Rowan University
ENVIRONMENTAL HEALTH & SAFETY

Respiratory Protection Program

February 18, 2021

Rowan University
ENVIRONMENTAL HEALTH & SAFETY

Respiratory Protection Program

I. PROGRAM STATEMENT

It is the policy of Rowan University (RU) to provide a safe and healthful workplace for all faculty, staff, students and guests, including minimizing risks to airborne contaminants. Respiratory protection will be provided for certain job tasks where it is not feasible to reduce airborne contaminants below regulatory limits or the airborne hazard cannot be definitively identified or quantified (e.g. chemical spills, gas releases, TB exposure in clinical settings, etc.).

II. REASON FOR THE PROGRAM

This program establishes respirator selection criteria and defines respirator fit testing and training requirements. The goal of the program is to provide appropriate respiratory protection to Rowan University personnel in a manner consistent with regulatory requirements and accepted professional practice. This program is also designed to ensure compliance with the following OSHA/PEOSH standards:

A. *Respiratory Protection* - 29 CFR 1910.134 (General Industry Standard)
B. *Air Contaminants* – 29 CFR 1910.1000 (General Industry Standard)
C. *Respirable Crystalline Silica* – 29 CFR 1910.1053 (General Industry Standard)

III. WHO SHOULD READ THIS PROGRAM

This program applies to all Rowan University faculty, staff, students and guests who are required to wear respirators during normal work operations and during non-routine or emergency operations for which an assessment has been performed and respiratory protection has been deemed necessary. This includes designated employees (*but not limited to*) in the following departments:

A. Rowan University Environmental Health and Safety (EHS) – For collection of bulk asbestos samples, chemical waste handling and segregation and emergency response incidents (i.e. hazardous substance spills, leaks, etc.
B. Facilities Operations Shops or Trades– During the following tasks:
   1. Cleaning of cooling towers by Heating, Ventilating and Air Conditioning (HVAC) Technicians, etc.
   2. Spray painting and varnish refinishing.
   3. Application of pesticides, weed killer or similar chemicals.
   4. Any miscellaneous or other operations where used of hazardous chemicals or products may require respiratory protection as ventilation or local exhaust may not be feasible.
C. Emergency Medical Services (EMS) – For first response incidents involving fire, explosion, chemical release or biological exposure (i.e. blood).
D. Rowan University Public Safety – For first response incidents where respiratory protection may be needed.
E. Rowan University Health Care/Wellness Centers (All Campuses) – For potential exposure to tuberculosis and other infectious diseases transmitted by respiratory route.
F. Rowan Medicine, clinical personnel and students (e.g., medical and nursing) - For potential exposure to tuberculosis and other airborne infectious diseases transmitted by respiratory route.

G. Vivarium Personnel or Locations – For potential exposure to:
1. Animal allergens/biohazardous/chemical residues that may be present in animal bedding;
2. Vapors generated by fogging machine used for room disinfection.

H. RU Faculty or Research personnel working in cell sorting facilities for potential exposures to respiratory droplets during sorting procedures.

I. RU personnel from schools/units involved in the Biosafety Level III research program.

IV. RESPONSIBILITIES

A. Environmental Health and Safety (EHS)

1. Serves as the overall Program Administrator for the RU Respiratory Protection Program and is responsible for periodic review of the program.
2. Develops and maintains the University-wide written Respiratory Protection Program.
3. Conducts exposure assessments of workplaces to determine the need for respiratory protection.
4. Recommends appropriate respiratory protective equipment based on exposure assessments.
5. Conducts fit tests for approved respirator wearers.
   - Respirator fit testing shall be performed initially before use and *annually* thereafter.
6. Provides training on the proper use, care and storage of respirators and conducts "Train the Trainer" classes as needed.
   - Training shall be provided by EHS annually or more frequently if deemed necessary.
7. Maintains training records.

B. Healthcare Provider (HCP), Occupational Health or Wellness Center

1. Provides medical evaluations in accordance with PEOSH regulations to determine if an employee is medically fit to wear a respirator.
2. Determines the frequency of follow-up examinations.
3. Maintains the required medical records.
4. Provides in writing, the employee eligibility or ineligibility for the Respiratory Protection Program based upon the findings of the above tests (Appendix B).

