



# RESPIRATORY PROTECTION PROGRAM

**Approved by:**

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<b>Employer Name:</b>	<b>Menasha Utilities</b>
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<b>Program Name:</b>	<b>Respiratory Protection Program</b>	
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<b>Plan Administrator:</b>	<b>Water Utility Manager</b>	

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## **Purpose**

The purpose of this written Respiratory Protection program is to provide specific procedures and practices for the selection, use, and care of respiratory protection equipment in an effort to reduce employee exposure from potential hazards in the workplace when engineering and administrative controls are not feasible or effective in reducing these exposures to acceptable levels and to comply with SPS 332.15 and OSHA 29 CFR 1910.134 – “Respiratory Protection”.

Menasha Utilities is committed to providing a safe and healthy work environment, therefore all employees who can be reasonably expected, as the result of performing their job duties, to be exposed to hazards where clean, breathable air is needed and engineering controls are not possible shall comply with all policies and procedures outlined in this plan.

## **Program Administration**

The Program Administrator or his/her designee (hereafter referred to as program administrator) shall be qualified to administer program through experience or training and is responsible for the implementation of this program making this program available to all employees, and providing required training.

The Program Administrator and the Regional Safety Coordinator will review the program annually for any changes and revise as necessary.

Primary responsibilities of the Program Administrator or his/her designee includes, but not limited to;

- 1) Comply with all program procedures and regulations and hold employees accountable for safe work practices when utilizing this program,
- 2) Conduct an annual review of this program and revise as needed,
- 3) Establish engineering controls, where feasible, to control contaminated air that causes occupational diseases, administrative controls, and PPE to comply with state and federal regulations,
- 4) Schedule a periodic medical evaluation by a medical physician to ensure that each employee is physically able to perform the job using a respirator,
- 5) Ensure potential contaminants in the work place are identified and determine the respirator type to be used,
- 6) Ensure that proper respiratory equipment is used based on the job hazards,
- 7) Supply employees with permanently assigned NIOSH approved respirators, as needed, that provide adequate respirator protection for the particular hazard(s) involved,
- 8) Provide qualified trainers for employee respirator certification. This includes adequate training regarding proper respirator use and limitations,
- 9) Provide all required job and safety training as required by state and federal regulations,
- 10) Provide a face piece fit test for negative air respirators,

- 11) Produce a written Respiratory Protection Program with standard operating procedures (e.g., respirator selection and use) and make it available for review by employees,
- 12) Monitor affected employees for the ongoing use of appropriate respiratory protection equipment and PPE,
- 13) Ensure respirator inspections are conducted before each use,
- 14) Inspect respirators on a regular and frequent basis to ensure proper care, function, and maintenance. Inspect "emergency" respirators at least once a month and after each use,
- 15) Require employees to properly clean, inspect and store respirators,
- 16) Provide a clean, air-tight, and sanitary storage of respirators,
- 17) Adopt and implement policies and procedures to protect employee health and safety through compliance with applicable OSHA safety and health standards,
- 18) Periodically assess work area hazards, and
- 19) Maintain records to document regulatory compliance.

## **Employee Responsibilities**

Employees are required to follow all safe work practices, wear appropriate PPE and use proper precautions required by the guidelines of this program including but not limited to;

- 1) Immediately report to a supervisor any hazards that they observe,
- 2) Request from a supervisor training or additional training if they do not comprehend the work practices, hazards, or any other related issues to be used during their job duties,
- 3) Are expected to be familiar with the respiratory protection procedures, federal, state, and local requirements, and adhere to proper engineering controls in place,
- 4) Inspect, use, maintain and store respiratory protective equipment in accordance with established practices, training received and applicable safety and health standards,
- 5) Use respirators where required,
- 6) Inspect respiratory protective equipment before each use,
- 7) Clean and properly store respiratory protective equipment,
- 8) Do not use damaged, defective or soiled respiratory protective equipment, and
- 9) Dispose of damaged, defective, soiled or single use respiratory protective equipment in an appropriate waste container. Never reuse a single use respiratory protective device.

## Definitions

**Air-purifying Respirator** - a respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element

**American National Safety Institute (ANSI)** - the primary organization for fostering the development of technology standards in the United States

**Assigned Protection Factor (APF)** - the workplace level of respiratory protection that a respirator or class of respirators is expected to provide to employees when the employer implements a continuing, effective respiratory protection program

**Atmosphere-Supplying Respirator** – a respirator that supplies the respirator user with breathing air from a source independent of the ambient atmosphere, and includes supplied-air respirators (SARs) and self-contained breathing apparatus (SCBA) units

**Canister or Cartridge** – a container with a filter, sorbent, or catalyst, or combination of these items, which removes specific contaminants from the air passed through the container

**Contaminant** – any substance in the air that can cause immediate or long-term health problems (example: gases, vapors, dusts, mists, or fumes)

**Demand Respirator** – an atmosphere-supplying respirator that admits breathing air to the facepiece only when a negative pressure is created inside the facepiece by inhalation

**Department of Safety and Professional Services (SPS)** – regulatory authority for municipal employers in the state of Wisconsin

**Emergency Situation** – any occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment that may or does result in an uncontrolled significant release of an airborne contaminant

