Respiratory Protection Plan

Per 29 CFR 1910.134

Created October 2014

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Respiratory Protection Program

The Respiratory Protection Program specifies standard operating procedures to protect each construction site employee from respiratory hazards, according to the requirements of 29 CFR 1910.134. Respirators are to be used only where engineering control of respirator hazards is not feasible, while engineering controls are being installed, or in emergencies.

Administrative Duties

At Pace University, the Respiratory Protection Program Administrator is Brian Anderson, Director of Environmental Health & Safety (EH&S). Environmental Health & Safety is solely responsible for all facets of the program and has full authority to make necessary decisions to ensure success of this program. The Program Administrator will develop written detailed instructions covering each of the basic elements in this program, and is the sole person authorized to amend these instructions.

The Director of Environmental Health & Safety is also qualified, by appropriate training and experience that is commensurate with the complexity of the program, to administer or oversee our Respiratory Protection Program and conduct the required evaluations of program effectiveness.

Employees may review a copy of our Respiratory Protection Program. It is located in West Hall 118. Our Program Administrator, Brian Anderson, reviews this program periodically to ensure its effectiveness. Only the Program Administrator may amend the written program.

Respirator Selection

Respirators are selected on the basis of respiratory hazards to which the worker is exposed and workplace and user factors that affect respirator performance and reliability. All selections are made by the Program Administrator in conjunction with the manager of the employee utilizing respiratory protection.

The Program Administrator will develop detailed written standard operating procedures governing the selection of respirators using 29 CFR 1910.134(d) and the following guidelines when selecting a respirator in general:

- Select and provide respirators based on respiratory hazard(s) to which a worker is exposed and workplace and user factors that affect respirator performance and reliability.
- Select a NIOSH-certified respirator.
- Identify and evaluate the respiratory hazard(s) in the workplace, including a reasonable estimate of employee exposures to respiratory hazard(s) and an identification of the contaminant's chemical state and physical form. Consider the atmosphere to be

immediately dangerous to life and health (IDLH) if you cannot identify or reasonably estimate employee exposure.
- Select respirators from a sufficient number of respirator models and sizes so that the respirator is acceptable to, and correctly fits, the user.

Selection procedures are included in the respirator program. Outside consultation, manufacturer's assistance, and other recognized authorities will be consulted if there is any doubt regarding proper selection.

The University's selection procedures include coverage of the following OSHA requirements:

Selection Procedure Checklist

When selecting any respirator in general:

- Select and provide respirators based on respiratory hazard(s) to which a worker is exposed and workplace and user factors that affect respirator performance and reliability.
- Select a NIOSH-certified respirator. (NIOSH stands for the National Institute for Occupational Safety and Health)
- Identify and evaluate the respiratory hazard(s) in the workplace, including a reasonable estimate of employee exposures to respiratory hazard(s) and an identification of the contaminant's chemical state and physical form. Consider the atmosphere to be immediately dangerous to life or health (IDLH) if you cannot identify or reasonably estimate employee exposure.
- Select respirators from a sufficient number of respirator models and sizes so that the respirator is acceptable to, and correctly fits, the user.

When selecting respirators for IDLH atmospheres:

- Provide these respirators:
    - A full facepiece pressure demand self-contained breathing apparatus (SCBA) certified by NIOSH for a minimum service life of thirty minutes, or
    - A combination full facepiece pressure demand supplied-air respirator Self-contained breathing apparatus (SAR) with auxiliary self-contained air supply.
- Provide respirators NIOSH-certified for escape from the atmosphere in which they will be used when they are used only for escape from IDLH atmospheres.
- Consider all oxygen-deficient atmospheres to be IDLH. Exception: If we can demonstrate that, under all foreseeable conditions, the oxygen concentration can be maintained within the ranges specified in Table II of 29 CFR 1910.134 (i.e., for the altitudes set out in the table), then any atmosphere-supplying respirator may be used.

When selecting respirators for atmospheres that are not IDLH:

- Provide a respirator that is adequate to protect the health of the employee and ensure compliance with all other OSHA statutory and regulatory requirements, under routine and reasonably foreseeable emergency situations.

