

CITY OF CLOQUET

RESPIRATORY PROTECTION PROGRAM

Department of Public Works

(Adopted May 20, 2014)



Respiratory Protection Program Cloquet Department of Public Works

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Respiratory Protection Program

Cloquet Department of Public Works

I. Purpose

The purpose of this plan is to establish a program and procedures for employees who are required to wear respiratory protection while working in the Cloquet Public Works Department.

This program supports compliance with the Occupational Safety and Health Administration Respiratory Protection Standard, as found in 29 CFR 1910.134. This program applies to all Public Works employees who work in areas in which the potential exposure to airborne contaminants requires the use of respirators. Certain parts of this program may also apply to employees who use respirators voluntarily in the workplace.

II. Definitions

Air-Purifying Respirator (APR): A respirator with an air-purifying filter, cartridge or canister that removes specific air contaminants from the breathing air before it's inhaled. An air-purifying respirator does not supply air to the user.

Atmosphere-Supplying Respirator: A respirator that supplies the user with breathing air from a source that is independent of the surrounding atmosphere. Atmosphere-supplying respirators include Supplied-Air Respirators (SARs) and Self-Contained Breathing Apparatuses (SCBAs).

Canister or Cartridge: A container with a filter, sorbent or catalyst (or a combination of these items) that removes specific contaminants from the air passing through it.

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 the 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.

Escape Only Respirator: A respirator intended to be used only for emergency exit.

Filter (or Air-Purifying Element): A part of a respirator that remove solid or liquid aerosols from the air being breathed.

Fit Test: A procedure used to qualitatively or quantitatively evaluate how well a respirator fits an individual.

Hazardous Chemical: Any chemical that poses a physical or health hazard.

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.

Negative Pressure Respirator (tight fitting): A respirator in which the air pressure inside the facepiece is negative during inhalation with respect to the ambient air pressure outside the respirator.

NIOSH (National Institute for Occupational Safety and Health): An agency that established minimum performance standards for respirators and that tests and approves respirators for various uses.

Oxygen Deficient Atmosphere: An atmosphere with oxygen content below 19.5% by volume.

OSHA (Occupational Safety and Health Administration): A federal agency of the Department of Labor that regulates workplace safety and health.

Physician or Other Licensed Health Care Professional (PLHCP): An individual whose legal scope of practice (as defined by license, registration or certification) allows him or her to provide - whether independently or when delegated the responsibility to do so – some or all of the health care services required by the OSHA Respiratory Protection Standard.

Positive Pressure Regulator: A respirator in which the pressure inside the respiratory inlet covering exceeds the ambient 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 of how well a respirator fits that relies on the individual's response to the taste or smell of the test agent.

Quantitative Fit Test (QNFT): An assessment of how well a respirator fits that measures the specific amount of leakage into the respirator.

Respirator: A wearable device that protects the user from breathing airborne hazards. There are several types of respirators, including:

- Air-purifying respirators, which filter the air and make it safe to breathe
- Atmosphere-supplying respirators, which provide sources of clean air (such as airline respirators and Self-Contained Breathing Apparatuses [SCABs])

Respiratory Inlet Covering: That portion of a respirator that forms the protective barrier between the user's respiratory tract and an air-purifying element, breathing-air source or both. The barrier may be a facepiece, helmet, hood, suit or mouthpiece respirator with nose clamp.

Self-Contained Breathing Apparatus (SCBA): An atmosphere-supplying respirator for which the source of breathing air is carried by the user.

Service Life: The period of time that a respirator, filter, sorbent or other respiratory equipment is expected to provide adequate protection for the user.

Threshold Limit Values (TLVs): Exposure guidelines established by the American Conference of Governmental Industrial Hygienists (ACGIH) for airborne concentrations of many chemical compounds, represent the exposure levels employees may regularly be exposed to without experiencing adverse effects.

User Seal Check: A test conducted by the user to determine if the respirator is properly sealed to his or her face.

III. Scope and Application

This program applies to all employees of the Cloquet Public Works Department who are required to wear respirators during normal work operations, and during some non-routine or emergency operations such as a spill or leak of a hazardous substance. This includes employees in the Utility Maintenance Department, the Lake Superior Waterline Pumphouse #2 and the Street and Park Departments. All employees working in these departments and engaged in certain processes or tasks (**as outlined in the Table I below**) must be enrolled in the Department's respiratory protection program.

In addition, any employee who voluntarily wears a respirator when a respirator is not required is subject to the medical evaluation, cleaning, maintenance and storage elements of this program, and must be provided with certain information and/or training specified in this program policy.

NOTE: Employees who voluntarily wear filtering dust masks (3M 8210 and 3M 8211 Particle Respirators) are not subject to the medical evaluation, cleaning, storage and maintenance provisions of this program.

Employees participating in the respiratory protection program do so at no cost to them. The expense associated with training, medical evaluations and respiratory protection equipment will be borne by the City.

TABLE 1: Voluntary and Required Respirator Use for Cloquet Public Works Department.

