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## ***Respirator Program***

### **SCOPE AND APPLICATION**

It is our policy to comply with all applicable health and safety requirements. In accordance with OSHA 29 CFR 1910.134, we have implemented a Respiratory Protection Policy.

The purpose of this Respiratory Protection Policy is to provide the safest working environment for our employees. In the control of occupational diseases caused by breathing air contaminants, the primary objective is to prevent atmospheric contamination by engineering control measures. When effective engineering controls are not feasible, or while they are being instituted, appropriate respiratory protection shall be used.

### **RESPONSIBILITIES**

#### **Physical Plant Director**

- Evaluate workplace exposures to hazardous materials.
- Recommend necessary respiratory protection for all employees covered.
- Perform periodic inspections to ensure employees are in compliance with program requirements.
- Coordinate medical surveillance program and maintain all associated records.
- Perform annual fit testing of employees.
- Conduct annual training for employees covered.
- Perform periodic monitoring of respiratory protection areas in order to assure respirator effectiveness.

#### **Maintenance Supervisor**

- Observe employees on a daily basis to assure:
  - Respirators are worn continuously during work operations in which the potential for excessive levels of air contamination may exist.
  - Respirators are worn properly utilizing available straps and proper position.
  - Respirators are kept clean and stored in a dust free environment.
  - Cartridges and/or masks are changed as needed.
- Inform Physical Plant director when a change in any process or job task is anticipated. This will allow management to conduct air monitoring and determine the appropriate personal protective equipment needed.

### **Employees**

- Perform user seal check each time the respirator is worn.
- Assure good seal between respirator and face. Conditions that interfere with a good facepiece seal may include growth of a beard or sideburns, temple pieces on eyeglasses or the absence of one or both dentures.
- Replace cartridges as outlined in this policy.
- Routinely inspect respirator parts before and after each use and replace parts as necessary.
- Clean and disinfect respirators with provided cleaners according to manufacturer's directions.
- Keep respirator in sealed bag and store in cabinet when not in use.

### **RESPIRATOR SELECTION**

- All respirators and cartridges shall be NIOSH certified.
- Industrial hygiene surveys will be conducted to determine respiratory protection requirements.
- Cartridges will be selected according to the hazards identified in the workplace. A list of approved cartridges and change schedules is provided in Appendix A.
- Cartridge change schedules must be developed by management based on exposure monitoring, chemical data, and cartridge specifications.

### **MEDICAL SURVEILLANCE**

Employees covered under the respiratory protection program are required to participate in the medical surveillance program. A respirator medical evaluation questionnaire meeting the requirements of Appendix E to § 19010.134 included in this policy as Appendix B.

### **FIT TESTING**

All employees participating in the Respiratory Protection Program will be fit tested prior to initial use of the respirator. Employees will be fit tested annually thereafter. Fit testing shall be performed in accordance with Appendix A to § 1910.134 included in this policy as Appendix E.

### **RESPIRATOR USE**

Prior to daily use of a respirator, the employee shall inspect general condition of the respirator including facepiece, valves, cartridges, and straps. Parts shall be replaced as necessary.

Each time an employee puts on a respirator, a user seal check shall be performed. (When using a disposable respirator, follow manufacturer's directions to assure a proper seal.)

- Positive Pressure Check – Block the openings of the exhalation valve guard and exhale slightly. If the facepiece bulges slightly, an effective seal has been obtained.
- Negative Pressure Check – Place palms over the openings in the cartridges or remove the cartridges and place palms over the inhalation connectors. Inhale and hold your breath for 5 seconds. If the facepiece collapses slightly and no air leaks between the facepiece and your face are detected, an effective fit has been obtained. If air leaks are detected, reposition the facepiece on your face and repeat the procedure until an effective seal is obtained.

Employees shall not wear a respirator when facial hair comes between the facepiece and face that may interfere with a proper seal. Use of goggles, safety glasses, or prescription lenses shall not interfere with obtaining a proper seal.