C. Supervisor

1. Ensures that jobs requiring the use of respiratory protection are assigned to employees included in the Respiratory Protection Program.
2. Ensures correct respiratory protection is used and maintained in accordance with this program.
3. Stops any work operations presenting a respiratory hazard until such operations can be reviewed by EHS.
4. Ensures employees attend and/or complete required training and arrange for annual fit testing through EHS.

D. Employee

1. Gains medical clearance or evaluations for respirator use.
2. Wears respiratory protection properly, when required.
3. Attends and/or completes required training and annual/as needed fit testing through EHS or a designated fit tester.
4. Reports unusual conditions, malfunctions or policy violations to the supervisor. Cleans, maintains and stores their respirator(s) and cartridges properly.

5. Discards all disposable respirators provided by RU (e.g. N95). Note: In the event of an emergency when respirators supplies may be limited or unavailable (e.g. disaster, pandemics, etc.) disposable respirators may be re-used if needed. However, EHS shall be contacted for approval and review of applicable disinfection procedures.

   See Appendix D for more details.
6. Notifies supervisor of any weight gain or loss of 10 or more pounds since previous fit testing and of any medical condition that may affect your ability to wear a respirator. Note: *Employees can request to be re-evaluated for fitness to wear a respirator by a healthcare practitioner without providing specific medical information to the supervisor or manager. Detailed information about medication conditions can be discussed confidentially with the evaluating healthcare practitioner.*
7. Notifies supervisor of any change in facial features such as cuts, bruises or swellings; any ortho-denture work and any other medical condition that might affect the employee's ability to wear or use a respirator.

E. Student

1. Wears respiratory protection properly, when required.
2. Gains medical clearance or evaluations for respirator use.
3. Attends and/or completes required training and annual/as needed fit testing through EHS or a designated fit tester.
4. Reports unusual conditions, malfunctions or policy violations to faculty or University staffing.
5. Cleans, maintains and stores their respirator(s) and cartridges properly.
6. Discards all disposable respirators provided by RU (e.g. N95).

V. EXPOSURE ASSESSMENTS:

The University must characterize the nature and magnitude of employee exposures to respiratory hazards ***before*** selecting respiratory protection equipment. A "reasonable estimate" of the employee exposures anticipated to occur as a result of those hazards, including those likely to be encountered in reasonably foreseeable emergency situations, and assessments must also identify the physical state and chemical form of such contaminant(s) to help with any final determination of type of respirator or filters required.

EHS is responsible for conducting exposure assessments or making the final determination of what type of types of respirators are appropriate for the task or process evaluated, including appropriate cartridges, where applicable. These determinations may also be based on assessments conducted by other qualified personnel coordinated/hired by EHS (e.g. industrial hygiene consultants, regulatory agency consultant, etc.). Such assessments shall be based upon the hazard of the material, its physical state, the amount of material used, the likelihood of aerosolization, the environmental conditions, the status of engineering controls, and or HCP or Occupational Health recommendations. Air-sampling may be conducted where required.

OSHA/PEOSH 29 CFR 1910.134(d)(1)(iii) requires the employer to identify and evaluate the respiratory hazard(s) in the workplace.

VI. SELECTION & ISSUANCE OF RESPIRATORS

A. Only NIOSH approved respirators shall be selected and used.

B. At a minimum, respirators shall provide protection to reduce personal exposures to below the action levels for each contaminant. Higher levels of protection may be considered appropriate.

C. Respirators shall be provided by department supervisors and/or EHS. Employees may be requested to acknowledge receipt of the respirator.

D. Whenever feasible, individual respirators shall be issued to employees for their exclusive use.

E. Air purifying respirators remove a specific amount of contaminant from the atmosphere. This atmosphere must contain a sufficient amount of oxygen to sustain life. Types of air purifying respirators are:

1. Mechanical Filter Respirators - Trap airborne particles (dusts, mists, fumes) but permit air and vapors and gases to pass through.
2. Chemical Cartridge Respirators - Use activated charcoal to adsorb chemicals before passing through the respirators. These are only effective in relatively low concentrations.
3. HEPA Filter (High Efficiency Particulate Absolute) Respirators - Trap airborne particles and fibers and is 99.97% effective to 0.3 microns.
4. Combination Chemical/HEPA Filter Respirators - Protect in exposures to both gaseous and particulate contamination.