**Employee Exposure** – exposure to a concentration of an airborne contaminant that would occur if the employee were not using respiratory protection

**End-of-service-life Indicator (ESLI)** – a system that warns the respirator user of the approach of the end of adequate respiratory protection

**Escape-only Respirator** – a respirator intended to be used only for emergency exit

**Filter or Air Purifying Element** – a part of a respirator that removes solid or liquid aerosols from the air being breathed

**Filtering Facepiece (Dust Mask)** – a negative pressure particulate respirator with a filter as an integral part of the facepiece or with the entire facepiece

**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** – the use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator worn by an individual (See also Qualitative fit test QLFT and Quantitative fit test QNFT)

**Helmet** – a rigid respirator that provides head protection against impact and penetration

**High Efficiency Particulate Air (HEPA) Filter** – a filter that is at least 99.97% efficient in removing air particles of 0.3 micrometers in diameter, from the air

**Hood** – a respiratory inlet covering that completely covers the head and neck and may also cover portions of the shoulders and torso

**Immediately Dangerous to Life or Health (IDLH)** – an atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere

**Loose-fitting Facepiece** – a respirator designed to form a partial seal with the face

**Maximum Use Concentration (MUC)** – the highest concentration of a hazardous chemical substance in the air from which the respirator can be used to provide protection to the wearer. The MUC can be determined by calculating by multiplying the respirator protection factor by the (PEL) permissible exposure level, the (STEL) short term exposure level, or the (TLV) threshold limit value. When no OSHA exposure limit is available for a hazardous substance, an employer must determine an MUC on the basis of relevant available information and informed professional judgment

**National Institute for Occupational Safety and Health (NIOSH)** – public health service organization established under the U.S. Department of Health and Human Services (DHHS). Its activities include testing and certification of respiratory protective devices and air-sampling detector tubes, and recommendation for occupational exposure limits for various substances

**Negative Pressure Respirator (Tight Fitting)** – a respirator in which the air pressure inside the facepiece is negative (less than) the outside the respirator during inhalation

**Oxygen-Deficient Atmosphere** – an atmosphere with oxygen content below 19.5% by volume, having too little oxygen in the air

**Permissible Exposure Level (PEL)** – the maximum amount of a chemical substance in the air that an employee may be exposed to during an 8-hour period without experiencing harmful effects under OSHA regulations

**Physician or Other Licensed Health Care Professional (PLHCP)** – an individual whose legally permitted scope of practice (i.e., license, registration, or certification) allows them to provide some or all of the health care services required

**Positive Pressure Respirator** – a respirator in which the pressure inside the facepiece exceeds the air pressure outside the respirator

**Powered Air-purifying Respirator (PAPR)** – an air-purifying respirator that uses a blower to force the ambient air through air-purifying elements to the inlet covering

**Pressure Demand Respirator** – a positive pressure atmosphere-supplying respirator that admits breathing air to the facepiece when the positive pressure is reduced inside the facepiece by inhalation

**Qualitative Fit Test (QLFT)** – a pass/fail assessment to determine the adequacy of a respirator fit that relies on the individual's response to the test agent

**Quantitative Fit Test (QNFT)** – an assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator

**Respiratory Inlet Covering** – the portion of a respirator that forms the protective barrier between the user's respiratory tract and an air-purifying device or breathing air source, or both (example: facepiece, helmet, hood, suit, or a mouthpiece respirator with nose clamp)

**Self-contained Breathing Apparatus (SCBA)** – an atmosphere-supplying respirator for which the breathing air source carried by the user

**Service Life** – the period of time that a respirator, filter, sorbent, or other respiratory equipment provides adequate protection for the user

**Supplied-Air Respirator (SAR) or Airline Respirator** – an atmosphere-supplying respirator for which the source of breathing air is not to be carried by the user

**Tight-fitting Facepiece** – a respiratory inlet covering that forms a complete seal with the face

**Time Weighted Average (TWA)** – an average value of exposure to an air contaminant over the course of an 8-hour day, the usual work day

**User seal check** – an action conducted by the respirator user to determine if the respirator is properly seated to the face

## **Methods of Compliance**

### **Hazard Assessment – Respirator Selection**

#### *Exposure Determination*

Menasha Utilities shall identify and evaluate the respiratory hazards in the workplace. This information can be found on the *Respiratory Hazard Assessment form*. The evaluation shall include a reasonable estimate of employee exposures to respiratory hazards and an identification of the contaminant's chemical state and physical form. Where The Utilities cannot identify or reasonably estimate the employee exposure, the employer shall consider the atmospheres to immediately dangerous to life or health (IDLH).

Employees shall not enter an IDLH atmosphere.

Individual employee respirators shall be specifically chosen for the specific hazardous contaminant and each employee shall be medically evaluated by a physician and fit tested by a qualified person in order to wear a respirator on the job. ONLY qualified employee shall wear a respirator.

*Note: Employees who voluntarily wear **filtering face pieces** (i.e. dusk mask) are **not** subject to the medical evaluation, storage and maintenance provisions of this program. See section marked "voluntary respirator use" for detailed mandatory information.*



## ***Engineering Controls***

In the control of those occupational diseases caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors, the primary objective shall be to prevent atmospheric contamination.