Employees shall leave respiratory protection areas if vapor or gas breakthrough occurs or if a change in breathing resistance occurs. The respirator shall be inspected to determine the cause and necessary parts and/or cartridges replaced.

Employees shall clean and disinfect their respirators according to the schedule provided in Appendix F.

Respirators shall be stored in a plastic bag to protect them from damage, contamination, and dust. Respirators shall be stored to prevent exposure to sunlight, extreme temperatures, excessive moisture, and damaging chemicals. Respirators shall be stored flat to prevent deformation of the facepiece.

### **VOLUNTARY RESPIRATOR USE**

Employees may voluntarily use respiratory protection when not required for job duties under the when it has been determined that the respirator itself does not present a hazard.

Employees voluntarily using respirators must comply with Appendix G of this policy.

Those employees voluntarily using respiratory protection must be medically approved to wear respirator. Respirator must be maintained in accordance with all aspects of this policy.

### **EMERGENCY RESPIRATOR USE**

Management will develop specific procedures related to emergency respirator use. Supplemental procedures for emergency respirator use are included as Appendix F.

## **RESPIRATORS FOR IDLH ATMOSPHERES**

Management will develop specific procedures related to Immediately Dangerous to Life and Health (IDLH) use. Supplemental procedures for IDLH respirator use are included as Appendix I.

## **TRAINING**

All employees participating in the respiratory protection program will be trained initially and retrained annually thereafter.

Topics to be included in the training program must consist of but are not limited to:

- 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 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;
- What the procedures are for maintenance and storage of the respirator; and
- How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators.

## **PROGRAM EVALUATION**

Workplace evaluations shall be performed periodically to ensure that the provisions of the policy are effective. Employees shall be interviewed periodically to assess program effectiveness. Factors may include respirator fit, proper respirator usage, respirator maintenance and storage.

**APPENDIX A – SPECIFIC ASSIGNED RESPONSIBILITIES**

The following are specific assigned responsibilities under this Respiratory Protection Program. The purpose of these assigned responsibilities is to increase ownership in the program at all levels as well as ensuring implementation and compliance with the elements of the program.

**Associates identified in each tier group are responsible for performing those specific assignments.**

<b>Manager:</b>	<b>Assignment:</b>
<i>Physical Plant Director</i>	<i>Overall Program Compliance</i>
	<i>Annual Training</i>
	<i>Procurement of Respirators</i>

<b>Supervisor:</b>	<b>Assignment:</b>
<b>Maintenance Supervisor</b>	<ul style="list-style-type: none"> <li>○ Respirators are worn continuously during work operations in which the potential for excessive levels of air contamination may exist.</li> </ul>
	<ul style="list-style-type: none"> <li>○ Respirators are worn properly utilizing available straps and proper position.</li> </ul>
	<ul style="list-style-type: none"> <li>○ Respirators are kept clean and stored in a dust free environment.</li> </ul>
	<ul style="list-style-type: none"> <li>○ Cartridges and/or masks are changed as needed.</li> </ul>


<b>Employee:</b>	<b>Assignment:</b>
<b>Maintenance Personnel</b>	<ul style="list-style-type: none"> <li>• Perform user seal check each time the respirator is worn.</li> </ul>
	<ul style="list-style-type: none"> <li>• Assure good seal between respirator and face. Conditions that interfere with a good face piece seal may include growth of a beard or sideburns, temple pieces on eyeglasses or the absence of one or both dentures.</li> </ul>
	<ul style="list-style-type: none"> <li>• Replace cartridges as outlined in this policy.</li> </ul>
	<ul style="list-style-type: none"> <li>• Routinely inspect respirator parts before and after each use and replace parts as necessary.</li> </ul>
	<ul style="list-style-type: none"> <li>• Clean and disinfect respirators with provided cleaners according to manufacturer's directions.</li> </ul>
	<ul style="list-style-type: none"> <li>• Keep respirator in sealed bag and store in cabinet when not in use.</li> </ul>

