**Respiratory Protection Program**

**Updated:**

**RPA:**

**Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_**

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

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**1.0 Purpose and Applicability**

The following Respiratory Protection Program (RPP) is written in compliance with the Maine Board of Occupational Safety and Health’s adoption of [OSHA 29 CFR 1910.134](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=12716), Respiratory Protection Standard (effective October 1, 1999 - including amendments for use in the public sector).

It is the policy of\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to protect the health and safety of its employees by 1) eliminating hazardous exposures where possible; and 2) using engineering and administrative controls to minimize hazardous exposures that cannot be eliminated. In some cases, however, such controls will not reduce exposures to safe levels and the use of respiratory protection may be required.

The purpose of this Respiratory Protection Program (RPP) is to maximize the protection afforded by respirators when they must be used. It establishes the procedures necessary to meet the regulatory requirements for use of respiratory protection.

This RPP applies to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_employees. It also applies to any personnel contracted by\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ . It applies to the use of all respirators, including filtering facepiece (disposable) respirators.

**2.0 Responsibilities:**

2.1 Respirator Program Administrator (RPA)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_has been designated as the RPA. The RPA has received appropriate training and is knowledgeable about the requirements of the OSHA 29 CFR 1910.134 Respiratory Protection Standard and all elements of the Respiratory Protection Program that need to be implemented, for it to be effective. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_has ultimate responsibility for all aspects of this program and has assigned full authority to make the necessary decisions to ensure its success. This authority includes (but is not limited to) conducting a hazard assessment for selecting appropriate respiratory protection, purchasing the necessary equipment and supplies, and developing and implementing the policies and procedures in the written RPP.

Specifically, the RPA will:

* Conduct a hazard assessment and select the appropriate level of respiratory protection for each task or job title with exposure and record that information in the “Recommended Equipment Use Chart” in Appendix A of this RPP;
* Develop and monitor respirator maintenance procedures;
* Coordinate purchase, maintenance, repair, and replacement of respirators;
* Routinely evaluate the effectiveness of the RPP, with employee input, and make any necessary changes to the program;
* Provide or arrange for annual training in the use and limitations of respirators in accordance with 8CFR§ 5144;
* Provide or arrange for annual respirator fit testing in accordance with 8 CFR §5144;
* Maintain records of respirator training, medical clearance, and fit testing as required by 8 CFR §§3204 and 5144;
* Maintain a copy of this written RPP and program evaluations, and ensure that they are readily accessible to anyone in the program; and
* Review the written RPP at least annually to ensure compliance with 8 CFR §5144.

2.2 Supervisors

Supervisors of employees included in the RPP will:

* Participate in the hazard assessment by evaluating all potential exposures to respiratory hazards, including aerosolized transmissible diseases (ATDs), and communicate this information to the RPA;
* Work with RPA to identify employees and/or tasks for which respirators may be required;
* Be responsible for ensuring that all \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_staff and contracted employees follow the procedures outlined in the RPP. They will schedule employees for medical evaluations, training, and fit testing and ensure that they are allowed to attend these appointments during work hours; and
* Arrange “just in time” fit testing for contracted employees, if indicated.

2.3 Employees in the Program

#### Employees assigned to jobs/tasks requiring the use of a respirator will:

* Complete a required questionnaire for medical clearance and participate in a medical examination, if necessary;
* Attend annual training and respirator fit testing, as required in the RPP; and
* Use, maintain, and dispose of respirators properly, in accordance with training and the procedures in the RPP.

**3.0 Respirator Selection**

3.1 Hazard assessment

The RPA will select the types of respirators to be used by \_\_\_\_\_\_\_\_\_\_\_\_staff based on the hazards to which employees may be exposed and in accordance with all Maine DOL. With input from the respirator user, the RPA and supervisor will conduct a hazard assessment for each task, procedure, or work area where there are airborne contaminants. The hazard assessment will include the following, as needed:

* Identification of potential exposures. The most common potential exposure for \_\_\_\_\_\_\_\_\_\_\_\_\_\_will be ATDs such as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_; and
* A review of work processes to determine which tasks and locations have potential exposures.

3.2 NIOSH Certified Equipment

All respiratory protective equipment shall be approved by the National Institute for Occupational Safety and Health (NIOSH) for the environment in which it is going to be used. See [NIOSH Certified Equipment list](http://www.cdc.gov/niosh/npptl/topics/respirators/cel/cel.html) and (http://www.cdc.gov/niosh/npptl/topics/respirators/cel/cel.html) for a list of approved equipment.