F. Cartridges with air purifying respirators shall have the following color schemes:

	Contaminant	Color Assigned
4.5.1	Acid Gases	White
4.5.2	Hydrocyanic acid gas	White w/ 1/2 inch green stripe completely around canister near bottom.
4.5.3	Chlorine Gas	White w/ 1/2 inch yellow stripe completely around the canister near bottom.
4.5.4	Organic Vapors	Black.
4.5.5	Ammonia Gas	Green.
4.5.6	Acid Gases and Ammonia Gas	Green w/ 1/2 inch white stripe completely around the canister near bottom.
4.5.7	Carbon Monoxide	Blue.
4.5.8	Acid Gases w/ Organic Vapors	Yellow
.4.5.9	Hydrocyanic Gas w/ Chloropicrin Vapor	Yellow w/ 1/2 inch blue stripe completely around the canister near bottom.
4.5.10	Acid Gases, Organic Vapors, and Ammonia Gas	Brown.
4.5.11	Asbestos, particulate and radioactive materials	Purple (Magenta)
4.5.12	Particulate (dusts, mists, fumes, fogs or smokes in combination with any of the above gases or vapors.	Canister color for contaminant, as designated above, with 1/2 inch gray stripe completely around canister near top.
4.5.13	All of the above contaminants	Red w/ 1/2 inch gray stripe completely around canister near top.

G. Mechanical filters (disposable dust mask) may only be issued for the prevention of inhalation of non-toxic nuisance dusts and are not included in the respiratory protection program.

H. Air purifying respirators do not protect from oxygen deficient atmospheres.

I. Disposable respirators (e.g. N95) are an acceptable type of respirator but will still require medical evaluation, fit testing and training.

1. Note: In the event of an emergency when disposable respirators supplies may be limited or unavailable (e.g. disaster, pandemic, etc.) such respirators may be re-used if needed. However, EHS shall be contacted for approval and review of applicable disinfection procedures. See Appendix D for more information.

J. Rowan Employees are not permitted to use self-contained breathing apparatus (SCBAs) or supplied air respirators.

Contact EHS at EHS@Rowan.edu or at 856.256.5105 with questions.

VII. TRAINING

A. All respirator users shall be trained prior to using any respirator and annually thereafter or more frequently if deemed necessary.

B. EHS provides or coordinates respiratory protection training at the University. Contact EHS at EHS@Rowan.edu or at 856.256.5105 to set up training or if you have questions.

C. Training shall include:

1. Respiratory hazards encountered and health effects of such.
2. Signs and symptoms of exposures to hazards.
3. Limitations of respirators or your type.
4. Good respirator fit and selection including:
    - Positive and negative fit tests.
    - Qualitative and quantitative fit tests.
    - Donning and doffing.
5. Inspecting respirators.
6. How filters/Cartridges work.
7. Cleaning/ Maintaining respirators.
8. Storage of respirators.
9. Effect of facial hair with respirator seal.
10. Where and when to use respirators.
11. Proper documentation of use, cleaning and maintenance.

VIII. MEDICAL EVALUATIONS

Employees or personnel whose duties require the use of a respirator must complete and submit a "***Rowan Respirator Fit Testing Medical Review Questionnaire***" form to the University's health care provider (HCP), Occupational Health or Wellness Center. This form can be found in Appendix A. Substitute forms may also be used by the HCP or Occupational Health or Wellness Center physician as long as they meet the minimum requirements seen in Appendix A. In addition to this medical questionnaire, the HCP, Occupational Health or Wellness Center must also complete the "***Respirator Evaluation Determination and Fit Test Form***" seen in Appendix B and ensure it is provided to the affected employee so that they may return the copy to EHS to start the respirator fit testing and training process if applicable. Supervisors must ensure that written physician approvals are received before an employee schedules a respirator fit-test by EHS. EHS will return completed forms after fit testing to the applicable HCP or Occupational Health or Wellness Center.