Selection of engineering controls (i.e. enclosure or confinement of the operation, general and local ventilation, and substitution of less toxic materials) shall be used to reduce exposures wherever possible. Engineering controls selected by employer are identified in the *Respiratory Hazard Assessment* table.

When effective engineering controls are not feasible, or while they are being instituted, appropriate respirators shall be used pursuant to this section.

## ***Administrative Controls***

The Program Administrator shall evaluate the work area ensuring the worker exposure to chemicals, as well as conditions like stress, work rate, and environmental conditions are within the limitations of the respirator being used. Air monitoring may be conducted to confirm the concentration of the chemical contaminant is within the limitations of the respirator selected.

Areas that have been identified as having a hazardous atmosphere shall be posted with appropriate signage.

Air quality standards for supplied air respirators will be maintained as required by regulation and/or manufacture recommendations.

## ***Respirator Selection***

Hazard assessment will determine respirator selection. The Program Administrator will conduct the hazard assessment for potential contaminants in the work place and determine what type of respirator is to be used. When selecting respirators, employers must consider the chemical and physical properties of the contaminant, as well as the environmental conditions (see *Respiratory Hazard Assessment* table). Other selection factors are nature and extent of the hazard, work rate, area to be covered, mobility, work requirements and conditions, as well as the limitations and characteristics of the available respirators. Selection criteria available from the American National Standards Institute (ANSI) are used to determine the proper respirator to be used.

All respirators must be certified by the National Institute for Occupational Safety and Health (NIOSH) and shall be used in accordance with the terms of that certification. In addition, all filters, cartridges and canisters must be labeled with the appropriate NIOSH approval label. The label must not be removed or defaced while the respirator is in service.

Specific SAR, SCBA, or other equipment shall meet all OSHA/NIOSH requirements to protect against atmospheres that are immediately dangerous to life and health (IDLH). For specific selection criteria refer to *APPENDIX VIII: 2-4. NIOSH guide to the selection and use of particulate respirators certified under 42 CFR 84*, in the forms section of this written program.

The type and model of respirators selected for specific jobs should be documented on the *Respirator Selection Assessment* form.

The Program Administrator shall authorize voluntary use of respiratory protective equipment as requested by all other workers on a case by case basis. This determination depends on specific workplace conditions and the results of the employee's medical evaluation.

## **Employee Training**

### **Initial Employee Training**

The program administrator will ensure that all affected employees participate in training. Additional training is required annually thereafter, or when new respiratory protection hazards are identified, procedural deficiencies are identified, or when requested by an employee. All new, existing and transferred employees will receive training before being allowed to perform work using respiratory protective devices.

- 1) The location of a copy of this Respiratory Protection Program is available to employees,
- 2) All required respiratory protection fit testing,
- 3) Information regarding applicable OSHA safety and health standards.
- 4) Information regarding employee responsibilities involving site-specific hazards and respirators – including the care, storage and use of specific devices.
- 5) Information regarding the nature and severity of work place hazards that require respirator use.
- 6) Information regarding the use of respirators required for specific areas and jobs, and the criteria used to select the appropriate respiratory device (i.e. the difference between a full-face, half-mask and dusk mask applications).
- 7) Instruction regarding the limitations of respirators.
- 8) Information regarding inspection, use, maintenance and storage of respiratory protective equipment in accordance with established practices, training received and applicable safety and health standards.

The regional safety coordinator is responsible for conducting training and maintaining all training records to meet regulatory compliance.

### **Refresher Training**

Additional or refresher training will be provided when:

- 1) Employees performing work involving respirators indicate that employees do not understand the information presented.
- 2) Workplace observations (e.g., the improper procedures) indicate a training deficiency.
- 3) Changes in the work place introduce new hazards.

- 4) Changes in the types of hazards which render previous training obsolete.

## **Certification of Employee Training**

Employees who are required to wear a respirator must receive annual training. The effectiveness of employee training will be evaluated by testing and/or work place inspections.

Employee attendance at training sessions shall be documented on the *Employee Training Log* and kept in the safety files. Training documentation shall also include a summary of the topics covered in training and any handout material distributed.

## **Training Records**

Training records are completed for each employee upon completion of training. These documents will be kept for at least **(3) three years**.

The training records include:

- The dates of the training sessions,
- The contents or a summary of the training sessions,
- The name of the trainer,
- The names, job titles, and signatures of all persons attending the training sessions,
- The completed tests of all persons attending the training sessions, when applicable.

## **Fit Testing**

Employees who wear negative air respirators shall receive a face piece fit test prior to using the respirator for the first time, with either qualitative or quantitative methods to determine whether the mask provides an acceptable fit to a wearer. The type of respirator fit testing is determined by the Program Administrator and will be based on the type and limitations of the specific respirator tested.

The QLFT fit test procedures rely on a subjective sensation (taste, irritation, smell) of the respirator wearer to a particular test agent.

The QNFT fit testing uses specific instrumentation to measure face seal leakage. The relative workplace exposure level determines what constitutes an acceptable fit and which fit test procedure is required. Exposure levels greater than 10 times the occupational exposure limit must utilize a quantitative fit test procedure for these respirators.