- Select a respirator that meets or exceeds the required level of employee protection by using the assigned protection factors (APFs) listed in §1910.134 Table 1. [Effective Nov. 22, 2006]
- For combination respirators (e.g., airline respirators with an air-purifying filter, ensure that the APF is appropriate to the mode of operation in which the respirator is being used. [Effective Nov. 22, 2006]
- Select a respirator for employee use that maintains the employee's exposure to the hazardous substance at or below the maximum use concentration (MUC), when measured outside the respirator. [Effective Nov. 22, 2006]
- Do not apply MUCs to conditions that are immediately dangerous to life or health (IDLH); instead use respirators listed for IDLH conditions in §1910.134(d) (2). [Effective Nov. 22, 2006]
- Set the MUC at the lower limit when the calculated MUC exceeds the IDLH level for a hazardous substance or the performance limits of the cartridge or canister. [Effective Nov. 22, 2006]
- Select respirators appropriate for the chemical state and physical form of the contaminant.
- For protection against gases and vapors, provide:
    - An atmosphere-supplying respirator, or
    - An air-purifying respirator, provided that:
        - The respirator is equipped with an end-of-service-life indicator (ESLI) certified by NIOSH for the contaminant; or
        - If there is no ESLI appropriate for conditions in our workplace, implement a change schedule for canisters and cartridges that is based on objective information or data that will ensure that canisters and cartridges are changed before the end of their service life. Describe in the respirator program the information and data relied upon and the basis for the canister and cartridge change schedule and the basis for reliance on the data.
- For protection against particulates, provide:
        - An atmosphere-supplying respirator; or
        - An air-purifying respirator equipped with a filter certified by NIOSH under 30 CFR part 11 as a high efficiency particulate air (HEPA) filter, or an air-purifying respirator equipped with a filter certified for particulates by NIOSH under 42 CFR 84; or
        - For contaminants consisting primarily of particles with mass median aerodynamic diameters (MMAD) of at least 2 micrometers, an air-purifying respirator equipped with any filter certified for particulates by NIOSH.

Respirator Types and Uses

The following types of respirators are in use in this facility for the following uses:

Types:	Situation used:
N95	Buildings and Grounds- dusty environment

N95	Health Services- patient care
CcrOV100	Theater set design- paint application and dust

Only NIOSH-certified respirators are selected and used. Where practicable, the respirators will be assigned to individual workers for their exclusive use.

Medical Evaluations

A medical evaluation to determine whether an employee is able to use a given respirator is an important element of an effective Respiratory Protection Program and is necessary to prevent injuries, illnesses, and even, in rare cases, death from the physiological burden imposed by respirator use.

At Pace University, persons will not be assigned to tasks requiring use of respirators nor fit tested unless it has been determined that they are physically able to perform the work and use the respirator.

The University Health Care Unit (Goldstein Fitness Center Room 125 in Pleasantville and 41 Park Row Suite 313 in New York) will perform medical evaluations using a medical questionnaire found in Sections 1 and 2, Part A of Appendix C of 29 CFR 1910.134.

All medical questionnaires and examinations are confidential and handled during the employee's normal working hours or at a time and place convenient to the employee. The medical questionnaire is administered so that the employee understands its content. All employees are provided an opportunity to discuss the questionnaire and examination results with their physician or other licensed health care professional (PLHCP).

Before any initial examination or questionnaire is given, departments must supply the PLHCP with the following information so that he/she can make the best recommendation concerning an employee's ability to use a respirator:

- Type and weight of the respirator to be used by the employee;
- Duration and frequency of respirator use (including use for rescue and escape);
- Expected physical work effort;
- Additional protective clothing and equipment to be worn;
- Temperature and humidity extremes that may be encountered.

Once the PLHCP determines whether the employee has the ability to use or not use a respirator, he/she sends EH&S a written recommendation containing only the following information:

- Limitations on respirator use related to the medical condition of the employee, or relating to the workplace conditions in which the respirator will be used, including whether or not the employee is medically able to use the respirator;
- The need, if any, for follow-up medical evaluations; and

- A statement that the PLHCP has provided the employee with a copy of the PLHCP's written recommendation.

Follow-up medical examination:

A follow-up medical examination will be provided if a positive response is given to any question among questions 1 through 8 in Section 2, Part A of Appendix C of 29 CFR 1910.134 or if an employee's initial medical surveillance demonstrates the need for a follow-up medical examination. Our follow-up medical examination includes tests, consultations, or diagnostic procedures that the PLHCP deems necessary to make a final determination.

