

<b>POLICY TITLE</b>	Respirator Program
<b>CATEGORY</b>	Human Resources
<b>POLICY NUMBER</b>	A09 HRM 018
<b>DEPARTMENT</b>	Corporate Services
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## **POLICY STATEMENT**

A respirator program is necessary to ensure staff required to use respirators are adequately trained in the selection, use and care of respirators.

People: To actively engage, inform and create opportunities for people to participate in community building – making Cambridge a better place to live, work, play and learn for all.

Goal #1 – Community Wellbeing

Objective 1.1 Work with partners to create a safe, inclusive and accessible city.

## **PURPOSE**

To ensure measures are taken to protect workers from exposure to contaminants in the workplace.

## **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 (examples include: N95, half-mask and full-face respirators).

Assigned protection factor: The anticipated level of respiratory protection that would be provided by a properly functioning respirator or class of respirators to properly fitted and trained users.

IDLH (immediately dangerous to life or health) atmosphere: An atmosphere that poses an immediate threat to life or that will cause irreversible adverse health effects or impair a worker's ability to escape from the environment.

Maximum use concentration: The maximum concentration of an airborne designated substance that a respirator can be expected to protect a worker using the respirator from.

Powered air-purifying respirator: An air-purifying respirator that, by means of a powered blower worn by the user, passes ambient air through an air-purifying element and then supplies purified air to a helmet, hood, facepiece or visor worn by the user.

Qualitative fit test: A test method set out in Annex B of CSA Standard CAN/CSA-Z94.4-18, Selection, Use and Care of Respirators (September 2018).

Quantitative fit test: A test method set out in Annex C of CSA Standard CAN/CSA-Z94.4-18, Selection, Use and Care of Respirators (September 2018).

Supplied air respirator (includes self-contained breathing apparatus – SCBA): A respirator and air supply hose with a hood or helmet, a tight-fitting facepiece, or a loose-fitting facepiece or visor, that is supplied with compressed breathing air from a compressed breathing air system.

## **AUTHORITY**

Corporate Health and Safety Manual, Personal Protective Equipment Procedure;  
Occupational Health & Safety Act Sections 25(1)(a)to(d), 27(1) & 28(1)(b);  
Industrial Reg. 851, Section 79, 127 & 130;  
Control of Exposure to Biological or Chemical Agents Ont. Reg. 833;  
CSA Z94.4-02 Selection, Use and Care of Respirators.

## **SCOPE**

This program pertains to all employees required to wear respiratory protection including, but not limited to, fire suppression, waste water, pools maintenance.

## **POLICY**

### **Respirator Program**

This program shall consist of the following elements:

- a. Selection of Respirators;
- b. Hazard Identification and Control;
- c. Fit Testing;
- d. Record Keeping;

- e. Cleaning, Inspection, Maintenance and Storage;
- f. Employee Training;
- g. Medical Surveillance.

## **Procedure**

### **Selection of Respirator:**

Respirator selection and use shall be based on the hazards to which workers are exposed and in accordance with all applicable legislation and standards.

### **Hazard Identification and Control**

A Job Hazard Assessment (JHA) will be conducted by the department for each operation, process, or work area where airborne contaminants may be present in routine operations or during an emergency. A Standard Operating Procedure (SOP) will be developed by the department to address the hazards identified by the JHA.

The job hazard assessment may include, but not limited to:

- a. Review of work processes to determine where potential exposures to hazardous substances may occur;
- b. Review of MSDS sheets, consultation with an Industrial Hygienist, and review of past air sampling reports;
- c. Exposure monitoring to quantify potential hazardous exposures;
- d. Screening for a communicable disease;
- e. Other factors to consider when selecting the need and type of respirators include:
  - 1. Adequate oxygen concentration;
  - 2. Physical, chemical, and toxicological properties of the contaminant(s);
  - 3. Airborne concentration of the contaminant(s);
  - 4. Nature of the work operation;
  - 5. Warning properties and odor threshold of the contaminant(s);
  - 6. IDLH concentration for the contaminant;
  - 7. Allowable exposure level for the contaminant;
  - 8. Length of time per work shift the respirator will be worn;
  - 9. Presence of a communicable disease.

### **Fit Testing:**

Respirators do not work properly unless they fit the wearer. The quality of respirator fit is determined by the seal where the respirator meets the wearer's face.

All personnel who use air-purifying respirators shall undergo a respirator fit-test prior to first use.

When there are changes in the employee's physical condition that could affect respiratory fit (e.g., obvious change in body weight, facial scarring, etc.) a new fit test should occur.

Respirators shall not be worn when conditions prevent a good face seal. Such conditions may be a growth of beard, sideburns, or temple pieces on glasses.

Fit-testing shall be conducted every two years for each user of a respirator. Cambridge Fire Department is subject to annual fit testing. However, if someone changes jobs, losses or gains a significant amount of weight, had an injury to the face, has changed or been requested to change respirators, or if the hazards of the workplace have been re-assessed - a fit test is required at that time.

Employees will be fit tested with the make, model, and size of respirator that they will wear.