Fit testing of tight-fitting atmosphere-supplying respirators and tight-fitting powered air-purifying respirators shall be accomplished by performing quantitative or qualitative fit testing in the negative pressure mode using specialty measuring instrument equipment to measure face seal leakage. For detailed specific fit testing requirements, see *APPENDIX VIII: 2-2. USER SEAL CHECK, Facepiece Positive and/or Negative Pressure Checks*, in the forms section of this written program.

Employees shall receive a face piece fit test on an annual basis unless required more often by a specific OSHA standard or special conditions exist. Respirator fit test records shall be properly documented and kept in the safety files.

To meet OSHA/SPS compliance, all fit testing requirements are specified on *OSHA 1910.134*

## **Inspection, Cleaning, Maintenance and Storage**

Employees are instructed on the day-to-day care, maintenance, storage and use of their respirators during the respirator training program. The Plan Administrator shall routinely inspect employee respirators to ensure that they are properly used, clean, in good working order, and stored correctly. Emergency respirators are inspected monthly. Other respirator inspections by supervisors are conducted at random. A record of respirator inspections conducted by supervisors shall be kept in the safety files.

## **Medical Approval**

The employer shall identify a physician or other licensed health care professional (PLHCP) to perform medical evaluations using a medical questionnaire or an initial medical examination that obtains the same information as the OSHA 1910.134, Appendix C medical questionnaire requires.

The employee medical evaluation is conducted prior to wearing their respirator. Medical evaluation forms are completed by the employee and tests performed are at the discretion of the physician. Only medically approved employees will be allowed to wear a respirator. An example of the Medical Evaluation Form is found in the forms section of this program.

## **Additional Medical Evaluations**

At a minimum, additional medical evaluations that comply with the requirements of this section will be conducted if: an employee reports medical signs or symptoms that are related to ability to use a respirator; a physician, supervisor, or the program administrator identifies a medical concern that an employee needs to be re-evaluated; a change occurs in workplace conditions (physical work effort, protective clothing, temperature, etc.) that may result in a substantial increase in the physiological burden placed on an employee.

## **Medical Records**

Medical evaluations are maintained for each employee in accordance with 29 CFR 1910.1020. These records shall be maintained for the duration of employment plus **30 years**.

## **Voluntary Respirator Use**

When exposure limits are not exceeded and it is not required by an OSHA adopted standard, employees may choose to wear respirators on a voluntary basis. If an employee voluntarily wears a respirator, limited provisions of the respiratory protection program shall be implemented.

When only a filtering facepiece respirator is used, OSHA requires employers to provide employees with a copy of *OSHA, 1910.134, Appendix D*, located in the forms section of this written program.

## **Work Area Surveillance**

~~The Plan Administrator shall monitor/evaluate the work area to ensure the worker exposure to chemicals, as well as conditions like stress, work rate, and environmental conditions are within the limitations of the respirator being used. As necessary, air monitoring will be conducted to ensure the concentration of the chemical contaminant is within the limitations of the respirator selected.~~

## **Air Quality Standards**

Air quality standards for air supplied respirators will be maintained as required by the Occupational Safety and Health Administration (OSHA).

## **Approved Respirators**

The Utilities shall only utilize respirators that are approved by the National Institute of Occupational Safety and Health (NIOSH). Supervisors are responsible for ensuring only approved respirators are worn by employees.

## **Respirator Inspection**

Respirators shall be inspected before each use and inspected thoroughly on a periodic basis. When inspecting the respiratory protection device, employees shall inspect the following respirator parts;

- 1) Head straps (elasticity and function).
- 2) Face shield (durability and obstructions).
- 3) Hoses and couplings (cracks and seals).
- 4) Respirator assembly (shape and wear).
- 5) Face piece seal surface (deterioration).
- 6) Inhalation/exhalation valves and seats (seal, cuts and abrasions).
- 7) Cartridge/filter retainers and seating surfaces (proper seal).
- 8) Other inspections as instructed by supervisor.

## ***Respirator Use***

In an effort to comply with OSHA's regulatory requirements, employees shall:

- Don and wear the respirator according to the manufacturer's instructions,
- Conduct a positive and negative test after donning the facepiece and correct fit,
- Bring damaged/defective parts to the attention of the program administrator,

## **Specific Respirator Use Procedures**

- Don and check for functional use the respirator before leaving for the work site,
- Store for safe transport,
- At work site; Don in a non-contaminated area,
- When work is complete; brush off/remove as much of the loose particles as possible, move to a non-contaminated area and doff respirator.

## **Respirator Maintenance**

In an effort to comply with OSHA's regulatory requirements, employees shall;

- 1) Replace or repair defective respirator parts before the respirator is worn.
- 2) Wear only clean, sanitized, and approved respirators.
- 3) Replace filters/cartridges/disposable parts as necessary or instructed.
- 4) Replace filters/cartridges if contaminant breakthrough occurs or if breathing becomes difficult.
- 5) Don and wear the respirator according to the manufacturer's instructions.
- 6) Conduct a positive and negative fit test after donning the face piece and correct fit if necessary.
- 7) Bring damaged or defective respirators/parts to the attention of the Plan Administrator and dispose of properly.