If the respirator is a negative pressure respirator and the PLHCP finds a medical condition that may place the employee's health at increased risk if the respirator is used, our company will provide a powered air-purifying respirator (PAPR) if the PLHCP's medical evaluation finds that the employee can use such a respirator. If a subsequent medical evaluation finds that the employee is medically able to use a negative pressure respirator, then we are no longer required to provide a PAPR.

Additional medical examinations:

Pace University or a contracted vendor will provide additional medical evaluations if:

- An employee reports medical signs or symptoms that are related to ability to use a respirator;
- A PLHCP, supervisor, or the respirator program administrator informs the employer that an employee needs to be reevaluated;
- Information from the respiratory protection program, including observations made during fit testing and program evaluation, indicates a need for employee reevaluation; or
- A change occurs in workplace conditions (i.e., physical work effort, protective clothing, and temperature) that may result in a substantial increase in the physiological burden placed on an employee.

Contact EH&S for a copy of your confidential medical evaluation or questionnaire.

Fit Testing Procedures

Respirators must fit properly to provide protection. If a tight seal is not maintained between the facepiece and the employee's face, contaminated air will be drawn into the facepiece and be breathed by the employee. Fit testing helps to protect the employee against breathing contaminated ambient air and is one of the core provisions of our respirator program.

In general, fit testing may be either qualitative or quantitative. Qualitative fit testing (QLFT) involves the introduction of a gas, vapor, or aerosol test agent into an area around the head of the respirator user. If that user can detect the presence of the test agent through subjective means, such as odor, taste, or irritation, the respirator fit is inadequate.

In a quantitative respirator fit test (QNFT), the adequacy of respirator fit is assessed by measuring the amount of leakage into the respirator, either by generating a test aerosol as a test atmosphere, using ambient aerosol as a test agent, or using controlled negative pressure to measure the volumetric leak rate. Appropriate instrumentation is required to quantify respirator fit in QNFT.

Pace University makes sure those employees are fit tested with the same make, model, style, and size of respirator that will be used:

- Before any of our employees are required to use any respirator with a negative or positive pressure tight-fitting facepiece;
- Whenever a different respirator facepiece (size, style, model, or make) is used;
- At least annually;
- Whenever the employee reports, or our University, PLHCP, supervisor, or Program Administrator makes visual observations of changes in the employee's physical condition that could affect respirator fit. Such conditions include, but are not limited to, facial scarring, dental changes, cosmetic surgery, or an obvious change in body weight; and
- When the employee, subsequently after passing a QLFT or QNFT, notifies the University, Program Administrator, supervisor, or PLHCP that the fit of the respirator is unacceptable. That employee will be retested with a different respirator facepiece.

Employees must pass one of the following fit test types that follow the protocols and procedures contained in 29 CFR 1910.134 Appendix A:

- QLFT (Only used to fit test negative pressure air-purifying respirators that must achieve a fit factor of 100 or less. May be used to test tight-fitting atmosphere-supplying respirators and tight-fitting powered air-purifying respirators if tested in the negative pressure mode); or
- QNFT (May be used to fit test a tight-fitting half facepiece respirator that must achieve a fit factor of 100 or greater OR a tight-fitting full facepiece respirator that must achieve a fit factor of 500 or greater OR tight-fitting atmosphere-supplying respirators and tight-fitting powered air-purifying respirators if tested in the negative pressure mode).

Our workplace-specific fit testing procedures include the following:

Fit Testing Procedures -- General Requirements

The University shall conduct fit testing using the following procedures.

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 University must perform the following test exercises for all fit testing methods prescribed in this section. For the fit testing, employers must ensure that employees perform the test exercises in the appropriate 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

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.

Qualitative Fit Test (QLFT) Protocols

1. General

(a) The employer shall ensure that persons administering QLFT are able to prepare test solutions, calibrate equipment and perform tests properly, recognize invalid tests, and ensure that test equipment is in proper working order.

(b) The employer shall ensure that QLFT equipment is kept clean and well maintained so as to operate within the parameters for which it was designed.

2. 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 and that allows 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) Ten squeezes are repeated rapidly and then the test subject is asked whether the saccharin can be tasted. If the test subject reports tasting the sweet taste during the ten squeezes, the screening test is completed. The taste threshold is noted as ten regardless of the number of squeezes actually completed.

(8) If the first response is negative, ten 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 ten squeezes, the screening test is completed. The taste threshold is noted as twenty regardless of the number of squeezes actually completed.

(9) If the second response is negative, ten 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 thirty 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 paragraph 2. (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 be 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 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 section. 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 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 section.

(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.

