

**TO:** ALL COUNTY PERSONNEL  
**FROM:** VERDENIA C. BAKER  
COUNTY ADMINISTRATOR  
**PREPARED BY:** RISK MANAGEMENT / EMPLOYEE SAFETY / LOSS  
**SUBJECT:** RESPIRATORY PROTECTION PROGRAM (RPP)  
**PPM#:** CW-P-068

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<u>ISSUE DATE</u>	<u>EFFECTIVE DATE</u>
July 15, 2016	July 15, 2016

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**PURPOSE:**

To ensure that respirators are appropriately selected, used and maintained and that employees are protected from exposure to occupational inhalation hazards.

**UPDATES:**

Future updates to this PPM are the responsibility of the Manager of Employee Safety / Loss Control (ES/LC) under the authority of the Director of Risk Management.

**AUTHORITY:**

- U. S. Department of Labor, Occupational Safety and Health Administration (OSHA) Standard 29 CFR 1910.134, Respiratory Protection, as may be amended.
- Florida Statute, Chapter, 440, Florida Workers Compensation, as may be amended
- PPM: CW - O - 005 Safety Policy
- 49 CFR 173 & 178

**DEFINITIONS:**

See Attachment 1

**POLICY:**

When potential inhalation exposures cannot be maintained safely below recognized exposure limits through the use of engineering (e.g. ventilation/substitution, etc.) or administrative control measures (e.g. limiting exposure time through worker rotation), respirator protection will be provided and used by employees. The Respiratory Protection Program (RPP) ensures that the respirators are properly selected, used and maintained and only worn by employees who are able

to wear respiratory protective equipment safely. Employees who cannot wear respiratory protective equipment shall not engage in the potentially hazardous work.

### **RESPONSIBILITIES:**

Risk Management's Employee Safety / Loss Control (ES/LC) has the overall planning and managing responsibility for the RPP. Specific responsibilities are as follows:

1. Department/Division Heads shall:
  - a. Ensure that supervisors and employees adhere to the requirements of the RPP.
  - b. Ensure that supervisors and employees participate in training and fit testing.
  - c. Support implementation of necessary engineering /work practice controls to reduce inhalation hazards.
2. Supervisors shall:
  - a. Ensure that engineering controls are used and maintained to protect employees when available.
  - b. Ensure that employees use, inspect, clean and maintain their respirator equipment in accordance with this PPM.
  - c. Ensure that breathing air quality meets the requirements in accordance with this procedure (for supplied air respirators).
  - d. Ensure that employees receive respirator fit-testing (as applicable) and respirator training.
  - e. Contact ES/LC to evaluate work environments, or work practices, and processes.
3. Employees shall (as applicable):
  - a. Adhere to the procedures of the RPP by participating in training, receiving annual fit-testing and correctly wear appropriate respiratory protection when it is a requirement of the job.
  - b. Inspect, clean, maintain and store their respiratory protective device, cartridges and/or filters, in accordance with the RPP and replace respirator cartridges and filters as per training for respirator and specific job tasks.
  - c. Perform positive and negative seal checks whenever wearing the respirator and leave the work area if the respirator, cartridges and/or filters malfunction.

- d. Ensure that facial hair is not present between the face and sealing surface of a tight fitting respirator.
  - e. Ensure that clothing, eyewear, and jewelry dos not interferes with the seal of the respirator.
  - f. Properly use and maintain engineering controls where provided.
  - g. Return all reusable respiratory protection to ES/LC when no longer needed (e.g. change of job, termination, etc.).
4. PBC Occupational Health Clinic/Professional License Health Care Provider (PLHCP) shall:
- a. Administer and evaluate employee's completed Medical Questionnaire in accordance with the RPP to determine the employee's ability to use respiratory protective equipment.
  - b. Forward Respirator Approval Form to ES/LC immediately upon completion.
  - c. Notify supervisor and ES/LC when an employee is unable to use a respirator or has restrictive use of a respirator.
5. ES/LC shall:
- a. Conduct initial worksite evaluations to determine the inhalation hazards and reassess worksite evaluations at the request of a supervisor and as necessary to reflect changes in worksite conditions that affect respirator use.
  - b. Determine if engineering controls are feasible to control inhalation hazards and make recommendations as needed.
  - c. Determine and select type of respiratory protection equipment that may be required based on the hazard evaluation.
  - d. Provide reusable air purifying respirators to all departments (except Fire Rescue) for mandatory use.
  - e. Determine mandatory vs. voluntary use.
  - f. Provide fit-testing and training in accordance with the RPP.