## Respirator Storage and Care

Employee shall;

- 1).....Clean respirators after each use per manufacturers recommendation or OSHA requirement.
- 2) Store the respirator in a clean plastic bag or other suitable container. The respirator must be protected from the elements when not in use.
- 3) Store respirators in a manner that will not deform the face piece or deteriorate the respirator parts.
- Cleaning respirators requires specific procedures and a copy of the *Respirator Cleaning Procedures* is located in the forms section of this program.

## Respirator Emergency Procedures

In the event an emergency arises in the workplace, employees should not enter the contaminated area until they have checked their respirator and notified their supervisor of the problem.

Employees should vacate the contaminated area if they experience any of the following;

- a) Feeling of illness or dizziness.
- b) Irritation of eyes or breathing airways.
- c) Smelling or tasting the contaminant.
- d) Difficulty breathing.
- e) Malfunctioning respirator.

## Respirator Limitations

Respirators shall not be worn if there is any interference with the face piece seal (eyeglass temple bar, beard, sideburns, etc.). In addition, respirators shall not be modified in any way. Changes make respirator approval invalid and may cause harm to the employee.

Air purifying respirators have special limitations. Conditions which may prohibit use include, but are not limited to;

- a) Untested confined spaces.
- b) Oxygen deficient or enriched atmospheres.
- c) Atmospheres immediately dangerous to life or health (IDLH).
- d) Contaminants that lack sufficient warning properties.
- e) Unknown contaminant concentration in air.
- f) Contaminant concentrations above the maximum use concentration (MUC) of

the respirator or cartridge.

## **Program Evaluation and Review**

The Respiratory Protection written program shall be reviewed annually to determine its effectiveness. The Plan Administrator or his/her designee shall coordinate corrective action and update to reflect necessary changes.

## **RESPIRATOR SELECTION ASSESSMENT**

This form shall provide employees with information regarding the correct respirator for a specific task, the list below identifies respirators used for routine work. The list is established, and updated, by the Program Administrator after conducting the appropriate hazard assessment and selection of proper respiratory protective equipment.





# **RESPIRATOR TRAINING OUTLINE**

## **NEGATIVE AIR PURIFYING RESPIRATORS**

- I. Purpose of Training
  - A. Safeguarding employee health
  - B. OSHA regulations
  
- II. Record keeping and required documentation
  - A. Respirator type and hazard involved
  - B. Medical approval
  
- III. Presentation of topics (or videotape)
  - A. Proper Respirator Usage
    - 1. Limitations of this type of respirator
      - Oxygen deficient atmosphere
      - Protection factor
      - Concentration of contaminants (IDLH and PEL)
      - Types of contaminants
    - 2. Inspection, donning, and self-check fit
  - B. Respirator Specifics
    - 1. Inspection of parts, valves, gaskets, etc.
    - 2. Cleaning, disinfecting, and drying
    - 3. Repairing/replacing defective parts & reassembly
    - 4. Proper care and storage
    - 5. Cartridge/filter care, selection, duration, installation, and use (e.g. color code and contaminant limitations)
  
- IV. Practical considerations
  - A. Hazard assessment by Program Coordinator
  - B. Interference with the face piece seal
  - C. Practice donning and wearing the respirator
  - D. Answer questions participants may have
  
- V. Face piece fit test
  - A. Explain procedure
  - B. Determine protocol to be used
  - C. Conduct individual fit tests
  
- VI. Employee signature and record of information required for certification



## **FIT TEST PROTOCOL**

### **Respirator Selection**

The fit test begins after the proper respirator has been selected and the employee receives training on their respirator. Employees should have an opportunity to practice putting their respirator on, conduct the positive and negative pressure face piece checks, and wear their respirator in a clean atmosphere for a period of five to ten minutes.

### **Conducting the Test**

The employee performing the fit test will use irritant smoke, iso-amyl acetate, saccharin, or any other fit test agent allowed by applicable standards. The specific choice of the fit test agent used will be made by the person performing the fit test (after analyzing the nature of the hazard and sensitivity of the person being fit tested). For air purifying respirators, the correct contaminant cartridge is chosen and placed in the respirator to be tested.

The person to be fit tested will normally enter an "enclosure" or wear a "hood" to help concentrate the fit test agent near the face piece seal of the respirator.

While the employee is in the enclosure and wearing the respirator, the person performing the fit test (periodically) directs the fit test agent around and near the respirator face piece. Specific instructions are given to the respirator wearer to test the integrity of the respirator face piece seal. Each of the first five steps is performed for one minute.

- A. Fit test steps
  1. Breathing normally.
  2. Breathing deeply as with heavy exertion.
  3. Breathing normally. Moving head side to side and up and down (somewhat exaggerated).
  4. Counting to ten; talking. (A pre-determine passage may be read by the respirator wearer.)
  5. Other activities, if applicable. (Jogging in place, smiling, grimacing, etc.)
  6. The face piece seal may be broken by the wearer at the conclusion of the fit test to indicate the effectiveness of the respirator.