Respirator	Department / Process
3M 6800 Full Faced Respirator with V81-6003 Organic Vapor/Gas Cartridge	Water Department Chlorine Rooms, Municipal Well Sites, Pump Station #2, and Pinehurst Park Swimming Facility. Maintaining Chlorine Gas Disinfection Systems.
Nova 2000 Continuous Flow Reusable Respirator	Fleet Services Department Sandblasting.
3M Model 7500 Half Faced Respirator with 6006 Cartridge	Fleet Services Department Spray Painting.
3M Model 8211 N95 Particulate Respirator	Concrete Sawing and/or Concrete Pipe Sawing.
3M Model 8211 N95 Particulate Respirator	Structural Steel and Steel Pipe Cleaning.
3M Model 8212 N95 Particulate Respirator	Fleet Services Department Equipment Welding.
3M 8210 Particulate Respirator (Dust Mask)	Voluntary Use - Various Public Works Environments

IV. Responsibilities

Program Administrator

The Program Administrator is responsible for administering the respiratory protection program. Duties of the program administrator include:

- Conducting hazard assessments and identifying work areas, processes or tasks that require workers to wear respirators.
- Assisting managers and supervisors in selecting appropriate respiratory protection for use in their departments.
- Monitoring respirator use to ensure that respirators are used in accordance with their certifications.
- Arranging for and/or conducting training.
- Ensuring proper storage and maintenance of respiratory protection equipment.
- Performing or making arrangements to perform periodic and special fit testing.
- Coordinating periodic medical evaluations and maintaining associated medical records.
- Maintaining records required by the program.
- Evaluating the program.
- Updating written program, as needed.
- The Program Administrator for the City of Cloquet’s Public Works Department is the Director of Public Works.

Supervisors

Supervisors are responsible for ensuring that the respiratory protection program is implemented in their particular areas. In addition to being knowledgeable about the program requirements for their own protection, supervisors must also ensure that the program is understood and followed by the employees under their charge. Duties of the supervisor include:

- Ensuring that employees under their supervision (including new hires) have received appropriate training, fit testing, and required medical evaluations.
- Ensuring the availability of appropriate respirators and accessories.
- Being aware of tasks requiring the use of respiratory protection.
- Enforcing the proper use of respiratory protection when necessary.
- Ensuring that respirators are properly cleaned, maintained, and stored according to the respiratory protection plan.
- Ensuring that respirators fit well and do not cause discomfort.
- Continually monitoring work areas and operations to identify respiratory hazards.
- Coordinating with the Program Administrator on how to address respiratory hazards or other concerns regarding the program.

Employees

Each employee has the responsibility to wear his or her respirator when and where required and in a manner in which they were trained. Employees must also:

- Care for and maintain their respirators as instructed, keeping them in a clean and operable condition, and store them in a clean sanitary location.
- Inform their supervisor if a respirator no longer fits well, and request a new one that fits properly.
- Provide feedback about respirator use to the Program Administrator through Supervisors and inform them of any respiratory hazards that they feel are not adequately addressed in the workplace and of any other concerns that they have regarding the respirator program.

V. Program Elements

Respirator Selection Procedures

The Program Administrator together with the Department Supervisors will select respirators to be used on site, based on the hazards to which workers are exposed and in accordance with all OSHA standards. This process will include a hazard evaluation for each operation, process, or work area where airborne contaminants may be present in routine operations or during an emergency. The hazard evaluation will include:

- 1) Identification and development of a list of hazardous substances used in the workplace, by department, or work process.

- 2) Review of work processes to determine where potential exposures to these hazardous substances may occur. This review shall be conducted by surveying the workplace, reviewing process records, and talking with employees and supervisors.

Selection and Use of Respirators

- Respirators will be selected according to the types of activities for which they will be used and the types of potential air contaminants associated with these activities.
- Only NIOSH-approved respirators will be used.
- All respiratory protection equipment will be used in accordance with its manufacturer's recommendations.
- Any non-disposable respirator that is used by more than one person will be cleaned and sanitized after every use.
- Each disposable respirator will be used until the cartridge or filter media requires replacement or when the facepiece is dirty.
- The service lives of disposable respirator cartridges and filter media will be based upon manufacturer's recommendations.

Results of Workplace Evaluation

Based on an evaluation of the workplace the following situations, environments or job assignments have been identified where employees may potentially be exposed to hazardous substances, which would or could require the use of a respirator:

➤ **Water Department Chlorine Rooms at Municipal Well Sites and at Pump Station #2**

At each of the municipal water supply wells and at Pump Station #2 on the Lake Superior Waterline, chlorine gas is used to disinfect the water prior to distribution. Adequate supplies of chlorine gas cylinders are also stored within these chlorine rooms. Each chlorine room is provided with a positive forced-air ventilation system, which turns on automatically whenever the lights to the room are turned on and an employee enters. These ventilation systems must be operational at all times employees occupy the chlorine rooms.

In addition to a positive forced-air ventilation system, the chlorine room at Pump Station #2 on the Lake Superior Waterline is also equipped with a chlorine gas monitor alarm system. This alarm system is monitored from the control room at the pump station. **In the event of a chlorine alarm, operators are required to call 911 and ARE NOT to enter the chlorine room until after emergency personnel or other qualified backup personnel have arrived at the scene to assist.**

Under normal operating conditions, the environments within all of the chlorine rooms are not hazardous and such a hazardous condition could only exist in the event of a chlorine leak with one of the gas cylinders or the chlorine injection system. **In the event that a chlorine gas leak is detected, employees shall not enter the chlorine rooms or attempt to repair or isolate a chlorine leak without wearing an appropriate respirator AND having qualified backup personnel at the scene to assist.**

If an employee has to complete any maintenance on an active chlorine supply or chlorine chemical feed system, such work shall not commence unless a qualified backup person is at the scene to assist. Examples of such work requiring backup personnel shall include but not be limited to the following examples:

Changing chlorine tanks, chlorinators, remote meters, injectors and chlorine gas pipelines.

