

Respiratory Protection Program

The City of Mount Pearl is committed to promoting the health, safety and well-being of our employees, visitors, and contractors. The respiratory program is developed to protect our employees and anyone who is exposed to a hazardous environment which may have an adverse effect on the person's health. *The Occupational Health and Safety Regulations Section 84, 85 & 86* and the *Canadian Standards Association (CSA) Standard Z94, "Selection, Use and Care of Respirators"* were consulted for the requirements and standards in developing this program.

The Respiratory Protection Program includes the following elements:

- Roles & Responsibilities
- Respirator Selection
- Fit Testing and Training
- Respirator Use and Inspection
- Cartridge Change out
- Program Evaluation

1.0 Scope

Respiratory Protection shall be used to protect employees from hazardous atmospheres when engineering and administrative control measures are not practicable, or not adequate. Employees are required to use respirators to prevent them from inhaling hazardous chemicals from the air. These chemicals can be in the form of gases, vapors, mist or dust. To provide proper protection, respirators must be of the right type, must be worn correctly at all times, and must be maintained properly. The respirator wearer must ensure that they follow the provisions of this program.

2.0 Definitions

- **Fit Factor**- A quantitative measure of the fit of a particular respirator to a particular individual.
- **Fit Test**- the use of a qualitative or quantitative method to evaluate the fit of a specific make, model, and size of respirator on an individual.
- **Hazardous Atmosphere**- any atmosphere that is oxygen deficient, exceeds certain occupational exposure limits, presents a fire/explosion hazard, and/or contains an airborne toxic contaminant in concentrations deemed to be hazardous.

- **Qualified Person**- an individual who possesses the knowledge, experience, and training to fulfill the competencies of the roles required.
- **Qualitative Fit Test**- pass/fail test method that relies on the person's sensory response to detect a challenge agent in order to assess the adequacy of respirator fit. The respirator wearer uses their senses to detect any leakage of the test agent into the face piece.
- **Respirator**- a device to protect the user from inhaling a hazardous atmosphere.
- **Supervisor**- the employer or a person assigned by the employer having authority for the respirator user and control over the workplace.
- **Tight-fitting Facepiece**- A respirator inlet covering that forms a complete seal with the face. Half-face respirator which covers the user's nose and mouth and under the chin.
- **Type P Particulate Filter**- NIOSH classification for particulate filter effective against all particulate aerosols.
- **User Seal Check**- an action conducted by the respirator user to determine if the respirator is properly sealed to the face.
- **Administrative Controls**- controls that alter the way the work is done, including timing of work, policies and other rules, and **work practices** such as standards and operating procedures (including training, housekeeping, and equipment maintenance, and personal hygiene practices).
- **Engineering Controls**- designs and modifications to equipment, ventilation systems, and processes that reduce the source of exposure.

3.0 Roles and Responsibilities

Supervisor will ensure:

- Respirators are cleaned, sanitized, inspected, maintained, and stored in accordance with the written instructions and manufacturer's recommendations;
- Oversee the implementation of the respiratory program and evaluate the program regularly to ensure procedures are followed and appropriate training is received;
- Monitor the use of respirators on a regular basis to ensure that respirators are worn properly and are in good working condition. If there are any problems with the respirators it shall be documented and plans to correct them implemented.
- Used in accordance with the instructions, training, & any procedures established;
- Users maintain their required clean-shaven condition, and do not have any object or materials that would interfere with the seal; and
- Notify OHS Officer with any changes in processes, equipment or procedures that could impact the Respiratory Protection Program.
- Ensure staff are fit tested every two years prior to expire and documented.

Employee/Respirator user will ensure:

- Maintain the required clean-shaven condition, and refrain from having any object or material that would interfere with the seal of the respirator;
- Check to ensure that the respirator is clean and in good operating condition prior to each use;
- Perform a negative and/or positive pressure seal check after donning of the respirator & cartridges;
- Remove respirator/cartridges that is defective or leaking;
- Use the respirator in accordance with the written instructions and training received;
- Participate in training and annual fit testing provided by the employer.

Occupational Health and Safety Officer will ensure:

- Develop the Respiratory Protection Program & Policy;
- Ensure all appropriate personnel have been assigned the defined roles;
- Review Respiratory Protection Program annually to assess the effectiveness of all elements as they apply to legislation and standards.