The following definitions apply to equipment that may be issued to employees under this RPP:

* **Filtering facepiece respirator (N95 or P100 for ATDs)** is a particulate air-purifying respirator in which the entire facepiece is composed of the filtering medium. These respirators are disposable and designed for a single use. An N95 has a filter efficiency of 95%, while a P100 has a filter efficiency of 99.9% as well as a greater resistance to oil. Other “N”, “R” or “P” categories are available for particulate exposures other than ATDs.
* **Powered air-purifying respirator (PAPR)** is an air-purifying respirator that uses a blower to force ambient air through air-purifying elements to the respirator facepiece, helmet, or hood.

The RPA will use the hazard assessment to assign appropriate types of respirators for use by specific types of personnel during specific procedures or in specific ATDs. These assignments are listed in Appendix A of this RPP.

### 3.4 Updating the Hazard Assessment

The RPA will revise and update the hazard assessment any time an employee or supervisor anticipates a new exposure. The RPA will assess the potential hazard with the employee and supervisor. If it is determined that respiratory protection is needed, all elements of this program will be in effect for those tasks and the program will be updated accordingly.

### 4.0 [Medical Evaluation](#Medical)

Employees whose work activities require the use of respiratory protective equipment shall receive medical clearance prior to the use of a respirator and prior to being fit tested for a respirator. Medical evaluations shall be conducted in accordance with **Amendments to OSHA 29 CFR §1910.134 for Maine Public Sector (In lieu of these amendments),**

**\_\_\_\_\_\_\_\_\_\_\_** will answer all of section one and questions 1-6 of section two. The medical evaluation is confidential and will only be viewed by the \_\_\_\_\_\_\_\_and the LHCP (licensed health care professional), who is evaluating the questionnaire. Employee supervisors will not have access to the completed medical evaluatioThe respirator medical evaluation shall take place annually within 3 months of fit-testing.

 \_\_\_\_\_\_\_\_\_will only accept a medical evaluation from the LHCP or another provider with prior approval of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Medical evaluations and clearances will be performed by a LHCP at\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ For calendar year 2020, the provider is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_or her designee.

Before being assigned to work in an area where respirators are required, each employee will complete the questionnaire in Appendix B of this RPP. The RPA will send the questionnaire to the LHCP for review. Employees may also speak directly with the LHCP if they have questions. The LHCP will be provided information about the type of respiratory protection to be used by employees, duration and frequency of respirator use, expected physical effort, other protective equipment worn, and any expected extremes of temperature or humidity.

The LHCP will review completed questionnaires and make a medical determination as to whether the employee can safely wear a respirator. The LHCP may make this determination based on the questionnaire alone but may also require a physical examination of the employee and any tests, consultations, or procedures the LHCP deems necessary. The LHCP will provide a clearance letter, which may clear the employee for all respirator use, or may specify restrictions or limitations on use, such as the type of respirator that may be worn or the duration that it may be worn. A copy of this written determination shall also be provided by the LHCP to the employee.

An additional medical evaluation is required when:

* The employee reports medical signs or symptoms that are related to the ability to use a respirator;
* A LHCP requests re-evaluation;
* Observations made during fit testing and/or program evaluation indicate a need for re-evaluation (e.g., the employee experiences claustrophobia or difficulty breathing during the fit test); or
* A change occurs in workplace conditions (e.g., physical work effort, protective clothing, or temperature) that may result in a substantial increase in the physiological burden placed on an employee wearing a respirator.

### 5.0 [Fit](#Industrial) Testing

Before an employee is required to use any respirator with a tight-fitting facepiece (anything except a PAPR with hood or helmet that does not rely upon a tight-fitting facepiece-to-face seal), she/he will be fit tested by designated appropriately trained personnel. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_will refer staff to designated fit tester.)

**Quantitative fit testing site:** Concentra

Fit tests will be provided at the time of initial assignment and annually thereafter. Additional fit tests will be provided whenever the employee experiences, or the supervisor or RPA observes, physical changes that could affect respirator fit. These changes include, but are not limited to, facial scarring, dental changes, cosmetic surgery, or an obvious change in body weight.

Employees who will be using only a PAPR with hood or helmet will not be fit tested. Any employee who cannot be successfully fit tested with a tight-fitting facepiece respirator will either be assigned a PAPR with a hood or helmet for all tasks requiring any respirator, **or** will be scheduled for quantitative fit testing.

Employees will be offered a selection of N95 respirators from which they may choose the one that correctly fits and is most acceptable/comfortable.

Employees with facial hair that interferes with the facepiece-to-face seal will not be fit tested and will be assigned a PAPR.

A qualitative fit test will be used for all wearers of N95 and/or P100 filtering facepiece respirators. The qualitative test will follow the protocol for saccharine or Bitrex® solutions found in Appendix D of this RPP.