### **Suspension of Fit Testing**

The fit test will stop if the employee wearing the respirator notices a leak at any time during the test. The employee will readjust the respirator, check cartridge and other seals, and do the positive/negative pressure face piece checks. The test will then be resumed.

### **Respirator Requirements**

No employee will be allowed to wear a negative air respirator unless a satisfactory fit test has been achieved. Those employees successfully passing the fit test will sign and complete the Fit Test Log.

## **Appendix VII: 2-2. User Seal Check**

### **Facepiece Positive and/or Negative Pressure Checks**

#### **Positive Pressure Checks**

Close off the exhalation valve 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.

#### **Negative Pressure Check**

Close off the inlet opening of the canister or cartridge(s) by covering it with the palm of the hand(s) or by replacing the filter seal(s). Inhale gently so that the facepiece collapses slightly, and hold your breath for ten seconds. The design of the inlet opening of some cartridges cannot be effectively covered with the palm of the hand, which requires that the test 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.

#### **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 in detecting seal leakage compared to the positive pressure and negative pressure checks described



# Respirator Fit Testing Acknowledgement

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

Employee Name (Print) \_\_\_\_\_

Respirator Make: \_\_\_\_\_ Model: \_\_\_\_\_

Size: Circle One    S       M       L       XL

Fit Test Type: Qualitative    Quantitative

Mask Style: \_\_\_\_\_ Cartridge: \_\_\_\_\_

1 - Normal Breathing	Pass	Fail
2 - Deep Breathing	Pass	Fail
3 - Head Side to Side	Pass	Fail
4 - Head Up and Down	Pass	Fail
5 - Talking	Pass	Fail
6 - Jogging in Place/ or Bending Over	Pass	Fail
7 - Normal Breathing	Pass	Fail

Fit Tester Name \_\_\_\_\_ Date \_\_\_\_\_

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

# Respirator Cleaning Procedures

## Appendix B-2

A. Remove filters, cartridges, or canisters. Disassemble face pieces by removing speaking diaphragms, demand and pressure- demand valve assemblies, hoses, or any components recommended by the manufacturer. Discard or repair any defective parts.

B. Wash components in warm (43 deg. C [110 deg. F] maximum) water with a mild detergent or with a cleaner recommended by the manufacturer. A stiff bristle (not wire) brush may be used to facilitate the removal of dirt.

C. Rinse components thoroughly in clean, warm (43 deg. C [110 deg. F] maximum), preferably running water. Drain.

D. When the cleaner used does not contain a disinfecting agent, respirator components should be immersed for two minutes in one of the following:

1. Hypochlorite solution (50 ppm of chlorine) made by adding approximately one milliliter of laundry bleach to one liter of water at 43 deg. C (110 deg. F); or,

2. Aqueous solution of iodine (50 ppm iodine) made by adding approximately 0.8 milliliters of tincture of iodine (6-8 grams ammonium and/or potassium iodide/100 cc of 45% alcohol) to one liter of water at 43 deg. C (110 deg. F); or,

3. Other commercially available cleansers of equivalent disinfectant quality when used as directed, if their use is recommended or approved by the respirator manufacturer.

E. Rinse components thoroughly in clean, warm (43 deg. C [110 deg. F] maximum), preferably running water. Drain. The importance of thorough rinsing cannot be overemphasized. Detergents or disinfectants that dry on facepieces may result in dermatitis. In addition, some disinfectants may cause deterioration of rubber or corrosion of metal parts if not completely removed.

F. Components should be hand-dried with a clean lint-free cloth or air-dried.

G. Reassemble face piece, replacing filters, cartridges, and canisters where necessary.

H. Test the respirator to ensure that all components work properly.

## Appendix D Mandatory Form for Voluntary Respirator Use

### **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.





# MEDICAL EVALUATION FORM EXAMPLE

**NOTE: THIS IS ONLY AN EXAMPLE - DO NOT USE THIS FORM – SITE SPECIFIC FORMS WILL BE PROVIDED BY THE MEDICAL FACILITY CONDUCTING THE MEDICAL EVALUATION!**

*Courtesy of Theda Care at Work:*

<b>OSHA Respirator Medical Evaluation Questionnaire (Mandatory)</b>
---

If you have any questions, contact our nurses - XXX-XXX-XXXX

**To the employee:** Can you read (check yes or no):  Yes  No

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

**Part A. Section 1. (Mandatory)** The following information must be provided by **every employee** who has been selected to **use any type of respirator** (please print).

1. Today's date: \_\_\_\_\_ (month/day/year) Company Name: \_\_\_\_\_
2. Your name: \_\_\_\_\_ Social Security #: \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_
3. Your age (to nearest year): \_\_\_\_\_ 4. Sex:  Male /  Female 5. Your height: \_\_\_\_\_ ft \_\_\_\_\_ in
6. Your weight: \_\_\_\_\_ pounds 7. Your job title: \_\_\_\_\_
8. A phone number where you can be reached by the healthcare professional who reviews this questionnaire (include the Area Code): (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_
9. Best time to phone you at this number: \_\_\_\_\_
10. Has your employer told you how to contact the healthcare professional who will review this questionnaire (check yes or no):  Yes  No

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

<input type="checkbox"/> <b>N</b> , <input type="checkbox"/> <b>R</b> , or <input type="checkbox"/> <b>P</b> Disposable Respirator (filter-mask, non-cartridge type only)
<input type="checkbox"/> Half- or full-face piece type, powered-air purifying, supplied-air
<input type="checkbox"/> Self-contained breathing apparatus (SCBA)

12. Have you worn a respirator?  Yes  No If "yes," what type(s):  
\_\_\_\_\_

**Part A. Section 2. (Mandatory)** Questions 1 through 9 below must be answered by every employee who has been selected to use any type of respirator (please check "yes" or "no").