4.0 Respirator Selection

Through evaluating the use of chemicals and hazards, half-face and full-face air-purifying tight-fitting respirators have been chosen for the City of Mount Pearl. These are respirators with an air-purifying filter/cartridge that removes specific air contaminants by negative pressure that is created inside the respirator face piece when the user inhales. The air-purifying respirator that has been selected removes potential gas, vapors, and particulate matters (solids such as dust). Respirators approved by the National Institute for Occupational Safety and Health (NIOSH) shall be used only.

Hazard Assessment

Employee Activity	Chemicals/Contaminants/ Hazards Present	Skin or Eye Absorption and Irritation	Approved Respirator	When Worn
SUMMIT Adding chemicals into the pool (liquid, vapour, particulate)	Chlorine, sodium bicarbonate, calcium chloride, aquabrite, algamycin	Corrosive, eye irritant, skin irritant	3M Half Face respirator 6200 Cartridge 60923 100 series (particulates, organics and acid gases)	At all times
Checking of the chlorine tank	Chlorine	Skin and eye irritant	3M Half Face respirator 6200 Cartridge 60923 100 series (particulates, organics and acid gases)	At all times
Maintain water chemistry in pool	Hydraulic Acid	Corrosive, irritation, serious eye damage/irritant	3M Half Face Respirator Model 6100 and 6200 or	At all times

			3M Full Face Respirator Model 6700 or 6800	
Maintenance on filter	Perlite	Skin and eye irritant	3M Half Face Respirator Model 6100 and 6200 or 3M Full Face Respirator Model 6700 or 6800	At all times
Repairing structure of swimming pool	Concrete Dust	Skin, eye, nose and throat irritant	3M Half Face Respirator Model 6100 and 6200 or 3M Full Face Respirator Model 6700 or 6800	At all times
Repairing railings and other pool equipment	Welding Fumes	Eye, skin burns and inhalation	3M Half Face Respirator Model 6100 and 6200 or 3M Full Face Respirator Model 6700 or 6800	During welding work
Maintenance	Metal particles from zip disc cuts	Eye and skin irritants	3M Half Face Respirator Model 6100 and 6200 or 3M Full Face Respirator Model 6700 or 6800	At all times
General pool maintenance	Wood dust	Eye and skin irritant	3M Half Face Respirator Model 6100 and 6200 or 3M Full Face Respirator Model 6700 or 6800	At all times
Pool water maintenance	Commercial strength Bleach 12% sodium hypochlorite	Eye, skin, throat and respirator irritant	3M Half Face Respirator Model 6100 and 6200 or 3M Full Face Respirator Model 6700 or 6800	At all times
Pool maintenance	Glues and adhesives	Eye, skin irritant	3M Half Face Respirator Model 6100 and 6200 or 3M Full Face Respirator Model 6700 or 6800	At all times
Welder	Particulates Fumes	Eye, skin burns, inhalation	N95 P100 Series	During welding operation

GLACIER Maintenance on mechanical refrigeration systems	Ammonia	Eye, skin irritant	3M 6000 Series Full Face Respirator Model #'s 6800 and 6900	While working with Ammonia
---	---------	--------------------	---	----------------------------

IPW (Mechanics) While welding and painting equipment	Welding and painting fumes	Eye, skin and respiratory irritant	Honeywell 5400 series (54001) Full Face Respirator	While welding and painting
--	----------------------------	------------------------------------	--	----------------------------

IPW (UTM) Maintenance on underground piping	Asbestos	Eye, Skin, inhalation, ingestion irritant	Advantage Respirator 200 LS - Half Mast	While working with Asbestos
Conducting work underground	Vibrations (Traffic), toxic fumes from exhaust systems	Eye, and respiratory system irritant	Advantage Respirator 200 LS - Half Mast	While working in trenches
While working outside	Rain	Eye, skin irritant when mixed with toxic pipe contents	Advantage Respirator 200 LS - Half Mast	While working on pipes underground
Could seep into soil around work site	Cleaning chemicals (ex: Mr. Clean, Liquid Drain-O)	Eye, skin and respiratory irritant	Advantage Respirator 200 LS - Half Mast	Performing maintenance on pipe
Maintenance on pipe, could spill and go into soil	Gasoline/Oil	Eye, skin and respiratory irritant	Advantage Respirator 200 LS - Half Mast	Performing maintenance on pipes
Maintenance on sewer systems, city drains	Old Grass	Eye, Skin and respiratory irritant	Advantage Respirator 200 LS - Half Mast	Performing maintenance on pipe and sewer systems
Doing work on pipes and sewer systems	Ammonia	Skin and Eye irritant	Advantage Respirator 200 LS - Half Mast	At all times
Maintenance on pipes	Particulates from cutting pipes	Eye and respirator irritant	Advantage Respirator 200 LS - Half Mast	At all times
Maintenance on pipes	Ice Removal Salt	Eye, skin and respirator irritant	Advantage Respirator 200 LS - Half Mast	During maintenance
Maintenance on pipes	Fumes	Eye, and respirator irritant	Advantage Respirator 200 LS - Half Mast	While performing maintenance
Maintenance work	Dust	Eye and respirator irritant	Advantage Respirator 200 LS - Half Mast	Performing maintenance work