## **PROCEDURES:**

### 1. Respirator Selection

- a. ES/LC will conduct worksite evaluations in order to determine any potential inhalation hazards and reassess worksite evaluations at the request of a supervisor, and as necessary to reflect changes in worksite conditions.
- b. Based on worksite evaluations and types of hazards to which employees may be exposed, employees will be selected for inclusion in the RPP and the type of respiratory equipment shall be selected and/or approved by ES/LC.
- c. Based on exposure assessment, ES/LC shall determine mandatory vs. voluntary use of respirators.
- d. All respirators will be supplied by ES/LC with the exception of :
  - SCBA and air purifying respirators for Fire-Rescue.
  - Disposable filtering face pieces (dust masks) for voluntary use. These may be purchased by the user department only with the authorization and approval of ES/LC.

## 2. Medical Evaluation

- a. As applicable, employees shall undergo a medical evaluation by the PBC Occupational Health Clinic or an ES/LC approved outside physician or licensed health care practitioner (PLHCP) to determine the employee's physical and psychological ability to use a respirator before being fit-tested or required to use the respirator in the workplace.
- b. The employee shall complete the medical questionnaire (OSHA 29 CFR 1910.134 Appendix C) supplied to them by the PBC Occupational Health Clinic or the PLHCP during normal work hours.
- c. The PBC Occupational Health Clinic physician will make the final determination of ability to use a respirator, restrictions of use and need and frequency for follow-up medical evaluations. PBC Fire Rescue's frequency of medical evaluations will be annual at a minimum.
- d. The PLHCP shall notify a supervisor and ES/LC when an employee is unable to use or has restrictive use of respiratory equipment.
- e. Additional medical evaluations will be performed when:
  - an employee reports medical signs or symptoms that are related to his/her ability to use respiratory equipment;

- a PLHCP, supervisor or the RPP administrator determines that an employee needs to be re-evaluated;
- observations and assessments during fit-testing and program evaluation indicate a need for employee re-evaluation; or
- a change in workplace conditions (e.g., physical work effort, protective clothing, temperature) that may result in a substantial increase in the physiological burden placed on the employee.

### 3. Fit Testing

- a. ES/LC will coordinate all respirator fit-testing for PBC employees and determine the type of fit-testing and method of implementation.
- b. PBC employees that are required to use a filtering facepiece, half-face or full-face respirator (positive or negative pressure) will undergo fit-testing prior to initial use, with the same make, model, style and size to be used. Employees will be fit-tested with the same respirator that will be dispensed to them for their exclusive use.
- c. Fit-testing will occur annually and when a new make, model, style, or size is required. The employee, supervisor, RPP administrator, or PLHCP can recommend additional fit-testing based on visual observations of changes in the employee's physical condition (i.e., facial scarring, dental changes, cosmetic surgery, or weight gain/loss) that could affect the fit of the respirator. Also changes in work practices or tasks may warrant review of the type of respirator used.
- d. For Fire Rescue only, fit testing may be conducted by (FR) support services personnel who are properly trained and experienced to conduct reliable testing.

### 4. Use of Respirators

- a. To ensure facepiece seal protection and continued respirator effectiveness, respirators must be used properly and in accordance with the manufacturer's instructions and this PPM.
- b. A user seal check (fit-check) shall be performed for required use of tight fitting respirators and filtering facepieces each time it is worn by the employee.
- c. Employees will not be permitted to wear any filtering facepiece or tight fitting respirator when they have:
  - facial hair (e.g., a beard) that comes between the sealing surface of the facepiece and the face or that interferes with respirator valve function; or

- any condition that interferes with the face-to-facepiece seal or valve function (e.g., missing dentures, facial scarring, jewelry).
- d. Other personal protective equipment (PPE) including corrective glasses shall be worn in a manner that does not interfere with the face-to-facepiece seal of the respirator. ES/LC will assist the employee and their department in obtaining special corrective lenses for employees who wear prescription eye glasses and who are required to use full-face respirators. Fire Rescue will assist with corrective lens modifications for their department.
  - e. A request for re-evaluation of the type of respirator equipment used may be made by the employee, supervisor or RPP administrator if work place conditions or job tasks change.
  - f. The employee shall leave the work area:
    - to wash their face and respirator as necessary to prevent eye and skin exposure;
    - if vapor or gas breakthrough is detected in the respirator;
    - if there are changes in breathing resistance or leakage of the respirator; and
    - to replace filters / cartridges or the respirator / facepiece.
  - g. ES/LC shall replace or repair any malfunctioning respirator before an employee can return to the work area. Fire Rescue Support Services will replace or repair respirators for their department.
  - h. The respiratory equipment shall be used only for the process/task for which it was evaluated. Employees will use their respiratory equipment only under the conditions specified when fit-tested and trained.
  - i. Employees will mark the date of first use on the cartridge and change cartridges and/or filters as per training for their respiratory equipment and specific job tasks.
  - j. Cartridge packages will be opened and cartridges affixed to respirator only when ready to be used.
  - k. Respiratory equipment shall not be altered or used in a manner for which it is not National Institute of Occupational Safety and Health (NIOSH) certified or intended by its manufacturer.