<b>Others:</b>	<b>Assignment:</b>

**APPENDIX B - TRAINING ATTENDANCE SHEET**

**RESPIRATORY PROTECTION POLICY**

**29 CFR 1910.134**

<b>DATE:</b>	
<b>INSTRUCTOR:</b>	
<b>TRAINING A/V MATERIALS:</b>	

<b>NAME:</b>	<b>DEPARTMENT</b>
1.	
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**APPENDIX D - MEDICAL SURVEILLANCE QUESTIONNAIRE**

To the employer: Answers to questions in Section 1, and to question 9 in Section 2 of Part A, do not require a medical examination.

To the employee:

Can you read (circle one): Yes/No

Your employer must allow you to answer this questionnaire during normal working hours, or at a time and place that is convenient to you. To maintain your confidentiality, your employer or supervisor must not look at or review your answers, and your employer must tell you how to deliver or send this questionnaire to the health care professional who will review it.

Part A. Section 1. (Mandatory)

The following information must be provided by every employee who has been selected to use any type of respirator (please print).

1. Today's date: \_\_\_\_\_
2. Your name: \_\_\_\_\_
3. Your age (to nearest year): \_\_\_\_\_
4. Sex (circle one): Male/Female
5. Your height: \_\_\_\_\_ ft. \_\_\_\_\_ in.
6. Your weight: \_\_\_\_\_ lbs.
7. Your job title: \_\_\_\_\_
8. A phone number where you can be reached by the health care professional who reviews this questionnaire (include the Area Code): \_\_\_\_\_
9. The best time to phone you at this number: \_\_\_\_\_
10. Has your employer told you how to contact the health care professional who will review this questionnaire (circle one): Yes/No
11. Check the type of respirator you will use (you can check more than one category):
  - a. \_\_\_\_\_ N, R, or P disposable respirator (filter-mask, non- cartridge type only).
  - b. \_\_\_\_\_ Other type (for example, half- or full-facepiece type, powered-air purifying, supplied-air, self-contained breathing apparatus).
12. Have you worn a respirator (circle one): Yes/No  
If "yes," what type(s): \_\_\_\_\_  
\_\_\_\_\_

Part A. Section 2. (Mandatory)

Questions 1 through 9 below must be answered by every employee who has been selected to use any type of respirator (please circle "yes" or "no").

1. Do you currently smoke tobacco, or have you smoked tobacco in the last month: Yes/No
2. Have you ever had any of the following conditions?
  - a. Seizures (fits): Yes/No
  - b. Diabetes (sugar disease): Yes/No
  - c. Allergic reactions that interfere with your breathing: Yes/No
  - d. Claustrophobia (fear of closed-in places): Yes/No
  - e. Trouble smelling odors: Yes/No
3. Have you ever had any of the following pulmonary or lung problems?
  - a. Asbestosis: Yes/No
  - b. Asthma: Yes/No
  - c. Chronic bronchitis: Yes/No
  - d. Emphysema: Yes/No
  - e. Pneumonia: Yes/No
  - f. Tuberculosis: Yes/No
  - g. Silicosis: Yes/No
  - h. Pneumothorax (collapsed lung): Yes/No
  - i. Lung cancer: Yes/No
  - j. Broken ribs: Yes/No
  - k. Any chest injuries or surgeries: Yes/No
  - l. Any other lung problem that you've been told about: Yes/No
4. Do you currently have any of the following symptoms of pulmonary or lung illness?
  - a. Shortness of breath: Yes/No
  - b. Shortness of breath when walking fast on level ground or walking up a slight hill or incline: Yes/No
  - c. Shortness of breath when walking with other people at an ordinary pace on level ground: Yes/No
  - d. Have to stop for breath when walking at your own pace on level ground: Yes/No
  - e. Shortness of breath when washing or dressing yourself: Yes/No
  - f. Shortness of breath that interferes with your job: Yes/No
  - g. Coughing that produces phlegm (thick sputum): Yes/No
  - h. Coughing that wakes you early in the morning: Yes/No
  - i. Coughing that occurs mostly when you are lying down: Yes/No
  - j. Coughing up blood in the last month: Yes/No
  - k. Wheezing: Yes/No
  - l. Wheezing that interferes with your job: Yes/No
  - m. Chest pain when you breathe deeply: Yes/No
  - n. Any other symptoms that you think may be related to lung problems: Yes/No
5. Have you ever had any of the following cardiovascular or heart problems?
  - a. Heart attack: Yes/No
  - b. Stroke: Yes/No
  - c. Angina: Yes/No
  - d. Heart failure: Yes/No