Repair/maintenance on piping and sewer system	Wet/Unstable soil	Eye, skin and respirator irritant	Advantage Respirator 200 LS - Half Mast	Maintenance work
---	-------------------	-----------------------------------	---	------------------

City of Mount Pearl Planners	Sand Blasting or clear coating vehicles	Eye, Skin and respirator irritant	3M Series 6100 – Half Face	Inspecting work
-------------------------------------	---	-----------------------------------	----------------------------	-----------------

5.0 Respirator Fit Testing and Training

The City of Mount Pearl will provide all required staff with an initial fit test and then every two years. If the employee has a noticeable weight change, if getting a seal on the respirator becomes a problem, workplace conditions change, or a new type of respirator is purchased then the employee will be required to participate in a fit test.

All employees will be tested using the qualitative fit test method. At this time the employee will also receive training covering the following;

- Importance of the respirator and how improper fit, usage, or maintenance can compromise the protective effect of the respirator
- Limitations and capabilities of the respirator
- Inspection, wear and use, and how to check the seals of the respirator
- Procedures for maintenance and storage

6.0 Respirator Use

Employees will not be allowed to wear respirators if they have facial hair, or other facial features that prohibits the face piece seal or proper valve function. They negate the effectiveness of the respirator because they prevent an adequate seal between the respirator and the face. Safety goggles shall not interfere with the seal of the face piece to the face. If the users safety goggles does interfere with the fit of the respirator the user will be required to wear the full splash proof face shield. Employees must ensure that a seal check is performed before each use.

Employees will leave the area where respirators are required for any of the following reasons;

- Replace filter or cartridge
- When they smell or taste a chemical inside the respirator
- Notice a change in breathing resistance
- To adjust respirator
- Wash face or respirator
- If they become ill, experience dizziness, nausea, weakness etc.

7.0 Respirator Storage, Cleaning, Maintenance and Repair

Respirators will be stored, cleaned, and maintained according to the manufacture recommendations and the training provided to the employee.

8.0 Cartridge Change out

Cartridges should be dated when opened and replaced based on the manufacturers recommendations. If the manufacturer has no recommendations, change out should occur based on an estimated length of service (i.e. 6 months) or:

- When requested by employee
- When contaminate odor is detected
- When airflow is restricted or an increase in effort by user to breathe normally

Stock of spare cartridges shall be maintained by the Supervisor to allow immediate change when required by the employee.

9.0 Health Surveillance

Respirator wearers must be physically fit due to the extra stress on the respiratory and cardiovascular systems. Depending on the person's fitness or ability, a medical questioner shall be completed before fit testing to wear a respirator. This questioner could be supplied by the fit test provider or the City of Mount Pearl.

10.0 Documentation/Records

All documentation records for the Respiratory Protection Program shall be maintained by the Supervisor and the OHS Officer.

1. Medical Questionnaire
2. Respiratory Fit Test Record
3. Seal Check Procedure
4. Respirator Training Record
5. Training Handouts

11.0 Program Evaluation

An annual review will be conducted to assess the program's effectiveness. Any recommendations shall be considered for implementation and followed up for effectiveness.

12.0 Related Documents

- Respiratory Protection Policy
- Appendix A Medical Questionnaire
- Appendix B Respiratory Fit Test Record
- Appendix C Seal Check Procedure
- Appendix D Training Records

1.0 Approvals



Steve Kent, Chief Administrative Officer

March 7, 2019

Date