1. Do you currently smoke tobacco, or have you smoked tobacco in the last month:  Yes  No

2. Have you ever had any of the following conditions?

Seizures (fits)	<input type="checkbox"/> YES <input type="checkbox"/> NO	Claustrophobia (fear of closed in places)	<input type="checkbox"/> YES <input type="checkbox"/> NO
Diabetes (sugar disease)	<input type="checkbox"/> YES <input type="checkbox"/> NO	Trouble smelling odors	<input type="checkbox"/> YES <input type="checkbox"/> NO
Allergic reactions that interfere with your breathing	<input type="checkbox"/> YES <input type="checkbox"/> NO		

**3. Have you ever had any of the following pulmonary or lung problems?**

Asbestosis	<input type="checkbox"/> YES <input type="checkbox"/> NO	Silicosis	<input type="checkbox"/> YES <input type="checkbox"/> NO
Asthma	<input type="checkbox"/> YES <input type="checkbox"/> NO	Pneumothorax (collapsed lung)	<input type="checkbox"/> YES <input type="checkbox"/> NO
Chronic Bronchitis	<input type="checkbox"/> YES <input type="checkbox"/> NO	Lung Cancer	<input type="checkbox"/> YES <input type="checkbox"/> NO
Emphysema	<input type="checkbox"/> YES <input type="checkbox"/> NO	Broken Ribs	<input type="checkbox"/> YES <input type="checkbox"/> NO
Pneumonia	<input type="checkbox"/> YES <input type="checkbox"/> NO	Any chest injuries or surgeries	<input type="checkbox"/> YES <input type="checkbox"/> NO
Tuberculosis	<input type="checkbox"/> YES <input type="checkbox"/> NO	Any other lung problem that you've been told about	<input type="checkbox"/> YES <input type="checkbox"/> NO

**4. Do you currently have any of the following symptoms of pulmonary or lung illness?**

Shortness of Breath	<input type="checkbox"/> YES <input type="checkbox"/> NO
Shortness of breath when walking fast on level ground or walking up a slight hill or incline	<input type="checkbox"/> YES <input type="checkbox"/> NO
Shortness of breath when walking with other people at an ordinary pace on level ground	<input type="checkbox"/> YES <input type="checkbox"/> NO
Have to stop for breath when walking at your own pace on level ground	<input type="checkbox"/> YES <input type="checkbox"/> NO
Shortness of breath when washing or dressing yourself	<input type="checkbox"/> YES <input type="checkbox"/> NO
Shortness of breath that interferes with your job	<input type="checkbox"/> YES <input type="checkbox"/> NO
Coughing that produces phlegm (thick sputum)	<input type="checkbox"/> YES <input type="checkbox"/> NO
Coughing that wakes you early in the morning:	<input type="checkbox"/> YES <input type="checkbox"/> NO
Coughing that occurs mostly when you are lying down:	<input type="checkbox"/> YES <input type="checkbox"/> NO
Coughing up blood in the last month:	<input type="checkbox"/> YES <input type="checkbox"/> NO
Wheezing	<input type="checkbox"/> YES <input type="checkbox"/> NO
Wheezing that interferes with your job:	<input type="checkbox"/> YES <input type="checkbox"/> NO
Chest pain when you breathe deeply:	<input type="checkbox"/> YES <input type="checkbox"/> NO
Any other symptoms that you think may be related to lung problems:	<input type="checkbox"/> YES <input type="checkbox"/> NO

**5. Have you ever had any of the following cardiovascular or heart problems?**

Heart attack	<input type="checkbox"/> YES <input type="checkbox"/> NO	Swelling in your legs or feet (not caused by walking)	<input type="checkbox"/> YES <input type="checkbox"/> NO
Stroke	<input type="checkbox"/> YES <input type="checkbox"/> NO	Heart arrhythmia (heart beating irregularly)	<input type="checkbox"/> YES <input type="checkbox"/> NO
Angina	<input type="checkbox"/> YES <input type="checkbox"/> NO	High blood pressure	<input type="checkbox"/> YES <input type="checkbox"/> NO
Heart Failure	<input type="checkbox"/> YES <input type="checkbox"/> NO	Any other heart problem that you have been told about	<input type="checkbox"/> YES <input type="checkbox"/> NO

**6. Have you ever had any of the following cardiovascular or heart symptoms?**

Frequent pain or tightness in your chest	<input type="checkbox"/> YES <input type="checkbox"/> NO	In the past two years have you noticed your hear skipping or missing a beat	<input type="checkbox"/> YES <input type="checkbox"/> NO
Pain or tightness in your chest during physical activity	<input type="checkbox"/> YES <input type="checkbox"/> NO	Heartburn or indigestion that is not related to eating	<input type="checkbox"/> YES <input type="checkbox"/> NO
Pain or tightness in your chest that interferes with your job	<input type="checkbox"/> YES <input type="checkbox"/> NO	Any other symptoms that you think may be related to heart or circulation problems	<input type="checkbox"/> YES <input type="checkbox"/> NO