The University's health care provider (HCP), Occupational Health or Wellness Center personnel will determine the need and frequency of any additional medical evaluations. All medical records

are to be retained by the HCP or Occupational Health or Wellness Center. EHS will only keep fit testing or training records.

Those individuals who do not meet the physical qualifications cannot wear a respirator. These individuals cannot perform the specified task unless the inhalation hazard is eliminated by means of substitution or engineering controls, or the individual's health or work conditions change and the HCP or Occupational Health or Wellness Center provides written approval.

IX. FIT TESTING

A. EHS or an approved fit tester shall obtain through the healthcare provider, verification of the employee's eligibility for this program. This verification shall be obtained prior to fit testing.

B. EHS shall fit test all trained respirator wearers using Bitrex, Sodium Saccharin or via quantitative fit test equipment (e.g. TSI Portacount) as set forth in 29 CFR 1910.134, (See references at end).

1. The Safety Trainer shall not qualitatively fit test any individual until a successful positive and negative fit check has been observed. (See D, below)

C. Anyone with facial hair (side burns, beard, and mustache) which protrudes into the sealing surface of the mask shall not be permitted to perform any function, or be in any area, requiring a respirator.

D. Respirator wearers shall perform positive and negative pressure tests each time a respirator is donned as per current OSHA/PEOSH standards.

1. Positive pressure fit checks shall be performed by completely covering the exhaust port of the respirator while forcefully exhaling.
    - The positive pressure seal checks shall be deemed successful if the mask provides uniform resistance around the entire face to mask seal. No leaks will be allowed.
    - For cup-shaped or formed N95 filtering facepiece respirators, the positive pressure check should be completed by covering as much of the outside surface as possible with hands and forcefully exhaling twice. No bursts of air should be felt around the outside edges of the respirator.
2. Negative pressure fit checks shall be performed by completely covering the inhalation port(s) of the respirator and forcefully inhaling.
    - The negative pressure fit check shall be deemed successful if the mask uniformly collapses toward the subject's face allowing no measurable flow of air into the face piece.
    - For flat-fold type filtering facepiece N95 respirators, the fit check should be completed by forcefully inhaling twice and watching for compression of the filter/respirator and feeling for bursts of air coming from around the edges of the respirator. The respirator should visibly pull inward and no burst of flowing are should be felt coming from around the perimeter of the respirator.
3. The fit check shall be deemed successful only if both positive and negative fit checks are deemed successful.
4. Train-the-Trainer:
    - Departments that require frequent fit-testing of employees may request staff within their department be trained by EHS as approved fit testers for the purposes of conducting *qualitative* fit-testing to their employees only.
    - Departments should submit their request in writing to EHS for review. EHS will then work with the department to develop a training plan that will include a minimum to two (2) observations of the prospective fit tester.

- Once EHS has completed the training and observation sessions, confirmation of the approval of the new fit tester trainer will be communicated to the department manager or supervisor.
- Individual departments with approved fit-test trainers will be responsible for purchase and maintenance of fit testing equipment (hoods, nebulizers, solutions, etc.). EHS will work with these departments to assist with the acquisition of these supplies.

5. All workers included in the Respiratory Protection Program shall be fit tested initially before use and annually thereafter.
   - All workers shall report to the Safety Trainer for additional fit testing each time the integrity of the previous fit test is compromised, and each time:
     i. The worker gains or loses 10 or more pounds.
     ii. The worker has any oral surgery or significant dental work.
     iii. There is any change in the facial shape due to injury or illness.
     iv. There is any observed change in the positive/negative fit check.
6. Fit Testing Documentation:
   - EHS or their designated persons shall document all fit test results including: respirator fitted with, size(s), taste threshold, type of solution used in fit test if applicable, pass/fail results.
   - EHS will maintain all fit test documentation in department files and make available as requested.

X. CLEANING, MAINTAINING, STORAGE

A. Workers shall routinely inspect their respirator before each use and after cleaning or assembly. Equipment shall be inspected for cracks, dents or deterioration.