### 6.0 [Training](#Training)

Annual respirator training will be provided for all employees covered by this program. The training will be conducted by the designated staff fit testers and will include the following:

* The general requirements of the State of Maine Respiratory Protection Standard and RPP;
* The specific circumstances under which respirators are to be used;
* An explanation of why the respirator is necessary and how proper fit, usage, or maintenance can ensure the protective effect of the respirator;
* The limitations and capabilities of the respirators that will be used;
* An explanation for how to effectively use the respirators;
* A demonstration of how to inspect, put on, remove, use, and check the seals of the respirator (for tight-fitting respirators such as N95s);
* The procedures outlined in this program for maintenance, storage, and cleaning or disposal of respirators. Employees who are issued PAPRs shall be instructed in procedures for charging and maintaining the batteries, inspecting all aspects all of the PAPR, and for checking the air flow rate;
* Direction for how to recognize medical signs and symptoms that may limit or prevent the effective use of respirators; and
* Instruction for how to decontaminate (or safely dispose of) a respirator that has been contaminated with chemicals or hazardous biological materials.

Training shall be provided at the time of new employee orientation and annually thereafter.

Additional training will be provided when there is a change in the type of respiratory protection used, or when inadequacies in the employee's knowledge or use of the respirator indicate that he/she has not retained the requisite understanding or skill.

The employee will also receive additional training during the fit testing procedure that will provide him/her an opportunity to handle the respirator, have it fitted properly, test its facepiece-to-face seal and wear it in normal air for a long familiarity period. Every respirator wearer will receive fitting instructions, including demonstrations and practice in how the respirator should be worn, how to adjust it, and how to perform a user seal check according to the manufacturer’s instructions (see Appendix E of this RPP).

Employees will be given the opportunity during training to provide feedback on the effectiveness of the program and any suggestions they have for improvement.

### 7.0 [Respirator Use](#Industrial)

Employees will use their respirators under conditions specified by this program and in accordance with the training they receive on the use of each particular model or type of respirator. The appropriate types of respirators to be used and the exposure conditions are listed in the respirator selection chart in Appendix A of this RPP.

Respirators relying on a tight facepiece-to-face seal must not be worn when conditions prevent a good face seal. Such conditions may be a growth of beard, long moustache, sideburns, as well as scars and other facial obstructions. In addition, the absence of one or both dentures can seriously affect the fit of a facepiece.

Employees and supervisors are expected to be diligent in observing policies pertaining to ensuring the safe use of respirators. To achieve proper protection, the wearer will perform a user seal check, in accordance with manufacturer’s instructions and the training provided at the time of fit testing, each time he/she puts on the respirator. Employees who wear corrective glasses or other personal protective equipment must be sure that such equipment is worn in a manner that does not interfere with the facepiece seal.

Employees may leave the work area to change or adjust their respirator for the following reasons:

* If there is a noticeable increased resistance to breathing;
* To adjust their respirator if the respirator is impeding their ability to work;
* To wash their face if the respirator is causing discomfort or rash; or
* To inspect the respirator if it stops functioning as intended.

### 8.0 Storage, [Maintenance](#Maintenance), and Care of Respirators

### 8.1 [Storage](#Storage)

N95s will be discarded after each use.

All respirators will be stored to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals.

Immediately following fit testing, N95 respirators will be stored in a paper bag or small cardboard box. N95 respirators should not be stored in plastic containers.

PAPRs will be stored in a designated location in each district officeand will be provided to pre-selected employees, as needed. A list of employees who require a PAPR will be maintained in each district and will be updated annually in conjunction with annual fit testing.

### 8.2 Inspection, Maintenance, and Repairs

All respirators will be inspected by the user prior to each use. Inspections should include a check of:

* Overall condition of the mask;
* All rubber or plastic parts, for pliability and signs of deterioration; and
* PAPR connecting tubes or hoses, air flow, and batteries, to evaluate proper functioning and ensure there are no holes or other issues that could compromise function.

Any defective respirators shall be removed from service. Defective disposable respirators will be discarded and replaced. Defective reusable respirators will be turned in to the RPAfor repair, adjustment, or disposal. PAPRs will be inspected annually by the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_and by the designated fit tester.

Each \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_who is assigned a PAPR is responsible for charging and maintaining PAPR pumps and batteries when they are stored or not in use. The \_\_\_\_\_\_\_will complete the checklist prior to using the PAPR and will give the completed list to their supervisor.

### 8.3 [Cleaning and Disinfection](#Clean)

PAPRs will be cleaned with mild soap and water and air dried before storing in a cardboard box, as described in Appendix G of this RPP.

Reusable respirators issued for the exclusive use of an employee will be cleaned and disinfected by staff using the respirators and will be done before and after each use and as often as necessary to maintain a sanitary condition.