## 5. Maintenance and Care of Respirators

- a. To ensure adequate protection, respirators must be properly cleaned, disinfected, stored, inspected and repaired.
- b. The employee shall clean and disinfect his/her respirator as often as necessary to be maintained in a sanitary condition.
- c. The employee shall store his/her respirator in a moisture proof bag (e.g., plastic) away from sunlight, extreme temperatures, contaminants, moisture, dust and chemicals.
- d. The employee shall inspect the function (seal check) and all components (e.g., valves, straps, tubing, filters, cartridges, etc.) of the respirator before each use.
- e. Defective equipment shall be removed from service and returned to ES/LC. Repairs will be made in accordance with the manufacturer's recommendations. In the case of Fire Rescue, Support Services technicians shall repair and maintain respiratory equipment.

6. Breathing Air Quality and Use

- a. Departments with stationary or portable breathing air systems (e.g. compressors) as the breathing air source shall test the air system at intervals no longer than three months and document, retain and make available for review the results of the air quality data.
- b. Testing will determine, at a minimum, whether the air meets the requirements for Type 1-Grade D breathing air described in ANSI/Compressed Gas Association (CGA) Commodity Specification for Air, G-7.1. The specifications include:
  - oxygen content of 19.5 – 23.5 %;
  - hydrocarbon (condensed) content of 5 milligrams per cubic meter of air or less;
  - carbon monoxide content of 10 ppm or less;
  - carbon dioxide content of 1,000 ppm or less; and
  - lack of noticeable odor.
- c. Cylinders used to supply breathing air to respirators shall meet the following requirements:

- Cylinders shall be tested and maintained as prescribed in the Shipping Container Specification Regulations of the Department of Transportation (49 CFR part 173 and 178);
  - Cylinders of purchased breathing air have a certificate of analysis from the supplier that the breathing air meets the requirements for Type 1 – Grade D breathing air; and
  - The moisture content in the cylinder does not exceed a dew point of -50 °F (-45 °C) at 1 atmosphere pressure.
- d. Compressors used to supply breathing air to respirators must be maintained on a preventive maintenance schedule as prescribed by the compressor manufacturer. They must be constructed and situated so as to:
- prevent entry of contaminated air into the air-supply system;
  - minimize moisture content so that the dew point at 1 atmosphere pressure is 10 °F (5.56 °C) below the ambient temperature;
  - have suitable in-line air-purifying sorbent beds and filters to further ensure breathing air quality. Sorbent beds and filters must be maintained and replaced or refurbished periodically following the manufacturer’s instructions; and
  - have a tag containing the most recent change date and the signature of the person authorized by the employer to perform the change. The tag must be maintained at the compressor.
- e. For compressors that are not oil-lubricated, the carbon monoxide levels in the breathing air must not exceed 10 ppm. Continuous monitoring for carbon monoxide must be conducted to insure that levels are kept below 10 ppm.
- f. For oil-lubricated compressors, a high temperature or carbon monoxide alarm, or both, will be used to monitor carbon monoxide levels. If only high temperature alarms are used, the air supply must be monitored at intervals sufficient to prevent carbon monoxide in the breathing air from exceeding 10 ppm.
- g. For air line respirators, breathing air couplings must be incompatible with outlets for non-respirable worksite air or other gas systems. No asphyxiating substance will be introduced into breathing air lines.




7. Training and Information

- a. ES/LC shall provide/coordinate training before initial use and as often as needed to ensure the safe use of respiratory equipment for employees who are required to use it.
- b. Respirator training will include:
  - Information on the inhalation hazards at the worksite;
  - Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator;
  - What the limitations and capabilities of the respirator are;
  - How to use the respirator effectively and in situations where the respirator equipment could malfunction;
  - When to change cartridges (change out schedule) and filtering media;
  - How to inspect, put on and remove, use and check the seal of the respirator; and
  - How to recognize medical signs and symptoms that may limit or prevent effective use of respirators or exposure.