B. Employees shall clean their respirators when needed and after use. Cleaning procedures are as follows:

1. Remove cartridges, separate components, and wash with warm water and mild detergent to clean.
2. Clean and rinse mask and air dry.
3. Place mask in a clean, airtight, plastic storage bag.
4. Store mask in a clean dry compartment away from direct sunlight and extreme temperatures.
5. Store in a "Normal" position so that respirator parts will hold their shape.
6. N95 respirators should not be cleaned, but rather they should be disposed of after use and/or become contaminated with any fluid or substance.
7. See Appendix D with regard to possible reuse of disposable respirators or masks. Contact EHS at EHS@Rowan.edu with any questions.

XI. VOLUNTEER USE OF RESPIRATORS INFO:

A. Filtering Facepieces (Dust Masks): If EH&S has determined that no respiratory hazard exists, and an employee wants to use a filtering face piece or N95 respirator for comfort only, no medical clearance is necessary. A copy of “Voluntary Use of Filtering Facepiece Respirators” sign off form seen in Appendix E shall be used to document such use. A copy shall be kept by EHS and provided to the employee upon their request.

B. Individuals required to use an N95 respirator or any other approved respirator as part of their job description are required to comply with all aspects of the respiratory protection program.

XII. PROGRAM EVALUATION

A. Random inspections shall be conducted to ensure that respirators are properly selected, used, cleaned and maintained. Inspections shall be performed by department supervisors and EHS.
B. The written Respiratory Protection Program shall be reviewed on a periodic basis by EHS.

XIII. References:

A. OSHA *Respiratory Protection Standard* (29 CFR 1910.134)
B. *OSHA Respirator eTool*
C. *NIOSH Pocket Guide to Chemical Hazards*

XIV. Appendices:

APPENDIX A: Rowan Respirator Fit Testing Medical Review Questionnaire

APPENDIX B: Rowan University Fit Test Determination and Test Form

APPENDIX C: Rainbow Passage

APPENDIX D: Temporary Practices for Extended Use & Limited Reuse of N95s

APPENDIX E: Voluntary Use of Filtering Facepiece Respirators

APPENDICES

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Appendix A: RESPIRATOR MEDICAL EVALUATION QUESTIONNAIRE

This form is used to determine whether or not you have a medical condition that may affect your ability to wear a respirator. The form must be completed in full and will be reviewed by the Wellness Center. If you have any questions regarding this information, please contact the Wellness Center at 856.256.4333 or Environmental Health and Safety (EHS) at EHS@Rowan.edu. Your health information will remain confidential and all completed forms will be maintained in your medical record only.

Name:_____
Date of Birth:_____
Contact Phone Number:_____
Your relationship to Rowan University: ____Employee ____Student
Height:_____ Weight:_____

Have you ever worn a respirator in the past? _____ **Yes** _____**No** (circle or check answer)
If YES, what type?_____

Have you ever been fit tested at Rowan in the past? _____**Yes** _____**No**
*If **NO**, please complete Section A and return the form to the Wellness Center.*

If you have been fit tested at Rowan before, have there been any significant health changes since your last test? _____**Yes** _____**No**
*If **NO**, please sign below and return this form to the Wellness Center.*
*If **YES**, please complete Section A and return this form to the Wellness Center.*

I certify that the above statements are true to the best of my knowledge.

Signature:_____ Date:_____

Section A:

1. Do you currently smoke tobacco or have previously smoked tobacco in the past 30 days?
   ____ Yes
   ____ No

2. Please indicate if you ever had any of the below conditions:
   ____ Seizures
   ____ Diabetes
   ____ Allergic reactions that interfere with your breathing
   ____ Claustrophobia
   ____ Difficulty detecting odors

3. Please indicate if you ever had any of the below pulmonary or lung conditions:
   _____ Asbestosis
   _____ Asthma
   _____ Chronic Bronchitis
   _____ Emphysema
   _____ Pneumonia
   _____ Tuberculosis
   _____ Silicosis
   _____ Pneumothorax (Collapsed Lung)
   _____ Lung Cancer
   _____ Broken Ribs
   _____ Any chest injuries
   _____ Any other lung problem that you have been told about
   If so, please list here:_____