Prior to entering any of the chlorine rooms or pumphouse facilities to complete any maintenance on an active or inactive gas chlorination system, all entering personnel shall put on an appropriate respirator and wear them at all times while such work is taking place.

➤ **Park Department Chlorine System at Pinehurst Park Swimming Facility**

At the Pinehurst Park Swimming Facility (Pond), chlorine gas is used to disinfect the water in the swimming pond. The chlorine injection system, which includes two 150 pound chlorine tanks, is actually located in a separate cabinet located on the north outside wall of the Pinehurst filter building. This cabinet is accessed from the outside and there is no possibility for an employee to actually enter a confined space because of its small size.

The chlorination system used at the Pinehurst facility is a vacuum regulator injection system similar to that used at each of the city well sites. It also includes a chlorine gas monitor that is located inside the filter building on the north wall and will alarm upon detecting a chlorine gas leak.

Under normal operating conditions, the environment outside and around the chlorine storage cabinet and that within the filter building itself are not hazardous and such a hazardous condition could only exist in the event of a chlorine leak with one of the gas cylinders or the chlorine injection system. **In the event that a chlorine gas leak is detected, employees shall not enter the filter building or attempt to repair or isolate a chlorine leak without wearing an appropriate respirator AND having qualified backup personnel at the scene to assist.**

If an employee has to complete any maintenance on an active chlorine supply or chlorine chemical feed system, such work shall not commence unless a qualified backup person is at the scene to assist. Examples of such work requiring backup personnel shall include but not be limited to the following examples: Changing chlorine tanks, chlorinators, remote meters, injectors and chlorine gas pipelines.

Required Respirator for Chlorine Gas Environment

3M 6800 Full Faced Respirator with 6003 Organic Vapor/Gas Cartridge

- Employees will be required to wear the above respirator whenever they are changing chlorine tanks, while performing any maintenance on a chlorine injection system, or wherever an odor of chlorine gas is detected.
- Individual Full Faced Respirators shall be issued and assigned to each employee required to use them and shall be readily accessible at all times. At Pump Station #2 all individual employee respirators shall be stored in an obvious location where they are readily available for both use and inspection. All other Utility and Park Maintenance personnel shall have them available in their trucks while going about their daily routine.
- These respirators are to be stored and maintained in accordance with acceptable standards and this policy.
- The following employees shall be properly trained and shall be required to use and maintain these respirators in accordance with this policy:
 - All Pumphouse Operators working at Pump Station #2, and
 - All Utility Maintenance Personnel and Park Maintenance Personnel who are involved with routine work at the Spring Lake Pump Station, the individual City Well Sites, and at the Pinehurst Park Pond Filter Building, at a minimum to include the following positions:
 - Utility Maintenance Supervisor,
 - Assistant Utility Maintenance Supervisor,
 - Truck Driver/Utility Maintenance Persons,
 - Utility Maintenance Persons, and
 - Assistant Wastewater Maintenance Supervisor.
 - Street/Park Department Supervisor,
 - Park Maintenance Person

Other Situations Requiring Respirators (Sandblasting, Spray Painting, Concrete Sawing, Concrete Pipe Sawing, Steel and Steel Pipe Cleaning, and Welding)

➤ **Public Works Department Sandblasting**

During the maintenance and or fabrication of City of Cloquet equipment, it may be necessary to sandblast. During the process of sandblasting, exposure to abrasive sandblast material may occur. Exposure to airborne abrasive materials can be harmful to health unless adequate ventilation is provided and an appropriate respirator is worn while sandblasting.

Required Respirator for Sandblasting

Nova 2000 Continuous Flow Respirator

- Employees will be required to wear the above respirator when sandblasting or whenever an exposure to airborne abrasive sandblast materials are evident.
- These respirators are to be stored and maintained in accordance with acceptable standards and this policy.
- The following employees shall be properly trained and shall be required to use and maintain these respirators in accordance with this policy:
 - All Fleet Services Employees.

➤ **Public Works Department Spray Painting**

There are times that during the process of maintaining various pieces of City of Cloquet equipment, spray painting is necessary. During the process of spray painting, exposure limits for hazardous airborne chemicals and their vapors can occur that are harmful to health. Exposure to such airborne chemicals and vapors require adequate ventilation and the use of an appropriate respirator and also possibly additional eye protection.

Required Respirator for a Spray Painting

3M Model 7500 Half Face Respirator with 6006 Cartridge

- Employees will be required to wear the above respirator when conducting spray painting operations.
- These respirators are to be stored and maintained in accordance with acceptable standards and this policy.
- The following employees shall be properly trained and shall be required to use and maintain these respirators in accordance with this policy:
 - All Fleet Services Employees.

➤ **Concrete Sawing and/or Concrete Pipe Sawing**

In the process of maintaining the City of Cloquet's infrastructure, it may be necessary to saw cut concrete in various forms to facilitate various repairs. In almost all cases, while sawing concrete, a concrete dust will be created that can be harmful to health. Employees sawing concrete and employees exposed to concrete dust environments shall be required to wear an appropriate respirator.