Proper Use Procedures

Once the respirator has been properly selected and fitted, its protection efficiency must be maintained by proper use in accordance with 29 CFR 1910.134(g). The University ensures with written procedures that respirators are used properly in the workplace. Our proper respirator use procedures are:

Facepiece Seal Protection

- Do not permit respirators with tight-fitting facepieces to be worn by employees who have:
    - Facial hair that comes between the sealing surface of the facepiece and the face or that interferes with valve function; or
    - Any condition that interferes with the face-to-facepiece seal or valve function.
- If an employee wears corrective glasses or goggles or other personal protective equipment, ensure that such equipment is worn in a manner that does not interfere with the seal of the facepiece to the face of the user.
- For all tight-fitting respirators, ensure that employees perform a user seal check each time they put on the respirator using the procedures in 29 CFR 1910.134 Appendix B-1 (User Seal Check Procedures) or procedures recommended by the respirator manufacturer that you can demonstrate are as effective as those in Appendix B-1.

Continuing Respirator Effectiveness

- Appropriate surveillance must be maintained of work area conditions and degree of employee exposure or stress. When there is a change in work area conditions or degree of employee exposure or stress that may affect respirator effectiveness, reevaluate the continued effectiveness of the respirator.
- Ensure that employees leave the respirator use area:

    - To wash their faces and respirator facepieces as necessary to prevent eye or skin irritation associated with respirator use; or
    - If they detect vapor or gas breakthrough, changes in breathing resistance, or leakage of the facepiece; or
    - To replace the respirator or the filter, cartridge, or canister elements.
- If the employee detects vapor or gas breakthrough, changes in breathing resistance, or leakage of the facepiece, replace or repair the respirator before allowing the employee to return to the work area.

Procedures for IDLH Atmospheres

Ensure that:

- One employee or, when needed, more than one employee is located outside the IDLH atmosphere;
- Visual, voice, or signal line communication is maintained between the employee(s) in the IDLH atmosphere and the employee(s) located outside the IDLH atmosphere;
- The employee(s) located outside the IDLH atmosphere are trained and equipped to provide effective emergency rescue;
- The employer or designee is notified before the employee(s) located outside the IDLH atmosphere enter the IDLH atmosphere to provide emergency rescue;
- The employer or designee authorized to do so by the company, once notified, provides necessary assistance appropriate to the situation;
- Employee(s) located outside the IDLH atmospheres are equipped with:
    - Pressure demand or other positive pressure self-contained breathing apparatuses (SCBAs), or a pressure demand or other positive pressure supplied-air respirator with auxiliary SCBA; and either:
    - Appropriate retrieval equipment for removing the employee(s) who enter(s) these hazardous atmospheres where retrieval equipment would contribute to the rescue of the employee(s) and would not increase the overall risk resulting from entry; or
    - Equivalent means for rescue where retrieval equipment is not required under the bullet item above this one.

Maintenance and Care Procedures

In order to ensure continuing protection from respiratory protective devices, it is necessary to establish and implement proper maintenance and care procedures and schedules. A lax attitude toward maintenance and care will negate successful selection and fit because the devices will not deliver the assumed protection unless they are kept in good working order.

Cleaning & disinfecting

The University provides each respirator user with a respirator that is clean, sanitary, and in good working order. We ensure that respirators are cleaned and disinfected using the procedures below:

The respirators are cleaned and disinfected at the following intervals:

Respirator type:	**Are cleaned and disinfected at the following interval:**
Issued for the exclusive use of an employee	As often as necessary to be maintained in a sanitary condition
Issued to more than one employee	Before being worn by different individuals
Maintained for emergency use	After each use
Used in fit testing and training	After each use

Storage

Storage of respirators must be done properly to ensure that the equipment is protected and not subject to environmental conditions that may cause deterioration. We ensure that respirators are stored to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals, and they are packed or stored in shops, closets or in manufacturers' containers for dispensing.

Inspection

In order to assure the continued reliability of respirator equipment, it must be inspected on a regular basis. The frequency of inspection is related to the frequency of use. Here are our frequencies for inspection:

Respirator type:	**Inspected at the following frequencies:**
All types used in routine situations	Before each use and during cleaning
Maintained for use in emergency situations	At least monthly and in accordance with the manufacturer's recommendations, and checked for proper function before and after each use
Emergency escape-only respirators	Before being carried into the workplace for use

Any one of our respirator inspections includes a check:

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

Repairs

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

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

Discarding of respirators

Respirators that fail an inspection or are otherwise not fit for use and cannot be repaired must be discarded.