Plastic hoods used during fit testing will be cleaned with mild soap and water and after completion of each individual fit test.

### 9.0 Program Evaluation

The RPA will conduct a periodic evaluation of the RPP to ensure that all aspects of the program adhere to the requirements of the Maine Department of Labor (DOL) and that it is being implemented effectively to protect employees from respiratory hazards. This evaluation will be done annually.

Program evaluation will include:

* A review of the written program to evaluate whether it is still current and accurate;
* Completion of a “Program Evaluation Checklist”, based on observations of workplace practices; and
* A review of feedback obtained from employees (to include fit, use, and maintenance issues) that will be collected at the annual training session.

The RPP will be revised as necessary and records of revisions will be kept on file with the written program. Any procedural changes that are implemented as a result of program evaluation will be communicated to the employees and reinforced by their supervisors.

### 10.0 [Recordkeeping](#Dry)

The RPA will ensure that the following records are maintained:

* Personnel medical records, such as medical clearance to wear a respirator, shall be retained by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_as part of a confidential medical record and made available in accordance with the OSHA Access to Medical Records Standard (8 CFR §3204), for a minimum of 30 years after an employee’s separation or termination;
* Training and fit testing documentation must be kept by the RPA and stored by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_until the next training or fit test; and
* A copy of this RPP and records of program evaluations and revisions shall be made available to all affected employees, their representatives, and the Maine DOL upon their request.

**RPP Appendix A: Respirator Assignments by Task/Location**

**(Specifies minimum level of respiratory protection required)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Task/Location** | **Potential Exposure** | **Respirator****Type** | **Employees Included** |
| Performing high-hazard procedures on cases with confirmed or suspected airborneinfectious disease (AirID) or is present when such procedures are performed,including:Sputum induction | Infectious aerosols | N95 or PAPR | Public HealthNursesMaine Responds Clinical VolunteersMedical DirectorOther assistive staff |
| Performing high-hazard procedures on confirmed or suspected influenza casesor is present during such procedures | Infectious aerosols | N95 or PAPR |  |
| Entry into airborne infection isolation room or other area occupied by confirmed or suspected case of AirID | Infectious aerosols | N95 or PAPR |  |
| Performing patient care or is present during performance of procedures on an AirID confirmed or suspected case | Infectious aerosols | N95 or PAPR |  |
| Cleaning/decontaminating area occupied byAirID confirmed or suspected case, or after patient has left, if space has not yet been adequately ventilated | Infectious aerosols | N95 or PAPR |  |
| Emergency response situations as identifiedby \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_or designee  | Infectious aerosols  | N95 or PAPR |  |

**Appendix B to CFR §1910.134 Section 5199, Aerosol Transmissible Diseases – Mandatory Respirator Medical Evaluation Questionnaire**



**To the LHCP**: Answers to questions in Section 1, and to question 6 in Section 2 do not require a medical examination. Employees must be provided with a confidential means of contacting the health care professional who will review this questionnaire.

**To the employee**: Can you read and understand this questionnaire? (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.

**Section 1. The following information must be provided by every employee who has been selected to use any type of respirator. Please print.**

**Today's date:**

**Name**:                                                                                           **Job Title**:

**Your age** (to nearest year):                                  \_\_**Gender** (circle one): Male  Female Other Prefer not to answer

**Height**: \_\_\_\_\_\_\_\_\_\_ ft. \_\_\_\_\_\_\_\_\_\_ in.  **Weight**: \_\_\_\_\_\_\_\_\_\_\_\_ lbs.

**Phone number** where you can be reached (include the Area Code): (\_\_\_\_)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The best time to phone you at this number:   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Has your employer told you how to contact the health care professional who will review this questionnaire?**

**(circle one)** : Yes                               No

**Check the type of respirator you will use** (you can check more than one category):

* N, R, or P disposable respirator (filter-mask, non-cartridge type only).
* Other type (ex,ο half- or full-facepiece type, PAPR, supplied-air, SCBA**). (Fill in type here)**

**Have you worn a respirator?** **(Circle one):**            Yes          No

If "yes," what type?(s): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Section 2. Questions 1 through 6 below must be answered by every employee who has been selected to use any type of respirator. (Please circle "yes" or "no").**

|  |
| --- |
| **1. Have you ever had any of the following conditions?** |
|   Allergic reactions that interfere with your |   |   |   |
| breathing: | Yes | No | What did you react to? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Claustrophobia (fear of closed-in places) | Yes | No |   |   |   |
|   |   |   |   |   |   |
| **2. Do you currently have any of the following symptoms of** |
| **pulmonary or lung illness?** |
|  |   |   |  |  |  |
| Shortness of breath when walking fast on level ground or walking up a slight hill or incline: |  Yes  |  No |  |  |  |
| Have a need to stop for breath when walking at your own pace on level ground: |  Yes |  No |  |  |  |
|  |  |  |  |  |  |
| Shortness of breath that interferes with your job: |  Yes |  No |   |   |   |
|  |  |  |  |  |  |  |