Required Respirator for Concrete Sawing

3M Model 8211 N95 Particulate Respirator

- Employees will be required to wear the above respirator whenever or wherever an exposure to concrete dust is evident.
- These respirators are to be stored and maintained in accordance with acceptable standards and this policy.
- The following employees shall be properly trained and shall be required to use and maintain these respirators in accordance with this policy:
 - All Fleet Services Employees,
 - Utility Department Employees,
 - Street Department Employees,
 - Park Department Employees.

➤ **Public Works Department Pipe and Steel Cleaning**

At various locations within the City of Cloquet, the need to clean the surfaces of dimensional steel and/or steel pipe is required. Such cleaning, particularly with the use of power wire brushes or pneumatic needle scalers can produce an airborne dust that can be harmful to health unless adequate ventilation is provided and an appropriate respirator is worn during the cleaning process.

Required Respirator for a Steel Dust Environment

3M Model 8211 N95 Particulate Respirator

- Employees will be required to wear the above respirator when cleaning metal surfaces or metal pipe with the use of power wire brushes or pneumatic needle scalers.
- These respirators are to be stored and maintained in accordance with acceptable standards and this policy.
- The following employees shall be properly trained and shall be required to use and maintain these respirators in accordance with this policy:
 - All Fleet Services Employees,
 - Utilities Department Employees,
 - Street Department Employees,
 - Park Department Employees.

➤ **Public Works Department Welding**

During the maintenance and or fabrication of City of Cloquet equipment, it may be necessary to weld. Almost all welding procedures, including gas, mig, tig or stick welding, can produce fumes and gasses that may be harmful to health unless adequate ventilation is provided. If during the process of welding, adequate ventilation or exhaust cannot be maintained to an employee's breathing zone, a respirator may be required.

Required Respirator for Welding

3M Model 8212 N95 Particulate Respirator

- Employees will be required to wear the above respirator, or its equivalent, whenever or wherever an exposure to welding fumes is evident.
- These respirators are to be stored and maintained in accordance with acceptable standards and this policy.
- The following employees shall be properly trained and shall be required to use and maintain these respirators in accordance with this policy:
 - All Fleet Services Employees.

Voluntary Respirator Use

The voluntary use of respirators will be permitted provided that industrial hygiene monitoring data or other objective data has demonstrated that respiratory protection is not required and that the use of the respirator will not in itself create a hazard. The City will provide respirators at no charge to employees for voluntary use.

The Program Administrator will provide all employees who voluntarily choose to wear either of the below mentioned respirators with a copy of Appendix D of the standard. (Appendix D details the requirements for voluntary use of respirators by employees.) Employees choosing to wear a full faced respirator must comply with the procedures for Medical Evaluation, Respirator Use, and Cleaning, Maintenance and Storage.

The Program Administrator shall authorize voluntary use of respiratory protective equipment as requested by all other workers on a case-by-case basis, depending on specific workplace conditions and the results of the medical evaluations.

Requirements for the Voluntary use of Dust Masks:

- Employees shall receive information and training as outlined in the Training portion of this procedure.
- Dust masks shall be kept in a clean and sanitary condition prior to use, and disposed of after use.
- All other requirements of this procedure, including medical monitoring and fit testing, do not apply to the voluntary use of dust masks.
- Employees who voluntarily wear filtering facepieces (dust masks) are not subject to the medical evaluation, cleaning, storage and maintenance provisions of this program.

Requirements for the Voluntary use of Respirators other than Dust Masks:

- Employees shall receive information and training as outlined in the Training portion of this procedure.
- A medical evaluation shall be done as outlined in this procedure.
- Respirators shall be kept in a clean and sanitary condition as outlined in the Maintenance and Care section of this procedure.
- All other requirements of this procedure, including fit testing, do not apply to the voluntary use of dust masks.

Medical Evaluations

Employees who are required to wear respirators, including filtering facepieces (dust masks), must pass a medical exam before being permitted to wear a respirator on the job.

Employees are not permitted to wear respirators until a physician has determined that they are medically able to do so. Any employee refusing the medical evaluation will not be allowed to work in an area requiring respirator use.

NOTE: Employees who voluntarily wear filtering dust masks (3M 8210 and 3M 8211 Particle Respirators) are not subject to the medical evaluation, cleaning, storage and maintenance provisions of this program.

- A licensed physician at the Raiter Clinic, where all company medical services are provided, will conduct the required medical evaluations. Medical evaluation procedures are as follows:
- The medical evaluation will be conducted using the questionnaire provided in **Appendix C** of the respiratory protection standard. The Program Administrator will provide a copy of this questionnaire to all employees requiring medical evaluations.
- All affected employees will be given a copy of the medical questionnaire to fill out, along with a stamped and addressed envelope for mailing the questionnaire to the City's physician.
- Follow-up medical exams will be granted to employees as required by the standard, and/or as deemed necessary by the City's medical clinic physician.
- All employees will be granted the opportunity to speak with the physician about their medical evaluation, if they so request.
- The Program Administrator has provided the City's medical clinic physician with a copy of this program, a copy of the Respiratory Protection standard, the list of hazardous substances by work area, and for each employee requiring evaluation: his or her work area or job title, proposed respirator type and weight, length of time required to wear respirator, expected physical work load (light, moderate, or heavy), potential temperature and humidity extremes, and any additional protective clothing required.
- Any employee required for medical reasons to wear a positive pressure air purifying respirator will be provided with a powered air purifying respirator.
- After an employee has received clearance and begun to wear his or her respirator, additional medical evaluations will be provided under the following circumstances:
 - Employee reports signs and/or symptoms related to their ability to use a respirator, such as shortness of breath, dizziness, chest pains, or wheezing.
 - The City's medical clinic physician or an employee's supervisor informs the Program Administrator that the employee needs to be reevaluated;
 - Information from this program, including observations made during fit testing and program evaluation, indicates a need for reevaluation;
 - A change occurs in workplace conditions that may result in an increased physiological burden on the employee.

