufacturer's recommendations, and shall be checked for proper function before and after each use.

Respirator inspections include the following:

- A check of respirator function, tightness of connections, and the condition of the various parts including, but not limited to, the facepiece, head straps, valves, connecting tube, and cartridges, canisters or filters
- Check of elastomeric parts for pliability and signs of deterioration

## **Respirator Storage**

Respirators are to be stored as follows:

- All respirators shall be stored to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals, and they shall be packed or stored to prevent deformation of the facepiece and exhalation valve.

## **Repair of Respirators**

Respirators that fail and inspection or are otherwise found to be defective will be removed from service to be discarded, repaired or adjusted in accordance with the following procedures:

- Repairs or adjustments to respirators are to be made only by persons appropriately trained to perform such operations and shall use only the respirator manufacturer's NIOSH-approved parts designed for the respirator.
- Repairs shall be made according to the manufacturer's recommendations and specifications for the type and extent of repairs to be performed.
- Reducing and admission valves, regulators, and alarms shall be adjusted or repaired only by the manufacturer or a technician trained by the manufacturer.

## ATTACHMENT 1

### **Standard Operating Procedures for General RPE Use**

Union County Public Schools has implemented a Respiratory Protection Program including employee training and fitting procedures, appropriate surveillance of work area conditions and evaluation of the program to ensure continued effectiveness.

Employees are issued respirators as required by their work. The operating instructions for each type of respirator and information on the limits of each must be followed carefully to gain the maximum benefit and protection.

#### **Filtering Facepiece (single use dust masks)**

There are various types of filtering facepiece respirators that have been approved for exposures to low concentrations of certain dusts or aerosols.

There are limitations on filtering facepiece respirators and they cannot be used in oxygen deficient atmospheres. NIOSH has ratings for single use dust masks as follows:

- N – for non-oily particulates
- R – for oily mists and particulates
- P – for both oily and non-oily mists and particulates

Additionally, there are three efficiency ratings for each type:

- 95 – filters 95% of particulates down to 0.5 microns in diameter
- 99 – filters 99% of particulates down to 0.3 microns in diameter
- 100 – filters 99.7% of particulates down to 0.3 microns in diameter

Put on a filtering facepiece and adjust the straps (if the unit has adjustable straps) for a proper fit. Pinch the noseband slightly (if the unit is so equipped) such that the mask seals around the bridge of the nose.

When the respirator is in place, ensure it has been applied to accommodate required eye protection if such PPE is appropriate.

Discard an N or P filtering facepiece after use or when normal breathing becomes difficult. Discard an R filtering facepiece after one 8 hour shift.

## **Air-Purifying Negative Pressure Half-Mask Respirator**

Half-mask respirators can be used with P100 filters. Other cartridges are available that protect against organic and other chemical contaminants in low concentrations. Since this type of respirator does not supply air, it cannot be used in oxygen deficient atmospheres, Immediately Dangerous to Life or Health (IDLH) atmospheres or in confined spaces. It can only be used for contaminants listed on the canister. The employee should leave an area when they detect a taste or smell inside the mask or when breathing resistance increases.

The procedures to wear this type of respirator are:

- Hold the mask so the narrow nose clip point upward.
- Grasp both lower mask straps and hook them behind the neck.
- Grasp both top straps and hook them behind the head and above the ears for proper fit.
- Adjust the straps so the fit is snug but comfortable.
- Check for leaks with a fit check, positive and negative.

Change the filters or cartridges on the half-mask respirator with the end-of-service-life indicator (ESLI) on the cartridge changes. If there is no ESLI, change the filter/cartridge after each completed task requiring a respirator, prior to the expiration date, as per manufacturer recommendations, when requested by employee, when contaminant odor is detected, or when restriction to air flow has occurred.

## **Fit Check**

### **Negative Pressure Fit Check**

The employee closes off the respirator inlet and inhales. A vacuum and partial inward collapse of the mask should result. If a vacuum cannot be maintained for at least ten seconds, readjust the facepiece and try again.

### **Positive Pressure Fit Check**

The employee closes off the exhalation valve and breaths out gently. Air should not escape through any gaps in the seal. If a slight positive pressure cannot be maintained without escape of the air for at least ten seconds, readjust the facepiece and try again.

## ATTACHMENT 2

### **Standard Operating Procedure: Cleaning, Disinfecting, Inspection and Repair**

Union County Public Schools shall provide each respirator user with a respirator that is clean, sanitary, and in good working order. Respirators must be cleaned and inspected as per instructions to maintain correct operational order.

#### **Cleaning**

- Remove filters, cartridges, or canisters. Disassemble facepiece by removing any components recommended by the manufacturer. Wash components in warm water with a mild detergent or cleaner recommended by the manufacturer. A stiff bristle (not wire) brush may be used to facilitate dirt removal.
- Respirator may be immersed in a bleach solution (one milliliter of bleach to one liter of water) or an iodine solution (0.8 milliliters of tincture of iodine to one liter of water).
- After washing or immersing the respirator, rinse it thoroughly in clean, warm water to prevent dermatitis from residue on the mask or damage to the mask, and then drain.
- Respirator should be hand-dried with a clean lint-free cloth or air-dried.
- Reassemble facepiece, replace filters and cartridges when necessary and test the respirator to ensure all components work properly.

#### **Storage**

- Respirators can be permanently damaged if they are not stored properly. After use, clean, sanitize and store respirators in re-sealable plastic bags in a manner that prevents deformation of the facepiece and exhalation valve.
- Protect respirators from sunlight, dusts, chemicals, moisture and extreme temperatures.
- Respirators should not be stored in a vehicle.

## **Inspection**

- Examine the conditions of the mask, straps, valves, and filter elements before and after each use and during cleaning
- Inspect for cleanliness
- Inspect for display of NIOSH approval code
- Inspect for mask approval for the hazardous atmosphere to which the worker will be exposed
- Inspect for function and tightness of connections

## **Repair**

- If a repair is required, use only replacement parts from the same manufactured brand and type of equipment.
- Repairs to respirators are the made only by persons appropriately trained to do so.