- e. Swelling in your legs or feet (not caused by walking): Yes/No
  - f. Heart arrhythmia (heart beating irregularly): Yes/No
  - g. High blood pressure: Yes/No
  - h. Any other heart problem that you've been told about: Yes/No
6. Have you ever had any of the following cardiovascular or heart symptoms?
- a. Frequent pain or tightness in your chest: Yes/No
  - b. Pain or tightness in your chest during physical activity: Yes/No
  - c. Pain or tightness in your chest that interferes with your job: Yes/No
  - d. In the past two years, have you noticed your heart skipping or missing a beat: Yes/No
  - e. Heartburn or indigestion that is not related to eating: Yes/ No
  - f. Any other symptoms that you think may be related to heart or circulation problems:  
Yes/No
7. Do you currently take medication for any of the following problems?
- a. Breathing or lung problems: Yes/No
  - b. Heart trouble: Yes/No
  - c. Blood pressure: Yes/No
  - d. Seizures (fits): Yes/No
8. If you've used a respirator, have you ever had any of the following problems? (If you've never used a respirator, check the following space and go to question 9:)
- a. Eye irritation: Yes/No
  - b. Skin allergies or rashes: Yes/No
  - c. Anxiety: Yes/No
  - d. General weakness or fatigue: Yes/No
  - e. Any other problem that interferes with your use of a respirator: Yes/No
9. Would you like to talk to the health care professional who will review this questionnaire about your answers to this questionnaire: Yes/No

Questions 10 to 15 below must be answered by every employee who has been selected to use either a full-facepiece respirator or a self-contained breathing apparatus (SCBA). For employees who have been selected to use other types of respirators, answering these questions is voluntary.

10. Have you ever lost vision in either eye (temporarily or permanently): Yes/No
11. Do you currently have any of the following vision problems?
- a. Wear contact lenses: Yes/No
  - b. Wear glasses: Yes/No
  - c. Color blind: Yes/No
  - d. Any other eye or vision problem: Yes/No
12. Have you ever had an injury to your ears, including a broken ear drum: Yes/No
13. Do you currently have any of the following hearing problems?
- a. Difficulty hearing: Yes/No
  - b. Wear a hearing aid: Yes/No
  - c. Any other hearing or ear problem: Yes/No

- 14. Have you ever had a back injury: Yes/No
- 15. Do you currently have any of the following musculoskeletal problems?
  - a. Weakness in any of your arms, hands, legs, or feet: Yes/No
  - b. Back pain: Yes/No
  - c. Difficulty fully moving your arms and legs: Yes/No
  - d. Pain or stiffness when you lean forward or backward at the waist: Yes/No
  - e. Difficulty fully moving your head up or down: Yes/No
  - f. Difficulty fully moving your head side to side: Yes/No
  - g. Difficulty bending at your knees: Yes/No
  - h. Difficulty squatting to the ground: Yes/No
  - i. Climbing a flight of stairs or a ladder carrying more than 25 lbs: Yes/No
  - j. Any other muscle or skeletal problem that interferes with using a respirator: Yes/No

Part B Any of the following questions, and other questions not listed, may be added to the questionnaire at the discretion of the health care professional who will review the questionnaire.