4. Do you currently have any of the below symptoms of pulmonary or lung illness?
   _____ Shortness of breath
   _____ Shortness of breath when walking fast on level ground or walking up a slight hill or incline
   _____ Shortness of breath while walking with other people at an ordinary pace on level ground
   _____ Have to stop for breath while walking at your own pace on level ground
   _____ Shortness of breath while washing or dressing yourself
   _____ Shortness of breath that interferes with your job
   _____ Coughing that produces phlegm (thick sputum)
   _____ Coughing that wakes you early in the morning
   _____ Coughing that occurs mostly when you are lying down
   _____ Coughing up blood in the last month
   _____ Wheezing
   _____ Wheezing that interferes with your job
   _____ Chest pain when you breathe deeply
   _____ Any other symptoms that you think may be related to lung problems

5. Have you ever had any of the below cardiovascular or heart problems?
   _____ Heart attack
   _____ Stroke
   _____ Angina
   _____ Heart failure
   _____ Swelling in your legs and feet (not related to walking)
   _____ Heart arrhythmia (heart beating irregularly)
   _____ High blood pressure
   _____ Any other heart problem that you have been told about

6. Have you ever had any of the below cardiovascular or heart symptoms?
   _____ Frequent pain or tightness in your chest
   _____ Pain or tightness in your chest during physical activity

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_____ Pain or tightness in your chest that interferes with your job
_____ In the past two years, have you noticed your heart skipping or missing a beat
_____ Heartburn or indigestion that is not related to eating
_____ Any other symptoms that you think might be related to heart problems

7. Do you currently take medications for any of the following problems?
   _____ Breathing or lung problems
   _____ Heart trouble
   _____ Blood pressure
   _____ Seizures

8. If you have used a respirator, have you ever had any of the following problems?
   _____ Eye irritation
   _____ Skin allergies or rashes
   _____ Anxiety
   _____ General weakness or fatigue
   _____ Any other problem that interferes with your ability to use a respirator
   _____ N/A – I have never used a respirator

9. Would you like to speak with the health care professional that reviews this questionnaire about any of your answers to the questions?
   _____ Yes
   _____ No

I certify that the above statements are true to the best of my knowledge.

Signature:_____ Date:_____

To be completed by Wellness Center Staff only:

I have reviewed the questionnaire and the above person is:
_____ approved for fit testing
_____ denied
_____ approved with restrictions

Reviewed by:_____ Date:_____

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Appendix B: Respirator Evaluation Determination and Fit Test Form

This form certifies that the Rowan University Wellness Center has completed a review of the Respirator Medical Evaluation Questionnaire for the following employee/student:

Name:_____

Date of Birth:_____

EMPLOYEE/STUDENT NOTES: You must bring a copy of this completed form to any training or respirator fit testing you will attend otherwise training and testing cannot be performed.

Employee:_____ Student:_____ (***please check which one***)

Department or Program:_____ Year:_____

The employee/student is hereby**:**
_____approved for fit testing _____not approved for fit testing _____approved with restrictions (***write below***)

*Please list any restrictions here:

_____

_____

Signature of Healthcare Provider (HCP) or Occupational Health or Wellness Center Personnel that reviewed questionnaire:_____

Printed name:_____
Date:_____

-FOR FIT TESTING OR EHS PERSONNEL ONLY-

Date of fit testing:_____

Type and Size of Respirator:_____

Type of fit test performed (**circle applicable**): qualitative – solution used / quantitative –equipment used

- Taste Threshold established? _____ (yes, no, n/a)
- Seal check performed? _____
- Passed or Failed Fit Test? _____

If the employee or student was unable to be fit tested please indicate the reason below (if known) and return this form to the Wellness Center.

Reason for failure or inability to fit test:_____

Fit tester printed name:_____

Signature of Tester:_____

Please return completed forms to the Wellness Center!

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Appendix C

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.