 Any other symptoms that you think
 ay be related to lung problems:                           Yes       No

|  |
| --- |
| Coughing that produces phlegm (thick sputum): Yes No |
| Coughing up blood in the last month: |
| Wheezing that interferes with your job: Yes No |
| Chest pain when you breathe deeply: Yes No |

**3. Do you currently have any of the following cardiovascular or heart symptoms?**

Frequent pain or tightness in your chest:                Yes          No

Pain or tightness in your chest during
 physical activity:                                                     Yes          No

Pain or tightness in your chest that interferes
 with your job:                                                         Yes          No

Any other symptoms that you think may be

 related to heart or circulation problems: Yes          No

**4. Do you currently take medication for any of the following problems?**

Breathing or lung problems:                                    Yes          No

Heart trouble:                                                          Yes          No

Nose, throat or sinuses                                            Yes          No

Are your problems under control with these

 medications?                                                           Yes          No

**5. If you've used a respirator, have you ever had any of the following problems while respirator is being used?**

*(If you've never used a respirator, check the following space and go to question 6:)\_\_\_\_\_\_\_\_*

Skin allergies or rashes:                                         Yes          No

Anxiety:                                                                  Yes          No

General weakness or fatigue:                                 Yes          No

Any other problem that interferes with your use of a respirator:             Yes          No

**6. Would you like to talk to the health care professional who will review this questionnaire about your answers to this questionnaire**:                               Yes          No

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|   |   |   |   |   |   |   |
|   |   |   |   |   |   |   |
| Employee Signature |   | Date |   | LHCP Signature |   | Date |

**RPP Appendix C: Staff Training Videos for**

 **Qualitative Respirator Fit Testing**

All \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_who are assigned to administer fit testing will be required to complete the following video training course:

1. **Qualitative Respirator Fit Test Training Video for 3M Fit Testing Kit:**

<https://www.youtube.com/watch?v=xl4qX6qEYXU>

**RPP Appendix D: Qualitative Fit Test Protocol**

**Part I. OSHA-Accepted Fit Test Protocols**

**A. 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 and another option is necessary; 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; and

1. 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 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 would 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. 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 below, count backward from 100, or recite a memorized poem or song.

**Rainbow Passage**

**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 (quantitative fit testing) testing; it is not performed for QLFT (qualitative fit testing))

(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.

**B. Saccharin Solution Aerosol Protocol**. The entire screening and testing procedure shall be explained to the test subject prior to the conduct of the screening test.

**(a) Taste threshold screening**. The saccharin taste threshold screening, performed without wearing a respirator, is intended to determine whether the individual being tested can detect the taste of saccharin.

(1) During threshold screening, as well as during fit testing, subjects shall wear an enclosure about the head and shoulders that is approximately 12 inches in diameter by 14 inches tall with at least the front portion clear. This enclosure shall allow free movements of the head when a respirator is worn. An enclosure substantially similar to the 3M hood assembly, parts # FT 14 and # FT 15 combined, is adequate.

(2) The test enclosure shall have a 3/4-inch (1.9 cm) hole in front of the test subject's nose and mouth area to accommodate the nebulizer nozzle.

(3) The test subject shall don the test enclosure. Throughout the threshold screening test, the test subject shall breathe through his/her slightly open mouth with tongue extended. The subject is instructed to report when he/she detects a sweet taste.

(4) Using a DeVilbiss Model 40 Inhalation Medication Nebulizer or equivalent, the test conductor shall spray the threshold check solution into the enclosure. The nozzle is directed away from the nose and mouth of the person. This nebulizer shall be clearly marked to distinguish it from the fit test solution nebulizer.

(5) The threshold check solution is prepared by dissolving 0.83 gram of sodium saccharin USP in 100 ml of warm water. It can be prepared by putting 1 ml of the fit test solution (see (b)(5) below) in 100 ml of distilled water.

(6) To produce the aerosol, the nebulizer bulb is firmly squeezed so that it collapses completely, then released and allowed to fully expand.

(7) The tester performs 10 squeezes that are repeated rapidly and then asks test subject whether the saccharin can be tasted. If the test subject reports tasting the sweet taste during the 10 squeezes, the screening test is completed. The taste threshold is noted as 10, regardless of the number of squeezes actually completed.