- 1. In your present job, are you working at high altitudes (over 5,000 feet) or in a place that has lower than normal amounts of oxygen: Yes/No  
If "yes," do you have feelings of dizziness, shortness of breath, pounding in your chest, or other symptoms when you're working under these conditions: Yes/No
- 2. At work or at home, have you ever been exposed to hazardous solvents, hazardous airborne chemicals (e.g., gases, fumes, or dust), or have you come into skin contact with hazardous chemicals: Yes/No  
If "yes," name the chemicals if you know them: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- 3. Have you ever worked with any of the materials, or under any of the conditions, listed below:
  - a. Asbestos: Yes/No
  - b. Silica (e.g., in sandblasting): Yes/No
  - c. Tungsten/cobalt (e.g., grinding or welding this material): Yes/No
  - d. Beryllium: Yes/No
  - e. Aluminum: Yes/No
  - f. Coal (for example, mining): Yes/No
  - g. Iron: Yes/No
  - h. Tin: Yes/No
  - i. Dusty environments: Yes/No
  - j. Any other hazardous exposures: Yes/No    If "yes," describe these exposures: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- 4. List any second jobs or side businesses you have: \_\_\_\_\_  
\_\_\_\_\_
- 5. List your previous occupations: \_\_\_\_\_  
\_\_\_\_\_

6. List your current and previous hobbies: \_\_\_\_\_  
\_\_\_\_\_
7. Have you been in the military services? Yes/No  
If "yes," were you exposed to biological or chemical agents (either in training or combat):  
Yes/No
8. Have you ever worked on a HAZMAT team? Yes/No
9. Other than medications for breathing and lung problems, heart trouble, blood pressure, and seizures mentioned earlier in this questionnaire, are you taking any other medications for any reason (including over-the-counter medications): Yes/No  
If "yes," name the medications if you know them: \_\_\_\_\_
10. Will you be using any of the following items with your respirator(s)?
- a. HEPA Filters: Yes/No
  - b. Canisters (for example, gas masks): Yes/No
  - c. Cartridges: Yes/No
11. How often are you expected to use the respirator(s) (circle "yes" or "no" for all answers that apply to you)?:
- a. Escape only (no rescue): Yes/No
  - b. Emergency rescue only: Yes/No
  - c. Less than 5 hours per week: Yes/No
  - d. Less than 2 hours per day: Yes/No
  - e. 2 to 4 hours per day: Yes/No
  - f. Over 4 hours per day: Yes/No
12. During the period you are using the respirator(s), is your work effort:
- a. Light (less than 200 kcal per hour): Yes/No  
If "yes," how long does this period last during the average shift: \_\_\_\_\_ hrs. \_\_\_\_\_ mins.  
Examples of a light work effort are sitting while writing, typing, drafting, or performing light assembly work; or standing while operating a drill press (1-3 lbs.) or controlling machines.
  - b. Moderate (200 to 350 kcal per hour): Yes/No  
If "yes," how long does this period last during the average shift: \_\_\_\_\_ hrs. \_\_\_\_\_ mins.  
Examples of moderate work effort are sitting while nailing or filing; driving a truck or bus in urban traffic; standing while drilling, nailing, performing assembly work, or transferring a moderate load (about 35 lbs.) at trunk level; walking on a level surface about 2 mph or down a 5-degree grade about 3 mph; or pushing a wheelbarrow with a heavy load (about 100 lbs.) on a level surface.
  - c. Heavy (above 350 kcal per hour): Yes/No  
If "yes," how long does this period last during the average shift: \_\_\_\_\_ hrs. \_\_\_\_\_ mins.  
Examples of heavy work are lifting a heavy load (about 50 lbs.) from the floor to your waist or shoulder; working on a loading dock; shoveling; standing while bricklaying or chipping castings; walking up an 8-degree grade about 2 mph; climbing stairs with a heavy load (about 50 lbs.).