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

Breathing or Lung Problems	<input type="checkbox"/> YES <input type="checkbox"/> NO	Blood Pressure	<input type="checkbox"/> YES <input type="checkbox"/> NO
Heart Trouble	<input type="checkbox"/> YES <input type="checkbox"/> NO	Seizures (fits)	<input type="checkbox"/> YES <input type="checkbox"/> NO

**8. If you've used a respirator, have you ever had any of the following problems?**

**(If you've never used a respirator, go to question 9)**

Eye Irritation	<input type="checkbox"/> YES <input type="checkbox"/> NO	General weakness or fatigue	<input type="checkbox"/> YES <input type="checkbox"/> NO
Skin Allergies or Rashes	<input type="checkbox"/> YES <input type="checkbox"/> NO	Any other problem that interferes with your use of a respirator	<input type="checkbox"/> YES <input type="checkbox"/> NO
Anxiety	<input type="checkbox"/> YES <input type="checkbox"/> NO		

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

## Appendix VIII: 2-4

### NIOSH GUIDE TO THE SELECTION AND USE OF PARTICULATE RESPIRATORS CERTIFIED UNDER 42 CFR 84

#### Summary for Respirator Users

This summary presents a brief overview of what the respirator user needs to know about the new categories of particulate respirators certified by the National Institute for Occupational Safety and Health (NIOSH).

NIOSH has developed a new set of regulations in 42 CFR 84 (also referred to as "Part 84") for testing and certifying non-powered, air-purifying, particulate-filter respirators. The new Part 84 respirators have passed a more demanding certification test than the old respirators (e.g., dust and mist [DM], dust, fume and mist [DFM], spray paint, pesticide, etc.) certified under 30 CFR 11 (also referred to as "Part 11").

Changes in the new regulations involve only non-powered, air-purifying, particulate-filter respirators. Certification requirements for all other classes of respirators (e.g., chemical cartridges, self-contained breathing apparatus [SCBA], airlines, gas masks without a particulate filter, powered air-purifying respirators [PAPR's] equipped with high-particulate air [HEPA] filters, etc.) have been transferred to Part 84 without change. Until further notice, the Occupational Safety and Health Administration (OSHA) is allowing the continued use of Part 11 particulate-filter respirators. Under Part 84, NIOSH is allowing manufacturers to continue selling and shipping Part 11 particulate filters as NIOSH-certified until July 10, 1998.

The new Part 84 regulation provides for nine classes of filters (three levels of filter efficiency, each with three categories of resistance to filter efficiency degradation). The three levels of filter efficiency are 95%, 99%, and 99.97%. The three categories of resistance to filter efficiency degradation are labeled N, R, and P. The class of filter will be clearly marked on the filter, filter package, or respirator box. For example, a filter marked N95 would mean an N-series filter that is at least 95% efficient. Chemical cartridges that include particulate filter elements will carry a similar marking that pertains only to the particulate filter element.

Filter efficiency is the stated percentage of particles removed from the air. Filter efficiency degradation is defined as a lowering of filter efficiency or a reduction in the ability of the filter to remove particles as a result of workplace exposure.

The new classes of non-powered particulate respirators require new decision logic for selection of the proper respirator. The selection process for using the new particulate classification is outlined as follows and is discussed in Section II of *NIOSH Guide to the Selection and Use of Particulate Respirators Certified Under 42 CFR 84*:

1. The selection of N-, R-, and P-series filters depends on the presence or absence of oil particles, as follows:
  - If no oil particles are present in the work environment, use a filter of any series (i.e., N-, R-, or P-series).
  - If oil particles (e.g., lubricants, cutting fluids, glycerin, etc.) are present, use an R-or P-series filter.

**Note:** N-series filters cannot be used if oil particles are present.

- If oil particles are present and the filter is to be used for more than work shift, use only a P-series filter.

**Note:** To help you remember the filter series, use the following guide:

N for *Not* resistant to oil

R for *Resistant* to oil

P for oil-*Proof*

2. Selection of filter efficiency (i.e., 95%, 99%, or 99.97%) depends on how much filter leakage can be accepted. Higher filter efficiency means lower filter leakage.
3. The choice of facepiece depends on the level of protection needed -- that is, the assigned protection factor (APF) needed.

## Respiratory Hazard Assessment

Job Task	Location (Confined or Open)	Duration (Short, Varies, Long)	Contaminate and Hazard	Estimate of Exposure Limits Potential to Exceed	Environmental Conditions (Windy, Moderate, Calm)	Controls in Place Reducing Exposure	PPE- Respirator used

**Completed By:** Jane Doe MEUW Regional Safety Coordinator

**Completion Date:** XX-XX-XXXX

**Last Updated:** XX-XX-XXXX

**Review Date:**

**Short - Under 15 minutes**

**Varies**

**Long - Up to 7 hours**