(8) If the first response is negative, 10 more squeezes are repeated rapidly and the test subject is again asked whether the saccharin is tasted. If the test subject reports tasting the sweet taste during the second 10 squeezes, the screening test is completed. The taste threshold is noted as 20, regardless of the number of squeezes actually completed.

(9) If the second response is negative, 10 more squeezes are repeated rapidly and the test subject is again asked whether the saccharin is tasted. If the test subject reports tasting the sweet taste during the third set of ten squeezes, the screening test is completed. The taste threshold is noted as 30, regardless of the number of squeezes actually completed.

(10) The test conductor will take note of the number of squeezes required to solicit a taste response.

(11) If the saccharin is not tasted after 30 squeezes (step 10), the test subject is unable to taste saccharin and may not perform the saccharin fit test.

Note to subsection 3(a): If the test subject eats or drinks something sweet before the screening test, he/she may be unable to taste the weak saccharin solution.

(12) If a taste response is elicited, the test subject shall be asked to take note of the taste for reference in the fit test.

(13) Correct use of the nebulizer means that approximately 1 ml of liquid is used at a time in the nebulizer body.

(14) The nebulizer shall get thoroughly rinsed in water, shaken dry, and refilled at least each morning and afternoon or at least every four hours.

**(b) Saccharin solution aerosol fit test procedure.**

(1) The test subject may not eat, drink (except for plain water), smoke, or chew gum for 15 minutes before the test.

(2) The fit test uses the same enclosure described in 3 (a) above.

(3) The test subject shall don the enclosure while wearing the respirator selected in Section I(A) of this appendix. The respirator shall be properly adjusted and equipped with a particulate filter(s).

(4) A second DeVilbiss Model 40 Inhalation Medication Nebulizer or equivalent is used to spray the fit test solution into the enclosure. This nebulizer shall be clearly marked to distinguish it from the screening test solution nebulizer.

(5) The fit test solution is prepared by adding 83 grams of sodium saccharin to 100 ml of warm water.

(6) As before, the test subject shall breathe through the slightly open mouth with the tongue extended, and report if he/she tastes the sweet taste of saccharin.

(7) The nebulizer is inserted into the hole in the front of the enclosure and an initial concentration of saccharin fit test solution is sprayed into the enclosure using the same number of squeezes (either 10, 20 or 30 squeezes) based on the number of squeezes required to elicit a taste response as noted during the screening test. A minimum of 10 squeezes is required.

(8) After generating the aerosol, the test subject shall be instructed to perform the exercises in Section I(A)(14) of this appendix.

(9) Every 30 seconds, the aerosol concentration shall be replenished using one half the original number of squeezes used initially (e.g., 5, 10, or 15).

(10) The test subject shall indicate to the test conductor if at any time during the fit test the taste of saccharin is detected. If the test subject does not report tasting the saccharin, the test is passed.

(11) If the taste of saccharin is detected, the fit is deemed unsatisfactory and the test is failed. A different respirator shall be tried and the entire test procedure is repeated (taste threshold screening and fit testing).

(12) Since the nebulizer has a tendency to clog during use, the test operator must make periodic checks of the nebulizer to ensure that it is not clogged. If clogging is found at the end of the test session, the test is invalid.

**3. BitrexTM (Denatonium Benzoate) Solution Aerosol Qualitative Fit Test Protocol.** The BitrexTM (Denatonium benzoate) solution aerosol QLFT protocol uses the published saccharin test protocol because that protocol is widely accepted. Bitrex is routinely used as a taste aversion agent in household liquids which children should not be drinking and is endorsed by the American Medical Association, the National Safety Council, and the American Association of Poison Control Centers. The entire screening and testing procedure shall be explained to the test subject prior to the conduct of the screening test.

**(a) Taste Threshold Screening**. The Bitrex taste threshold screening, performed without wearing a respirator, is intended to determine whether the individual being tested can detect the taste of Bitrex. The tester will take note of the number of squeezes required to solicit a taste response.

(1) If the Bitrex is not tasted after 30 squeezes (step 10), the test subject is unable to taste Bitrex and may not perform the Bitrex fit test.

(2) If a taste response is elicited, the test subject shall be asked to take note of the taste for reference in the fit test.

(3) During threshold screening as well as during fit testing, subjects shall wear an enclosure about the head and shoulders that is approximately 12 inches (30.5 cm) in diameter by 14 inches (35.6 cm) tall. The front portion of the enclosure shall be clear from the respirator and allow free movement of the head when a respirator is worn. An enclosure substantially similar to the 3M hood assembly, parts #14 and #15 combined, is adequate.

(4)The test enclosure shall have a 3/4 inch (1.9 cm) hole in front of the test subject's nose and mouth area to accommodate the nebulizer nozzle.