Training

The most thorough respiratory protection program will not be effective if employees do not wear respirators, or if wearing them, do not do so properly. The only way to ensure that our employees are aware of the purpose of wearing respirators, and how they are to be worn is to train them. Simply put, employee training is an important part of the respiratory protection program and is essential for correct respirator use.

Our training program provided by Environmental Health & Safety is two-fold; it covers both the:

1. Respiratory hazards to which our employees are potentially exposed during routine and emergency situations, and
2. Proper use of respirators, including putting on and removing them, any limitations on their use, and their maintenance.

Both training parts are provided prior to requiring an employee to use a respirator in our workplace. However, if an employee has received training within 12 months addressing the seven basic elements of respiratory protection (see "Seven basic elements" below) and Pace

University and the employee can demonstrate that he/she has knowledge of those elements, then that employee is not required to repeat such training initially.

Yet, we do require all of our employees to be retrained annually and when the following situations occur:

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

Seven basic elements:

Our employees are trained sufficiently to be able to demonstrate knowledge of at least these seven elements:

1. Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator.
2. What the limitations and capabilities of the respirator are.
3. How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions.
4. How to inspect, put on, remove, use, and check the seals of the respirator.
5. What the procedures are for maintenance and storage of the respirator.
6. How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators.
7. The general requirements of 29 CFR 1910.134.

The basic advisory information on respirators, as presented below is provided by our Program Administrator in any written or oral format, to employees who wear respirators when such use is not required by the regulations or by our company:

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.

Program Evaluation

It is inherent in respirator use that problems with protection, irritation, breathing resistance, comfort, and other respirator-related factors occasionally arise in most respirator protection programs. Although it is not possible to eliminate all problems associated with respirator use, we try to eliminate as many problems as possible to improve respiratory protection and encourage employee acceptance and safe use of respirators. By having our program administrator, thoroughly evaluate and, as necessary, revise our Respiratory Protection Program, we can eliminate problems effectively.

At Pace University, program evaluation, performed annually by our program administrator, involves the following:

- Conducting evaluations of the workplace as necessary to ensure that the provisions of the current written program are being effectively implemented and that it continues to be effective.
- Regularly consulting employees required to use respirators to assess their views on program effectiveness and to identify any problems. Any problems that are identified during this assessment must be corrected. Factors to assess include, but are not limited to:
    - Respirator fit (including the ability to use the respirator without interfering with effective workplace performance)
    - Appropriate respirator selection for the hazards to which the employee is exposed
    - Proper respirator use under the workplace conditions the employee encounters
    - Proper respirator maintenance

Appendices

Appendix 1--References

The following documents are helpful references:

- 29 CFR 1910.134, Respiratory Protection, and Appendices,
- 42 CFR 84, Approval of Respiratory Protective Devices,
- ANSI Z88.2, Respiratory Protection,
- NIOSH Guide to Industrial Respiratory Protection-1987
- NIOSH Guide to the Selection and Use of Particulate Respirators Certified Under 42 CFR 84 (4/23/96).

Appendix 2—Sample Training Certificates

Training Certificate

Date: _____

Name of Instructor:_____

(Name of Employee) was trained on the use and limitation of the following respirator(s):

Other Training Topics Covered:

NOTE: At a minimum the training will cover the plant Respiratory Protection Program; the standard, 1910.134; respiratory hazards encountered in this workplace and their health effects; proper selection and use of respirators; limitations of the respirators; respirator donning and user seal (fit) checks; fit testing; emergency use procedures; maintenance and storage; and medical signs and symptoms limiting the effective use of respirators.

Appendix 3—Sample Fit Test Results Documentation

Fit Test Results

NOTE: This form is completed following a respirator fit test conducted by Environmental Health & Safety. If conditions, such as work practices, raw materials, processes or respirators, change, a new form must be completed and filed. This form will remain in the employee's personnel file.

Fit Test Method:

(e.g., quantitative, irritant smoke, banana oil)

Type (i.e. half or full face)	**Make/Model/Size**	**Fit Factor/Results**

_____ _____

Name of Person Performing the Fit Test Date

Mandatory Appendix A to 1910.134 , Fit Testing Procedures, will be adhered to when conducting the fit test.