8. Recordkeeping

- a. The medical questionnaire and other records shall be maintained as part of the employee's medical record.
- b. The respirator approval form and fit-testing results and information shall be maintained by ES/LC in accordance with the ES/LC Records Retention Policy.

  
**VERDENIA C. BAKER**  
**COUNTY ADMINISTRATOR**

Supersession History:

1. CW-P-068, 10/4/1999
2. CW-P-068, 11/21/2011

## **ATTACHMENT 1: DEFINITIONS:**

1. Air-purifying respirator - a respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element.
2. Atmosphere-supplying respirator - a respirator that supplies the respirator user with breathing air from a source independent of the ambient atmosphere, and includes supplied-air respirators (SARs) and self-contained breathing apparatus (SCBA) units.
3. Cartridge - a device that contains a filter, sorbent or catalyst, or combination of these items, which removes specific contaminants from the air as it passes through the device.
4. Dust Mask (i.e. filtering facepiece) – a paper or fiber particulate mask where the facepiece constitutes the filter media, i.e., the mask does not utilize replaceable filters or cartridges.
5. Filter Oil Resistance Designation: (N-R-P) – These designations for filters/filtering face pieces states the degree of oil resistance. “N” is not resistant to oil, “R” is somewhat resistant and “P” is oil proof.
6. Filter or Air-Purifying Element – a component used in respirators to remove solid or liquid aerosols from the inspired air.
7. Fit-Test – The use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator on an individual.
8. Fit-Check (i.e. Seal Check) – an action conducted by the respirator user, after donning to determine if the respirator is properly seated to the face.
9. Full-Face Respirator – an air-purifying device similar to a half-face respirator with the addition of a lens that protects the eyes and face.
10. Half-Face Respirator – (i.e. half-mask respirator) – an air purifying device that covers the nose, mouth and chin. These air-purifying devices use replaceable filters and/or cartridges that capture the airborne contaminant before they enter the airway.
11. Hood – a respiratory inlet covering that completely covers the head and neck and may also cover portions of the shoulders and torso.
12. Immediately Dangerous to Life or Health (IDLH) – acute respiratory exposure that poses an immediate threat of loss of life, immediate or delayed irreversible adverse effect on health, or acute eye exposure that would prevent escape from a hazardous atmosphere.

13. Inhalation Hazard – an over exposure to products of combustion, toxic gases, vapors, or dust, potentially explosive or oxygen deficient atmospheres, or any condition(s) that create(s) a hazard to the respiratory system.
14. Loose-Fitting Facepiece – a respiratory inlet covering that is designed to form a partial seal with the face.
15. N-95 / R-95 / P-95 - The designation for filtering elements that correspond to 95 percent efficiency at 0.1 – 0.3 micron particles.
16. N-100 / R-100 / P-100 - The designation for filtering elements that correspond to 99.97 percent efficiency at 0.3 micron particles.
17. Oxygen Deficient Atmosphere – an atmosphere with oxygen content below 19.5% by volume.
18. Powered Air-Purifying Respirator (PAPR) – an air-purifying respirator that uses a blower to force the ambient air through air-purifying elements (i.e. filter and/or cartridge) to a half or full-face respirator, hood, or other approved head covering.
19. Respiratory Protection Equipment – those devices that are designed to protect the respiratory system from exposure to harmful levels of airborne agents such as gases, vapors, fumes or particulate matter.
20. Self-Contained Breathing Apparatus (SCBA) – an atmosphere supplying respirator for which the breathing air source is designed to be carried by the user.
21. Supplied-Air Respirator – a respirator that supplies the respirator user with breathing air from a source independent of the ambient atmosphere, and includes supplied-air respirators (SARs) and self-contained breathing apparatus (SCBA) units. A SAR or SCBA is attached to an air line that supplies clean air through a hose that is attached to a powered air pump, compressor, or tank of compressed air. Air will either flow into the respirator as one inhales or flows continuously into a respirator hood or approved head covering.
22. Tight-Fitting Facepiece - a respirator that forms a complete seal with the face.
23. Voluntary Respirator Use – elective use of a respirator by an employee when a qualitative and/or quantitative industrial hygiene exposure assessment indicates that no inhalation hazard exists.