APPENDIX D:

Temporary Practices for Extended Use and Limited Reuse of NIOSH-certified N95 Filtering Facepiece Respirators (commonly called "N95 respirators") for COVID-19

Whenever possible, N95s should be of single use following established procedures. During the COVID- 19 Pandemic, supplies on N95 respirators may be depleted and difficult to obtain. For these circumstances, use of N95 may be extended or limited reuse following the guidance below. If working at a facility under the direction of another institution, employees should follow the host institution's procedures. If unavailable, employees should follow the procedures below.

Definitions:

Extended use refers to the practice of wearing the same N95 respirator for repeated close contact encounters with several patients, without removing the respirator between patient encounters. Extended use may be implemented when multiple patients are infected with the same respiratory pathogen and patients are placed together in dedicated waiting rooms or hospital wards.

Reuse refers to the practice of using the same N95 respirator for multiple encounters with patients but removing it ('doffing') after each encounter. The respirator is stored in between encounters to be put on again ('donned') prior to the next encounter with a patient.

The decision to implement these practices should be made on a case by case basis taking into account respiratory pathogen characteristics (e.g., routes of transmission, prevalence of disease in the region, infection attack rate, and severity of illness) and local conditions (e.g., number of disposable N95 respirators available, current respirator usage rate, success of other respirator conservation strategies, donning and doffing, etc.). Please contact EHS at EHS@Rowan.edu if you have any questions.

Respirator Extended Use Recommendations:

Extended use is favored over reuse because it is expected to involve less touching of the respirator and therefore less risk of contact transmission and may be implemented in accordance with the following:

- Use of up to 8 hours of continuous or intermittent use
- Minimize unnecessary contact with the respirator surface
- Adhere to good hand hygiene practices
- Ensure proper donning and doffing techniques are used:
  - See OSHA's Seven Steps to Correctly Wear a Respirator
  - Review the Center of Disease Control (CDC) Guidelines on COVID-19 & Respirators
- To reduce contact transmission after donning:
  1. Discard N95 respirators following use during aerosol generating procedures.
  2. Discard N95 respirators contaminated with blood, respiratory or nasal secretions, or other bodily fluids from patients.
  3. Discard N95 respirators following close contact with, or exit from, the care area of any patient co-infected with an infectious disease requiring contact precautions.
  4. Consider use of a cleanable face shield (preferred) over an N95 respirator and/or other steps (e.g., masking patients, use of engineering controls) to reduce surface contamination.

5. Perform hand hygiene with soap and water or an alcohol-based hand sanitizer before and after touching or adjusting the respirator (if necessary, for comfort or to maintain fit).
6. Discard any respirator that is obviously soiled, damaged, or abnormally restricts breathing.

Respirator Reuse Recommendations:

Adherence to the following is required if reusing N95s:

- Follow the manufacturer's user instructions, including conducting a user seal check.
- N95s may be used up to a maximum of 5 uses or donnings and/or use of up to 8 hours of continuous or intermittent use
- (or according to the manufacturer's recommendations) and must be inspected before each use.
- Discard any respirator that is obviously soiled, damaged, or abnormally restricts breathing.
- Pack or store respirators between uses so that they do not become damaged or deformed and protected from unintentional contamination.
- To reduce contact transmission:
    1. Discard N95 respirators following use during aerosol generating procedures.
    2. Discard N95 respirators contaminated with blood, respiratory or nasal secretions, or other bodily fluids from patients.
    3. Discard N95 respirators following close contact with any patient co-infected with an infectious disease requiring contact precautions.
    4. Consider use of a cleanable face shield (preferred) over an N95 respirator and/or other steps (e.g., masking patients, use of engineering controls), when feasible to reduce surface contamination of the respirator.
    5. Hang used respirators in a designated storage area or keep them in a clean, breathable container such as a paper bag between uses. To minimize potential cross-contamination, store respirators so that they do not touch each other and the person using the respirator is clearly identified. Storage containers should be disposed of or cleaned regularly.
    6. Clean hands with soap and water or an alcohol-based hand sanitizer before and after touching or adjusting the respirator (if necessary, for comfort or to maintain fit).
    7. Avoid touching the inside of the respirator. If inadvertent contact is made with the inside of the respirator, discard the respirator and perform hand hygiene as described above.
    8. Use a pair of clean (non-sterile) gloves when donning a used N95 respirator and performing a user seal check. Discard gloves after the N95 respirator is donned and any adjustments are made to ensure the respirator is sitting comfortably on your face with a good seal.
    9. Label containers used for storing respirators or label the respirator itself (e.g., on the straps) between uses with the user's name to reduce accidental usage of another person's respirator.