13. Will you be wearing protective clothing and/or equipment (other than the respirator) when you're using your respirator: Yes/No

If "yes," describe this protective clothing and/or equipment: \_\_\_\_\_  
\_\_\_\_\_

14. Will you be working under hot conditions (temperature exceeding 77 deg. F): Yes/No

15. Will you be working under humid conditions: Yes/No

16. Describe the work you'll be doing while you're using your respirator(s):

\_\_\_\_\_  
\_\_\_\_\_

17. Describe any special or hazardous conditions you might encounter when you're using your respirator(s) (for example, confined spaces, life-threatening gases):

\_\_\_\_\_  
\_\_\_\_\_

18. Provide the following information, if you know it, for each toxic substance that you'll be exposed to when you're using your respirator(s):

Name of the first toxic substance: \_\_\_\_\_

Estimated maximum exposure level per shift: \_\_\_\_\_

Duration of exposure per shift: \_\_\_\_\_

Name of the second toxic substance: \_\_\_\_\_

Estimated maximum exposure level per shift: \_\_\_\_\_

Duration of exposure per shift: \_\_\_\_\_

Name of the third toxic substance: \_\_\_\_\_

Estimated maximum exposure level per shift: \_\_\_\_\_

Duration of exposure per shift: \_\_\_\_\_

The name of any other toxic substances that you'll be exposed to while using your respirator:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

19. Describe any special responsibilities you'll have while using your respirator(s) that may affect the safety and well-being of others (for example, rescue, security):

\_\_\_\_\_

## **APPENDIX E - FIT TEST PROCEDURES**

### ***OSHA-Accepted Fit Test Protocols***

#### Fit Testing Procedures -- General Requirements

The employer shall conduct fit testing using the following procedures. The requirements in this appendix apply to all OSHA-accepted fit test methods, both QLFT and QNFT.

1. The test subject shall be allowed to pick the most acceptable respirator from a sufficient number of respirator models and sizes so that the respirator is acceptable to, and correctly fits, the user.
2. Prior to the selection process, the test subject shall be shown how to put on a respirator, how it should be positioned on the face, how to set strap tension and how to determine an acceptable fit. A mirror shall be available to assist the subject in evaluating the fit and positioning of the respirator. This instruction may not constitute the subject's formal training on respirator use, because it is only a review.
3. The test subject shall be informed that he/she is being asked to select the respirator that provides the most acceptable fit. Each respirator represents a different size and shape, and if fitted and used properly, will provide adequate protection.
4. The test subject shall be instructed to hold each chosen facepiece up to the face and eliminate those that obviously do not give an acceptable fit.
5. The more acceptable facepieces are noted in case the one selected proves unacceptable; the most comfortable mask is donned and worn at least five minutes to assess comfort. Assistance in assessing comfort can be given by discussing the points in the following item A.6. If the test subject is not familiar with using a particular respirator, the test subject shall be directed to don the mask several times and to adjust the straps each time to become adept at setting proper tension on the straps.
6. Assessment of comfort shall include a review of the following points with the test subject and allowing the test subject adequate time to determine the comfort of the respirator:
  - (a) Position of the mask on the nose
  - (b) Room for eye protection
  - (c) Room to talk
  - (d) Position of mask on face and cheeks
7. The following criteria shall be used to help determine the adequacy of the respirator fit:
  - (a) Chin properly placed;
  - (b) Adequate strap tension, not overly tightened;
  - (c) Fit across nose bridge;

- (d) Respirator of proper size to span distance from nose to chin;
- (e) Tendency of respirator to slip;
- (f) Self-observation in mirror to evaluate fit and respirator position.

8. The test subject shall conduct a user seal check, either the negative and positive pressure seal checks described in Appendix B-1 of this section or those recommended by the respirator manufacturer which provide equivalent protection to the procedures in Appendix B-1. Before conducting the negative and positive pressure checks, the subject shall be told to seat the mask on the face by moving the head from side-to-side and up and down slowly while taking in a few slow deep breaths. Another facepiece shall be selected and retested if the test subject fails the user seal check tests.