(5) The test subject shall don the test enclosure. Throughout the threshold screening test, the test subject shall breathe through his or her slightly open mouth with tongue extended. The subject is instructed to report when he/she detects a bitter taste.

(6) Using a DeVilbiss Model 40 Inhalation Medication Nebulizer or equivalent, the test conductor shall spray the Threshold Check Solution into the enclosure. This Nebulizer shall be clearly marked to distinguish it from the fit test solution nebulizer.

(7) To produce the aerosol, the nebulizer bulb is firmly squeezed, so that the bulb collapses completely and is then released and allowed to fully expand.

(8) An initial 10 squeezes are repeated rapidly and then the test subject is asked whether the Bitrex can be tasted. If the test subject reports tasting the bitter taste during the ten squeezes, the screening test is completed. The taste threshold is noted as 10, regardless of the number of squeezes actually completed.

(9) If the first response is negative, 10 more squeezes are repeated rapidly and the test subject is again asked whether the Bitrex is tasted. If the test subject reports tasting the bitter taste during the second 10 squeezes, the screening test is completed. The taste threshold is noted as20, regardless of the number of squeezes actually completed.

(10) If the second response is negative, 10 more squeezes are repeated rapidly and the test subject is again asked whether the Bitrex is tasted. If the test subject reports tasting the bitter taste during the third set of 10 squeezes, the screening test is completed. The taste threshold is noted as 30, regardless of the number of squeezes actually completed.

(11) The test conductor will take note of the number of squeezes required to solicit a taste response.

(12) If the Bitrex is not tasted after 30 squeezes (step 11), the test subject is unable to taste Bitrex and may not perform the Bitrex fit test.

(12) If a taste response is elicited, the test subject shall be asked to take note of the taste for reference in the fit test.

13) Correct use of the nebulizer means that approximately 1 ml of liquid is used at a time in the nebulizer body.

(14) The nebulizer shall be thoroughly rinsed in water, shaken to dry, and refilled at least each morning and afternoon or at least every four hours.

**(b) Bitrex Solution Aerosol Fit Test Procedure.**

(1) The test subject may not eat, drink (except plain water), smoke, or chew gum for 15 minutes before the test.

(2) The fit test uses the same enclosure as that described in 4(a) above.

(3) The test subject shall don the enclosure while wearing the respirator selected according to Section I( A) of this appendix. The respirator shall be properly adjusted and equipped with any type particulate filter(s).

(4) A second DeVilbiss Model 40 Inhalation Medication Nebulizer or equivalent is used to spray the fit test solution into the enclosure. This nebulizer shall not be clearly marked to distinguish it from the screening test solution nebulizer.

 (5) As before, the test subject shall breathe through his or her slightly open mouth with tongue extended, and be instructed to report if he/she tastes the bitter taste of Bitrex.

(6) The nebulizer is inserted into the hole in the front of the enclosure and an initial concentration of the fit test solution is sprayed into the enclosure using the same number of squeezes (either 10, 20 or 30 squeezes) based on the number of squeezes required to elicit a taste response as noted during the screening test.

(7) After generating the aerosol, the test subject shall be instructed to perform the exercises in Section I (A)(14) of this appendix.

(8) Every 30 seconds, the aerosol concentration shall be replenished, using one half the number of squeezes used initially (e.g., 5, 10 or 15).

(9) The test subject shall indicate to the test conductor if, at any time during the fit test, the taste of Bitrex is detected. If the test subject does not report tasting the Bitrex, the test is passed.

(10) If the taste of Bitrex is detected, the fit is deemed unsatisfactory and the test is failed. A different respirator shall be tried and the entire test procedure is repeated (taste threshold screening and fit testing).

#

#  Appendix E: QUALITATIVE RESPIRATOR FIT TEST REPORT

## Employer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Regular employee\_\_\_\_\_\_\_\_\_\_\_\_Contracted position\_\_\_\_\_\_\_\_\_\_\_

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_DOB\_\_\_\_\_\_\_\_\_

Date of most recent medical evaluation clearance: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

N95 Respirator make: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Model\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Mask Size: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Test Agent: \_\_\_\_\_\_\_\_ Saccharin \_\_\_\_\_\_\_\_\_ Bitrex

Have you had anything to eat, drink or smoke 15 minutes prior to test?\_\_\_\_\_\_\_(If yes, reschedule test)

Fitting: Positive pressure seal check: Pass\_\_\_\_\_ Fail\_\_\_\_\_

 Negative pressure seal check: Pass\_\_\_\_\_ Fail\_\_\_\_\_

Respirator worn for 5 minutes prior to the test: Yes\_\_\_\_ No\_\_\_\_

Exercises:

 Normal breathing\_\_\_\_\_\_\_\_ Deep breathing\_\_\_\_\_\_

 Turning head side to side\_\_\_\_\_ Moving head up and down\_\_\_\_\_

 Reciting rainbow passage\_\_\_\_\_ Bending over\_\_\_\_\_\_\_

 Pass\_\_\_\_\_\_\_ Fail\_\_\_\_\_\_\_\_

Employee signature:­­­­­­­­­­­­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date:\_\_\_\_\_\_

Tester’s signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: **\_\_\_\_\_\_**

**RPP Appendix F: Mandatory User Seal Check Procedures**

The individual who uses a tight-fitting respirator is to perform a user seal check to ensure that an adequate seal is achieved each time the respirator is put on. Either the positive and negative pressure checks listed in this appendix, or the respirator manufacturer's recommended user seal check method, shall be used. User seal checks are not substitutes for qualitative or quantitative fit tests.

I. Facepiece Positive and/or Negative Pressure Checks.

A. Positive pressure check. If N95 model has an exhalation valve, close it off and exhale gently into the facepiece. The face fit is considered satisfactory if a slight positive pressure can be built up inside the facepiece without any evidence of outward leakage of air at the seal. For most respirators this method of leak testing requires the wearer to first remove the exhalation valve cover before closing off the exhalation valve and then carefully replacing it after the test.

B. Negative pressure check. Inhale gently so that the facepiece collapses slightly, and hold the breath for 10 seconds. The design of the inlet opening of some cartridges cannot be effectively covered with the palm of the hand. The test can be performed by covering the inlet opening of the cartridge with a thin latex or nitrile glove. If the facepiece remains in its slightly collapsed condition and no inward leakage of air is detected, the tightness of the respirator is considered satisfactory.

II. Manufacturer's Recommended User Seal Check Procedures. The respirator manufacturer's recommended procedures for performing a user seal check may be used instead of the positive and/or negative pressure check procedures provided that the employer demonstrates that the manufacturer's procedures are equally effective.

**RPP Appendix G: Definitions**

**Air-Purifying Respirator** - A respirator with an air-purifying filter, cartridge, or canister capable of removing specific air contaminants by passing ambient air through the air-purifying element.

**Assigned Protection Factor (APF)** - The minimum expected workplace level of respiratory protection provided by a properly functioning respirator.

**Exposure** - Exposure to a concentration of an airborne contaminant that would occur if the employee were not using a respirator.

**Filter** - A respirator component used to remove particulates from inspired air.

**Fit Factor** - A quantitative estimate of the fit of a particular respirator to a specific individual, and typically estimates the ratio of the concentration of a substance in ambient air to its concentration inside the respirator when worn.

**Fit Test** - A qualitative or quantitative evaluation of the air seal between the respirator and an individual’s face.

**Immediately Dangerous to Life or Health (IDLH)** - Any atmosphere that poses an immediate hazard to life or poses immediate irreversible debilitating effects on health.

**Negative Pressure Respirator** - A respirator in which the air pressure inside the facepiece is negative during inhalation with respect to the ambient air pressure outside the respirator.

**NIOSH Approved** - A respirator that has been tested by the National Institute for Occupational Health and Safety

**Powered Air-Purifying Respirator (PAPR)** - An air-purifying respirator that uses a blower to force ambient air through an air-purifying cartridge or filter and into the facepiece.

**Qualitative Fit Test (QLFT)** - A pass/fail evaluation of the seal between the respirator and the individual’s face that relies on the individual’s ability for sensory response to detect a challenge agent (e.g., sweet taste).

**Quantitative Fit Test (QNFT)** - A pass/fail evaluation of the seal between the respirator and the individual’s face that used an instrument to measure the differential between a level of a challenge agent.

**Service Life** - The period of time a cartridge or filter provides adequate protection to the wearer.

**Single Use Respirator (SUR)**- A NIOSH approved disposable negative pressure respirator with a filter as an integral part of the facepiece or with the entire facepiece composed of the filtering medium (e.g. N-95). SURs require full participation in the RPP when use is required by the employer.

**Tight-Fitting Facepiece** - A respiratory facepiece that forms a complete seal with the face.

**User Seal Check** - A self-test conducted by a respirator user to determine if a respirator is properly seated to the face prior to its use in the workplace

**Appendix H: Identification of 2019 Respiratory Protection Program Staff**

**RPA: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Designated Fit Testers:**

 **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**References**

Maine Department of Labor, Respiratory Protection Standard: <https://www.maine.gov/labor/workplace_safety/respiratory/amend29.htm>

OSHA (29 CFR §1910.134):

<https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.134>