Please remember that the most significant risk when extending or reusing an N95 respirator is contact transmission from touching the surface of the contaminated respirator.

Rowan University
ENVIRONMENTAL HEALTH & SAFETY

Appendix E: VOLUNTARY USE OF FILTERING FACEPIECE RESPIRATORS

Review each of the following points with the employee (have employee initial boxes):

1. FILTERING FACEPIECE RESPIRATORS AND OSHA REQUIREMENTS

❑ Filtering Facepiece Respirators (*also called dust masks*) are considered true respirators according to OSHA. N95 refers to the NIOSH certification of the filter media that comprises the facepiece. N means that it is not oil resistant and 95 refers to it being 95% effective at filtering particles at the 0.3 micron level. N95 is the most common type of filtering facepiece respirator. Other NIOSH-certified filtering facepiece respirators include R95, P95, N100 and P100.

❑ Voluntary use is defined as use for employee comfort purposes only. No hazard exists that requires use of a respirator and the use of the respirator does not produce any additional hazard. At the University, the only acceptable respirator for voluntary use is the filtering facepiece respirator. Use of any other type of respirator, for example, a ½ face elastomeric respirator with cartridges requires full compliance with the University's Respiratory Protection Program.

❑ If an employee is required to wear a filtering facepiece respirator (to protect against a respiratory hazard or as required by the employer), full compliance with the University's Respirator Protection Program is required, which includes a medical evaluation by the University's physician or other licensed health care professional (HCP), respirator training and fit testing.

❑ OSHA requires that all employees voluntarily wearing filtering facepiece respirators receive basic information on respirators as provided in Appendix D of their Respirator Standard, 1910.134 (which is found at the end of this document). **– Review Appendix D with employee. Signature of this training form certifies receipt of Appendix D to 1910.134, as required by OSHA/PEOSH.**

2. HOW TO USE AND WEAR A FILTERING FACEPIECE RESPIRATOR

❑ Inspect respirators prior to use, including new units out of the box. Check for rips and tears. Make sure straps are securely attached, nose piece is attached properly, and that no obvious defects exist.

❑ Proper use of the respirator is important. Without it, the respirator is ineffective against the workplace contaminates. Follow manufacturers' instructions for use. **– Review manufacturer's instructions with employee. Have employee demonstrate proper use.**

❑ Beards and other facial hair negate the effectiveness of the respirator because they prevent an adequate seal between the respirator and the face. Skin afflictions, such as dermatitis, or scars, could affect the ability to produce a seal.

❑ User seal checks confirm that an adequate seal with the face is achieved when the mask is applied. User seal checks should be done every time the mask is put on and every time it is re-adjusted on the face. – **Review manufacturers' instructions for conducting user seal checks with employee.**

3. LIMITATIONS OF PPE

❑ Filtering facepiece respirators are only useful for protection against particulates. They are not to be used in oxygen-deficient atmospheres or atmospheres that contain hazards that are immediately dangerous to life and health (IDLH). Odors will still be noted when using the respirator because it does not filter out gases or vapors. The respirator will not provide adequate protection if a good seal with the face is not achieved.

4. CARE, MAINTENANCE, USEFUL LIFE AND DISPOSAL OF PPE

❑ Filtering Facepiece Respirators are considered disposable PPE. They cannot be cleaned, especially when they become wet or soiled. They cannot be shared with other employees.

❑ New respirators should be stored in a clean, dry location, protected from sunlight, chemicals, water, and physical damage.

❑ Respirators can only be used in conjunction with a written respiratory protection program. The University's Written Respirator Program can be found by contacting EHS or by visiting the EHS website.

Employee Name:_____ **Dept:**_____
Signature:_____ **Date:** _____

OSHA's Respiratory Protection Standard, 29CFR1910.134

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

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

You should do the following:

1. Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirator 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.