A list of Cloquet Public Works employees currently included in medical surveillance is provided in **Appendix C** of this program.

All examinations and questionnaires are to remain confidential between the employee and the physician.

Fit Testing

All employees whose job classification may require them to wear a respirator(s) shall obtain annual fit testing for each respirator that may be used.

Fit testing is not required for employees who voluntarily use respirators.

Fit testing may not be completed before an employee is medically approved to wear a respirator, as outlined in this procedure.

Facial Hair. Employees covered under this program that wear respirators as part of their job are required to remove all facial hair such as beards, sideburns and mustaches that could interfere with the proper seal of the respirator.

Fit testing shall be completed:

- Prior to the initial use of each type of respirator a user may wear;
- Whenever a different size or make of respirator is used;
- Whenever an employee reports, or the Occupational Health Specialist, supervisor, or Program Administrator makes visual observations of, changes in the employee's physical condition that could affect respirator fit.
- Such conditions include, but are not limited to, facial scarring, dental changes, cosmetic surgery, or an obvious change in body weight; and
- Annually thereafter.

Whenever an employee notifies their supervisor the fit of a respirator is unacceptable, they shall be given the opportunity to select a different respirator face piece and be re-tested.

Quantitative fit testing shall be used for all respirators.

Fit testing shall be in accordance with the following and the Checklist for Fit Testing outlined in **Appendix A**.

Prior to each use of a respirator, the user shall perform a Negative and Positive Seal Check as listed below to ensure a good face piece seal.

Positive Seal Check - Close off the exhalation valve and exhale gently into the face piece. The exhalation valve cover may have to be removed. The Seal Check is considered good if a slight positive pressure can be built up in the face piece of the respirator.

Negative Seal Check - Close off the inlet opening of the canister or cartridge(s) by covering with the palm of the hand (s). Inhale gently so that the face piece collapses slightly, and hold the breath for ten seconds. If the face piece remains in its slightly collapsed condition and no inward leakage of air is detected, the seal check is considered good.

Maintenance and Care of Respirators

Respirators shall be cleaned and disinfected after each use according to the following:

- **3M 8210 Disposable Particulate Respirator (Dust Mask)** - Shall be disposed of after each day's or shift's use or sooner if it becomes difficult to breath through the mask.
- **3M 8211 Disposable Particulate Respirator (Dust Mask)** – If the respirator becomes damaged, soiled, or breathing becomes difficult through the mask, the respirator shall be disposed of.

- **3M 8212 Disposable Particulate Welding Respirator:** If the respirator becomes damaged, soiled, or breathing becomes difficult through the mask, the respirator shall be disposed of.
- **3M 6800 Series Full Face Reusable Respirators:** The 3M 6800 respirator shall be inspected on a regular basis and before each use. Replace worn or damaged parts immediately. Following use, it shall also be cleaned, inspected and disinfected prior to storage. Disassemble by removing the filters, nose cup, centre adapter, lens, head straps and face seal.
- **3M 6800 Facemask and Lens:** Clean and sanitize the mask (excluding the filters) using 3M 105 Face Seal Cleaner (or approved equal), or upon removing the cartridges/filters, disinfect the respirator by immersing the facepiece for approximately ten minutes in a solution of one gallon of clean water and two tablespoons of bleach. Rinse thoroughly with fresh, warm clean water and air-dry in non-contaminated atmospheres. **WARNING!** Water temperature should not exceed 50 degree C or 122 degree F. Do not use cleaning agents that contain lanolin or other oils. The lens is polycarbonate with an abrasion resistant coating but abrasive cleaners and some solvents may damage it. Avoid using acetone, methyl ethyl ketone, toluene, methylene chloride or other strong solvents.
- **3M 7500 Series Half Face Reusable Respirators:** The 3M 7500 respirator shall be inspected on a regular basis and before each use. Replace worn or damaged parts immediately. Following use, it shall also be cleaned, inspected and disinfected prior to storage. Disassemble by removing the filters, nose cup, centre adapter, lens, head straps and face seal.
- **3M 500 Facemask and Lens:** Clean and sanitize the mask (excluding the filters) using 3M 105 Face Seal Cleaner (or approved equal), or upon removing the cartridges/filters, disinfect the respirator by immersing the facepiece for approximately ten minutes in a solution of one gallon of clean water and two tablespoons of bleach. Rinse thoroughly with fresh, warm clean water and air-dry in non-contaminated atmospheres. **WARNING!** Water temperature should not exceed 50 degree C or 122 degree F. Do not use cleaning agents that contain lanolin or other oils. The lens is polycarbonate with an abrasion resistant coating but abrasive cleaners and some solvents may damage it. Avoid using acetone, methyl ethyl ketone, toluene, methylene chloride or other strong solvents.
- **Nova 2000 Continuous Flow Reusable Respirator:** The Nova 2000 respirator shall be inspected on a regular basis and before each use. Replace worn or damaged parts immediately. Following use, it shall also be cleaned and inspected again prior to storage.
 - **Helmet and Linings:** The helmet linings can be removed and sponged with warm water and a gentle detergent, then air dried. **Do not clean respirator with volatile chemicals.** Before reassembly, inspect once again for any signs of damage. **NOTE:** the leather cape must be cleaned with an approved leather cleaner.
 - **Lenses and Window Frame Gasket:** Make sure the inner lens fits securely into rubber window frame gasket, fit the outer lens onto the visor, check the window frame gasket for splits, check the visor hinge for cracks. Replace any damaged or worn parts.
 - **Breathing Tube Assembly:** Inspect the breathing tube for cracks or excessive wear. Check that the fittings are secured into the hose tightly and are not allowing any air to escape. Replace the hose as soon as signs of damage or excessive wear become evident. Do not remove the foam that is inside the breathing tube as this helps reduce the noise levels of the incoming air. **WARNING!** Air leaks will cause a drop in air flow through the respirator helmet resulting in less protection from contaminants.
 - **Air Supply Hose:** The air supply hoses should be inspected for cuts, cracks, blisters and signs of abrasion. Make sure the fittings are tightly crimped to the hose so that air cannot escape. Make sure the hose has not been crushed or kinked. Replace the hose immediately if there are any signs of damage. Do not run water through the inside of the hose. Check the Quick Disconnect Couplings and blow down with a duster gun to remove any sand or dirt that may jam the coupler. **WARNING!** Use only hoses approved by NIOSH for use with this respirator.