Appendix 4— OSHA Respirator Medical Evaluation Questionnaire

OSHA Respirator Medical Evaluation Questionnaire
(Mandatory)(Appendix C to Sec. 1910.134)

Part A. Section 1. 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. Date of Birth:_____

4. Sex: Male / Female

5. Height: _____ft. ____ in.

6. Weight: _____ lbs.

7. Job title:_____ Supervisor Name: _____

8. A phone number where you can be reached by Health Care Provider who reviews this questionnaire:
_____

9. What is the best time to reach you at this number? _____

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

Please Circle: Yes No

11. The type of respirator you will use:

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?

Please Circle: Yes No

If so, what type?

Part A. Section 2. Questions 1 through 9 must be answered by every employee who has been selected to use any type of respirator (please place a check mark in the `YES or NO column).

Question	Response	
	YES	NO
1. Do you currently smoke tobacco, or have you smoked tobacco in the last month?		

2. Have you ever had any of the following conditions?		
a. Seizures (fits):		
b. Diabetes (sugar disease):		
c. Allergic reactions that interfere with your breathing:		
d. Claustrophobia (fear of closed-in places):		
e. Trouble smelling odors:		

3. Have you ever had any of the following pulmonary or lung problems?		
a. Asbestosis:		
b. Asthma:		
c. Chronic bronchitis:		
d. Emphysema:		
e. Pneumonia:		
f. Tuberculosis:		
g. Silicosis:		
h. Pneumothorax (collapsed lung):		
i. Lung cancer:		
j. Broken ribs:		
k. Any chest injuries or surgeries:		
l. Any other lung problem that you've been told about:		

4. Do you currently have any of the following symptoms of pulmonary or lung illness?		
a. Shortness of breath:		
b. Shortness of breath when walking fast on level ground or walking up a slight hill or incline:		
c. Shortness of breath when walking with other people at an ordinary pace on level ground:		
d. Have to stop for breath when walking at your own pace on level ground:		
e. Shortness of breath when washing or dressing yourself:		
f. Shortness of breath that interferes with your job:		
g. Coughing that produces phlegm (thick sputum):		
h. Coughing that wakes you early in the morning:		
i. Coughing that occurs mostly when you are lying down:		

Question	Response	
	YES	NO
4. j. Coughing up blood in the last month:		
k. Wheezing:		
l. Wheezing that interferes with your job:		
m. Chest pain when you breathe deeply:		
n. Any other symptoms that you think may be related to lung problems:		

5. Have you ever had any of the following cardiovascular or heart problems?		
a. Heart attack:		
b. Stroke:		
c. Angina:		
d. Heart failure:		
e. Swelling in your legs or feet (not caused by walking):		
f. Heart arrhythmia (heart beating irregularly):		
g. High blood pressure:		
h. Any other heart problem that you've been told about:		

6. Have you ever had any of the following cardiovascular or heart symptoms?		
a. Frequent pain or tightness in your chest:		
b. Pain or tightness in your chest during physical activity:		
c. Pain or tightness in your chest that interferes with your job:		
d. In the past two years, have you noticed your heart skipping or missing a beat:		
e. Heartburn or indigestion that is not related to eating:		
f. Any other symptoms that you think may be related to heart or circulation problems:		

7. Do you currently take medication for any of the following problems?		
a. Breathing or lung problems:		
b. Heart trouble:		
c. Blood pressure:		
d. Seizures (fits):		

Question	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 box ☐ and go to question 9).***		
a. Eye irritation:		
b. Skin allergies or rashes:		
c. Anxiety:		
d. General weakness or fatigue:		
e. Any other problem that interferes with your use of a respirator:		
9. Have you ever lost vision in either eye (temporarily or permanently)?		

VERIFICATION/CONSENT STATEMENT

I verify that the information I provided in this medical history is true and complete to the best of my knowledge. I understand that this evaluation is designed to satisfy regulatory requirements and should not be considered to be a routine medical examination. ***Further, I agree to "self-report" to my supervisor changes in my medical condition that might affect my ability to work safely in a respirator.***

_____ _____ _____

Full Name (Printed) *Signature* *Date*

University Health Care Unit Review Use Only

Respirator Questionnaire Reviewed By :

_____ _____ _____

Provider (Printed) Signature Date

☐ This candidate is cleared to wear this type of respirator

☐ Further examination required

Licensed Health Care Provider Review/Comments:

OSHA Mandatory Respirator Medical Evaluation Questionnaire (Standard Number: 1910.134 App C)