9. The test shall not be conducted if there is any hair growth between the skin and the facepiece sealing surface, such as stubble beard growth, beard, mustache or sideburns which cross the respirator sealing surface. Any type of apparel which interferes with a satisfactory fit shall be altered or removed.

10. If a test subject exhibits difficulty in breathing during the tests, she or he shall be referred to a physician or other licensed health care professional, as appropriate, to determine whether the test subject can wear a respirator while performing her or his duties.

11. If the employee finds the fit of the respirator unacceptable, the test subject shall be given the opportunity to select a different respirator and to be retested.

12. Exercise regimen. Prior to the commencement of the fit test, the test subject shall be given a description of the fit test and the test subject's responsibilities during the test procedure. The description of the process shall include a description of the test exercises that the subject will be performing. The respirator to be tested shall be worn for at least 5 minutes before the start of the fit test.

13. The fit test shall be performed while the test subject is wearing any applicable safety equipment that may be worn during actual respirator use which could interfere with respirator fit.

14. Test Exercises. (a) The following test exercises are to be performed for all fit testing methods prescribed in this appendix, except for the CNP method. A separate fit testing exercise regimen is contained in the CNP protocol. The test subject shall perform exercises, in the test environment, in the following manner:

- (1) Normal breathing. In a normal standing position, without talking, the subject shall breathe normally.
- (2) Deep breathing. In a normal standing position, the subject shall breathe slowly and deeply, taking caution so as not to hyperventilate.
- (3) Turning head side to side. Standing in place, the subject shall slowly turn his/her head from side to side between the extreme positions on each side. The head shall be held at



each extreme momentarily so the subject can inhale at each side.

(4) Moving head up and down. Standing in place, the subject shall slowly move his/her head up and down. The subject shall be instructed to inhale in the up position (i.e., when looking toward the ceiling).

(5) Talking. The subject shall talk out loud slowly and loud enough so as to be heard clearly by the test conductor. The subject can read from a prepared text such as the Rainbow Passage, count backward from 100, or recite a memorized poem or song.

### ***Rainbow Passage Exercise***

When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a division of white light into many beautiful colors. These take the shape of a long round arch, with its path high above, and its two ends apparently beyond the horizon. There is, according to legend, a boiling pot of gold at one end. People look, but no one ever finds it. When a man looks for something beyond reach, his friends say he is looking for the pot of gold at the end of the rainbow.

(6) Grimace. The test subject shall grimace by smiling or frowning. (This applies only to QNFT testing; it is not performed for QLFT)

(7) Bending over. The test subject shall bend at the waist as if he/she were to touch his/her toes. Jogging in place shall be substituted for this exercise in those test environments such as shroud type QNFT or QLFT units that do not permit bending over at the waist.

(8) Normal breathing. Same as exercise (1).

(b) Each test exercise shall be performed for one minute except for the grimace exercise which shall be performed for 15 seconds. The test subject shall be questioned by the test conductor regarding the comfort of the respirator upon completion of the protocol. If it has become unacceptable, another model of respirator shall be tried. The respirator shall not be adjusted once the fit test exercises begin. Any adjustment voids the test, and the fit test must be repeated.

Fit Testing Documentation Form:



Employee Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Respirator Information**

Brand: \_\_\_\_\_ Style: \_\_\_\_\_

Model Number: \_\_\_\_\_ Size: \_\_\_\_\_

User Seal Check:      Positive Pressure:      Pass ( ) Fail ( )

                                 Negative Pressure:      Pass ( ) Fail ( )

**Qualitative Fit Test:**

Type/Brand: \_\_\_\_\_

Expiration Date: \_\_\_\_\_

Batch Number or other tracking number from mfg. \_\_\_\_\_

Pass ( ) Fail ( )