- **Storage:** After the respirator components have been cleaned and inspected, place them in a plastic bag or an airtight container. Store respirator parts away from excessive heat, dust, cold, moisture or harmful chemicals. After use hang the respirator up by the hand strap. This will help keep the inside of the helmet free of contaminants.

Respirator Inspection

- All respirators used in non-emergency circumstances shall be inspected before and after each use and during cleaning.
- All respirators maintained for emergency situations shall be inspected monthly and before and after each use.
- Repairs shall only be made according to the manufacturer's recommendations.

Respirator Storage

- **All Respirators** shall be stored in a location that protects them from damage, dust, sunlight, extreme temperatures, excessive moisture or damaging chemicals.
- **Dust Masks or Disposable Respirators** shall be maintained in the original containers until used or in a plastic bag or an airtight container. Disposable respirators that may be reused should be inspected after each use and if any signs soiling or damage appear they shall be disposed of and not reused.
- **Reusable Respirators** - After reusable respirator components have been cleaned and inspected, place them in a plastic bag or an airtight container. Store respirator parts away from excessive heat, dust, cold, moisture or harmful chemicals.

Training

Respiratory Protection training shall be provided prior to an employee wearing a respirator.

Refresher training shall be provided at least annually and whenever there are any significant changes in the workplace or the type of respirator which would render the training obsolete. Retraining must also be provided when there are noted inadequacies in an employee's respirator training.

Respiratory Protection training shall at a minimum contain the following:

- Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator.
- What the limitations and capabilities of the respirator are.
- How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions.
- How to inspect, put on and remove, and check the seals of the respirator.
- The maintenance and storage procedures discussed in this procedure.
- How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators, and
- An overview of this procedure.

Voluntary users of respirators must be provided with a copy of the information contained in **Appendix D** of this standard at least annually.

A full copy of Section 1910.134 Respiratory Protection Regulations may be downloaded from the OSHA web site www.osha.gov, or by opening the following link:

http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=12716

VI. Recordkeeping

Compliance Recordkeeping

The OSHA Respiratory Protection Standard requires that accurate records of the following respiratory protection program activities are kept:

- Inspection dates and findings for respirators maintained for emergency use.
- Medical evaluations.
- Fit testing.

You will find forms on which to record this information in the “Attachments” section of the “Written Program.”

Training Recordkeeping

The OSHA standard also requires that accurate records are kept of all respiratory protection training activities, identifying the types of training provided for each participant. You will find a Respiratory Protection Training Record, which you can use for this purpose, in the “Attachments” section of the “Written Program.”

Attachments

- | | |
|-------------------|--|
| Appendix A | Checklist For Fit Testing |
| Appendix B | Respiratory Equipment, Intended Use, Limitations and Change-out Schedule |
| Appendix C | (Attachment 1) List of Public Works Employees included in Medical Surveillance (Evaluation) Program |
| | (Attachment 2) Checklist for Respirator Protection Program Evaluation |
| | (Attachment 3) Employee Qualitative Fit Testing Form |
| | (Attachment 4) Respirator Medical Evaluation Questionnaire |
| Appendix D | Information for Employees Who Voluntarily Use Respirators (Portion of Section 1910.134 of OSHA Respiratory Standard) |

Appendix A

Checklist For Fit Testing

Respirator Fit Testing shall take place in accordance with the appropriate section of this Program. The following is a check list to assist in this process.

- ✓ Employees who are using tight-fitting respirator facepieces have passed an appropriate fit test prior to being required to use a respirator.
- ✓ Fit testing is conducted with the same make, model, style and size that the employee will be expected to use at the worksite.
- ✓ Fit tests are conducted annually and when different respirator facepieces are to be used.
- ✓ Provisions are made to conduct additional fit tests in the event of physical changes in the employee that may affect respirator fit.
- ✓ Employees are given the opportunity to select a different respirator facepiece, and be retested if their respirator fit is unacceptable to them.
- ✓ Fit tests are administered by a qualified person using OSHA-accepted QNFT or QLFT protocols.
- ✓ QLFT is only used to fit test either PAPRs or negative pressure APRs that must achieve a fit factor of 100 or less.
- ✓ When QNFT is used to fit negative pressure respirators, a minimum fit factor of 100 is achieved for tight-fitting half facepieces and 500 for full facepieces.

For tight-fitting atmosphere-supplying respirators and powered air-purifying respirators:

- ✓ Fit tests are conducted in the negative pressure mode.
- ✓ QLFT is achieved by temporarily converting the facepiece into a negative pressure respirator with appropriate filters, or by using an identical negative pressure APR.
- ✓ QNFT is achieved by modifying the facepiece to allow for sampling inside the mask midway between the nose and mouth. If the facepiece is permanently converted during fit testing, the respirator is no longer approved for workplace use.

Appendix B

Respiratory Equipment, Intended Use, Limitations and Change-out Schedule

- 1.0 3M 8210 N95 Particulate Respirator** – The 3M 8210 is a classic low cost disposable particulate respirator (often times referred to as a Dusk Mask) designed to help provide respiratory protection against certain non-oil based particles.

Suggested Applications: Grinding, Sanding, Sweeping, Lead Abatement and other dusty operations. Can also be used to help reduce inhalation of certain airborne biological particles like mold.

Limitations: Do not use for gases, vapors, including those present in paint spraying operations, oil aerosols, asbestos, sandblasting or oxygen deficient atmospheres. Not really intended or recommended for concrete sawing or exposure to concrete dust environments.

Change-Out Schedule: Shall be disposed of after each day's or shift's use or sooner if it becomes damaged or breathing becomes difficult through the mask.

- 2.0 3M 8211 N95 Particulate Respirator** – The 3M 8211 is also a particulate respirator (often times referred to as a Dusk Mask) designed to help provide respiratory protection against certain non-oil based particles similar to the 3M 8210, however, it is more suited for work settings that involve heat, humidity, or longer periods of wear. This mask includes a one-way Exhalation Valve that offers easy exhalation and cool, dry comfort.

Suggested Applications: Grinding, Sanding, Sweeping, **Concrete Sawing (or exposure to Concrete Dust environments)**, Lead Abatement and other dusty operations. Can also be used to help reduce inhalation of certain airborne biological particles like mold.

Limitations: Do not use for gases, vapors, including those present in paint spraying operations, oil aerosols, asbestos, sandblasting or oxygen deficient atmospheres.

Change-Out Schedule: If the respirator becomes damaged, soiled or breathing becomes difficult through the mask, it should be disposed of.

- 3.0 3M 8212 N95 Particulate Respirator** - The 3M 8212 is also a particulate respirator designed for applications such as welding, soldering and other operations where metal fumes may be present.

Suggested Applications: **Welding, Brazing, Soldering, Torch Cutting**, as well as Grinding, Sanding, Sweeping, Cement Cutting (or exposure to Concrete Dust environments) and other dusty/hot operations.

Limitations: Do not use for gases, vapors, including those present in paint spraying operations, oil aerosols, asbestos, arsenic, cadmium, lead, sandblasting or oxygen deficient atmospheres

Change-Out Schedule: If the respirator becomes damaged, soiled or breathing becomes difficult through the mask, it should be disposed of.

- 4.0 3M 6800 Full Face Respirator with 6003 Organic Vapor/Gas Cartridge (Used for Chlorine Gas Atmospheres)** - The 3M 6800 Respirator is a reusable full face mask respirator, which uses a broad range of replaceable twin filter cartridges to protect against certain organic vapors and particulates depending on specific needs. **For exposure to Chlorine Gas Atmospheres, the 6003 Cartridge is required for use with this respirator.** This respirator is available in three sizes and must be quantitatively fit tested to the individual user.

Suggested Applications: When properly fitted, this respirator protects against certain organic vapors, Chlorine, Hydrogen Chloride, Sulfer Dioxide, or **Hydrogen Fluoride** at concentrations up to 50 times the Permissible Exposure Limit (PEL).

Limitations: Not for use in environments that are Immediately Dangerous to Life or Health (IDLH).

Change-Out Schedule: If the respirator or cartridges become damaged, soiled or breathing becomes difficult through the mask, they should be disposed of. Filter cartridges shall be disposed of as outline in the manufactures instructions that are provided with the respirator. Cartridge life is dependant on exposure limits, humidity, temperature and work load. Change cartridge earlier if taste, smell or irritation from the contamination is detected.

- 5.0 3M 7500 Half Face Respirator with 6006 Organic Vapor/Gas Cartridge (Used for Spray Painting) -** The 3M 7500 Respirator is a reusable full face mask respirator, which uses a broad range of replaceable twin filter cartridges to protect against certain organic vapors and particulates depending on specific needs. **For exposure to Spray Painting Fumes, the 6006 Cartridge is required for use with this respirator.** This respirator is available in three sizes and must be quantitatively fit tested to the individual user.

Suggested Applications: When properly fitted, this respirator protects against certain organic vapors, Chlorine, Hydrogen Chloride, Sulfur Dioxide, Ammonia, Methylamine, Formaldehyde or Hydrogen Fluoride at concentrations up to 50 times the Permissible Exposure Limit (PEL).