**Quantitative Fit Test:**

Brand/Model: \_\_\_\_\_

Serial Number: \_\_\_\_\_ Calibration Date: \_\_\_\_\_

Fit Factor: \_\_\_\_\_ Pass ( ) Fail ( )



\_\_\_\_\_  
Employee Signature Date

\_\_\_\_\_  
Fit Tester Administrator Name  
(print)

\_\_\_\_\_  
Fit Test Administrator Signature Date



## APPENDIX F - RESPIRATOR CLEANING AND DISINFECTION SCHEDULE

### Appendix B-2 to § 1910.134: Respirator Cleaning Procedures (Mandatory)

These procedures are provided for employer use when cleaning respirators. They are general in nature, and the employer as an alternative may use the cleaning recommendations provided by the manufacturer of the respirators used by their employees, provided such procedures are as effective as those listed here in Appendix B-2. Equivalent effectiveness simply means that the procedures used must accomplish the objectives set forth in Appendix B-2, i.e., must ensure that the respirator is properly cleaned and disinfected in a manner that prevents damage to the respirator and does not cause harm to the user.

- I. *Procedures for Cleaning Respirators*
  - A. Remove filters, cartridges, or canisters. Disassemble facepieces by removing speaking diaphragms, demand and pressure- demand valve assemblies, hoses, or any components recommended by the manufacturer. Discard or repair any defective parts.
  - B. Wash components in warm (43 deg. C [110 deg. F] maximum) water with a mild detergent or with a cleaner recommended by the manufacturer. A stiff bristle (not wire) brush may be used to facilitate the removal of dirt.
  - C. Rinse components thoroughly in clean, warm (43 deg. C [110 deg. F] maximum), preferably running water. Drain.
  - D. When the cleaner used does not contain a disinfecting agent, respirator components should be immersed for two minutes in one of the following:
    1. Hypochlorite solution (50 ppm of chlorine) made by adding approximately one milliliter of laundry bleach to one liter of water at 43 deg. C (110 deg. F); or,
    2. Aqueous solution of iodine (50 ppm iodine) made by adding approximately 0.8 milliliters of tincture of iodine (6-8 grams ammonium and/or potassium iodide/100 cc of 45% alcohol) to one liter of water at 43 deg. C (110 deg. F); or,
    3. Other commercially available cleansers of equivalent disinfectant quality when used as directed, if their use is recommended or approved by the respirator manufacturer.
  - E. Rinse components thoroughly in clean, warm (43 deg. C [110 deg. F] maximum), preferably running water. Drain. The importance of thorough rinsing cannot be overemphasized. Detergents or disinfectants that dry on facepieces may result in dermatitis. In addition, some disinfectants may cause deterioration of rubber or corrosion of metal parts if not completely removed.
  - F. Components should be hand-dried with a clean lint-free cloth or air-dried.
  - G. Reassemble facepiece, replacing filters, cartridges, and canisters where necessary.
  - H. Test the respirator to ensure that all components work properly.

## **APPENDIX G - VOLUNTARY USE OF RESPIRATORS**

### **Appendix D to Sec. 1910.134 (Mandatory) Information for Employees Using Respirators When Not Required Under the Standard**

Respirators are an effective method of protection against designated hazards when properly selected and worn. Respirator use is encouraged, even when exposures are below the exposure limit, to provide an additional level of comfort and protection for workers. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the worker. Sometimes, workers may wear respirators to avoid exposures to hazards, even if the amount of hazardous substance does not exceed the limits set by OSHA standards. If your employer provides respirators for your voluntary use, or if you provide your own respirator, you need to take certain precautions to be sure that the respirator itself does not present a hazard.

You should do the following:

1. Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirators limitations.
2. Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you.
3. Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke.
4. Keep track of your respirator so that you do not mistakenly use someone else's respirator.

**APPENDIX F - EMERGENCY RESPIRATOR USE PROCEDURES**

**APPENDIX I - IDLH RESPIRATOR USE**