Limitations: Not for use in environments that are Immediately Dangerous to Life or Health (IDLH).

Change-Out Schedule: If the respirator or cartridges become damaged, soiled or breathing becomes difficult through the mask, they should be disposed of. Filter cartridges shall be disposed of as outline in the manufactures instructions that are provided with the respirator. Cartridge life is dependant on exposure limits, humidity, temperature and work load. Change cartridge earlier if taste, smell or irritation from the contamination is detected.

- 6.0 Nova 2000 Continuous Flow Respirator (Used for Sandblasting) –** the Nova 2000 is a supplied air respirator that is specifically designed for use during Abrasive Blasting and Type C and Type CE painting applications. The cape is designed to protect the wearer’s upper body from rebounding abrasive.

Suggested Applications: Abrasive Sand Blasting and Type C and Type CE painting applications.

Limitations: Not for use in environments that are Immediately Dangerous to Life or Health (IDLH). Do not use abrasives containing silica, lead, arsenic or sharp glass particles.

Change-Out Schedule: The Nova 2000 respirator and/or certain parts have a limited service life, and therefore its proper use shall include a regular inspection, maintenance and replacement program in accordance with this Policy and the manufacturer’s instructions. Worn or damaged parts shall be replaced immediately.

Appendix C – Attachment 1

The following employee positions within the Public Works Department shall be included in the Medical Surveillance (Evaluation) Program and shall be required to use and maintain these respirators in accordance with this policy:

- All Pumphouse Operators working at Pump Station #2, and
- All Utility Maintenance Personnel and Park Maintenance Personnel who are involved with routine work at the Spring Lake Pump Station, the individual City Well Sites, and at the Pinehurst Park Pond Filter Building, at a minimum to include the following positions:
 - Utility Maintenance Supervisor,
 - Assistant Utility Maintenance Supervisor,
 - Truck Driver/Utility Maintenance Persons,
 - Utility Maintenance Persons, and
 - Assistant Wastewater Maintenance Supervisor.
 - Street/Park Department Supervisor,
 - Park Maintenance Person

Appendix C – Attachment 2

Checklist For Respirator Protection Program Evaluation

The Respirator Protection Program shall be reviewed, re-evaluated and modified as necessary to make sure that the written program is working effectively.

The frequency with which the program needs to be evaluated will depend on the complexity and/or variability of the program and factors such as:

- The type and extent of the hazards in the workplace. (Has a new process or hazard been observed or introduced?)
- The types of respirators used by the employees. (Has a different type or model of respirator been selected for use by the employees?)
- The number of employees who use respirators.
- The amount of experience the respirator-wearing employees have in using respirators.

Respirator use must be evaluated with sufficient frequency to ensure that all elements of the respirator protection program are being effectively implemented.

Consulting With Employees

The program supervisors and administrator must regularly consult with employees required to wear respirators to assess their views on the effectiveness of the respiratory protection program and to identify any problems that they may be encountering with the use of respirators. This process is intended to correct any problems that are identified and at a minimum must assess:

- Whether proper fit of respirators is being achieved, and whether respirator use is interfering with effective work performance.
- Whether appropriate respirators have been selected.
- Whether respirators are being properly used.
- Whether respirators are being properly maintained.

When Consulting With Employees The Following Questions Should Be Asked:

- Does your respirator interfere with your hearing or vision?
- Do you experience fatigue or have difficulty breathing during respirator use?
- Does your respirator restrict your movement or interfere with your job performance in any way?
- Is your respirator uncomfortable?
- Are you confident that you are using your respirator correctly?
- Are you confident that your respirator is performing adequately?



DEPARTMENT OF PUBLIC WORKS

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Appendix C – Attachment 3

**Respiratory Protection Program
 Respirator Fit Test Record**

A.	Employee:					Date:				
	Employee No:									
	Employee Job Title/Description:									
B.	Employer:									
	Location/Address:									
C.	Respirator Selected:									
	Manufacturer:									
	NIOSH Approval Number:									
	Model:									
D.	Conditions which could affect respirator fit:									
	Clean Shaven					Facial Scar				
	1-2 Day Beard Growth					Dentures Absent				
	2+ Days Beard Growth					Glasses				
	Moustache					None				
	Comments:									
E.	Fit Checks:									
	Negative Pressure		Pass		Fail		Not Done			
	Positive Pressure		Pass		Fail		Not Done			
F.	Fit Testing:									
	Quantitative		Fit Factor							
	Qualitative		Isoamyl Acetate				Irritant Smoke			
			Pass		Fail		Pass		Fail	
	Comments:									
G.	Employee acknowledgement of test results:									
	Employee Signature:					Date:				
	Test Conducted By:					Date:				

DISCLAIMER

The above respirator fit test was performed on and by the persons listed. The results indicate the performance of the listed respiratory protective device, as fitted on the employee named on this record under controlled conditions. Fit testing as performed measures the ability of the respiratory protective device to provide protection to the individual tested. Viking Industrial Center or the Test Conductor express or imply no guarantee that this or an identical respiratory protective device will provide adequate protection under conditions other than those present when this test was performed. Improper use, maintenance, or application of this or any other respiratory protective device will reduce or eliminate protection.

Appendix D

Appendix D - To OSHA Section 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's 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 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 designated 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.

[63 FR 1152, Jan. 8, 1998, April 23, 1998]