### **REQUIREMENT TO BE CLEAN SHAVEN**

Employees required to wear respirators as part of their job must remain clean shaven. Clean shaven means that the employee has no beard or shadow that will prevent the respirator to make a smooth seal with the face. No employee will be allowed to wear a respirator or be fit tested unless the shaving requirement has been met.

A seal check must be conducted by the user prior to respirator use.

### **Record Keeping**

A written copy of this program shall be kept in the Health & Safety Manual, and is available to all employees who wish to review it.

Training and Fit test records shall be kept on file and updated as new employees are trained, existing employees are retrained and new Fit tests are conducted.

Written recommendations regarding an employee's ability to wear a respirator will be retained.

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

Wearing a dirty, poorly maintained or malfunctioning respirator can be more dangerous than not wearing a respirator at all. Workers wearing defective devices think they are protected when, in reality, they are not.

#### **Cleaning:**

The following procedure is to be used when cleaning and disinfecting respirators:

- a. Follow the manufacturer's instructions;
- b. Disassemble respirator, removing any filters, canisters, or cartridges;

- c. Wash the face-piece and associated parts in a mild detergent with warm water. Do not use organic solvents;
- d. Rinse completely in clean warm water.
- e. Wipe the respirator with disinfectant wipes (70% Isopropyl Alcohol) to kill germs.
- f. Air dry in a clean area.
- g. Reassemble the respirator and replace any defective parts.
- h. Place in a clean, dry plastic bag or other air tight container.

### **Inspection:**

Respirators shall be inspected before and after each use by the wearer. A documented monthly inspection shall be completed by all wearers to ensure the respirator remains in good condition. These monthly inspections shall be collected by the Program Owner.

### **Maintenance and Repair:**

Respirators must be kept in good working order and staff are responsible to have any worn or deteriorating part replaced immediately with the correct part. Replacement Parts must be those of the manufacturer of the equipment.

### **Storage:**

Respirators shall be stored in a clean, sealable, plastic bag placed in a clean, dry location away from direct sunlight and separated from any chemical contaminants. Freshly cleaned respirators should be placed in plastic bags until reissue.

### **Employee Training:**

Employees shall be trained on the following requirements:

#### Supplied-Air Respirators

- a. The respirable air supply is not limited to the quantity a person can carry;
- b. The devices are lightweight and simple with a hose attached supplying fresh air from an uncontaminated source;
- c. These units are limited to use in atmospheres from which the user can escape unharmed without the aid of a respirator (non-IDLH) should the air supply fail;
- d. Maximum use concentrations based on contaminant toxicity apply;
- e. Must leave the area immediately if:
  - i. Breathing becomes difficult;
  - ii. Dizziness or other distress occurs; or
  - iii. Taste or smell contaminant.

#### Air-Purifying Respirators

- a. This unit does NOT supply oxygen;

- b. This unit should only be used in adequately ventilated areas containing at least 19.5% oxygen;
- c. Must leave the area immediately if:
  - i. Breathing becomes difficult;
  - ii. Dizziness or other distress occurs; or
  - iii. Taste or smell of contaminant is noted.
- d. The need to perform a user seal check – an action conducted by the respirator user to determine if the respirator is properly seated to the face;
- e. Do not use when conditions prevent a good face seal, such as a growth of beard, sideburns, a skull cap that projects under the face-piece, temple pieces on glasses and the absence of one or more dentures;
- f. The seal check must be performed each time the respirator is donned by the worker;
- g. Adaptor gaskets must be in place when using a cartridge;
- h. Use the device strictly in accordance with instructions, labels and limitations pertaining to this device;
- i. NEVER ALTER OR MODIFY THIS DEVICE;
- j. The following inspections must be completed to ensure the respirator is free of damage and fit to use:
  - i. Headbands;
  - ii. Face-piece;
  - iii. Inhalation and exhalation valves;
  - iv. Cartridge holders;
  - v. Cartridges/filters; &
  - vi. Assembling cartridges.
- k. Use of proper donning/doffing procedures as per the owner's manual for the device.

Positive and negative pressure user seal checks:

Positive seal check:

Firmly place the palm of the hand over the exhalation valve cover and gently exhale into the face-piece until a slight but definite pressure is created. When slight pressure is felt and no outward leakage of air between the face-piece and the face is detected, the respirator is properly fitted. If leakage occurs, readjust the position of the face-piece and tension of the headbands and retest.

Negative seal check:

Firmly place the palm of the hands over cartridges of filters sealing off inhalation areas. Gently inhale causing the face-piece to collapse. If the face-piece does not slightly collapse or a leak occurs, readjust the position of the face-piece and tension of the headbands and retest.

NOTE: if a good fit cannot be attained after going through the above checks, a different size face-piece or alternate respirator should be used.

Proper replacement of cartridges and filter:

The following conditions are indicative that the cartridges or filters have reached the end of their service life and must be replaced:

Cartridges – the first trace of odour or taste of gas or vapour contaminant or nose or throat irritation;

Filters – noticeable increase in breathing resistance making inhalation difficult;

Replace cartridges/filters according to manufacturer's instructions.

### **Medical Surveillance:**

The employer shall ensure that there is no obvious physical condition that may preclude the worker from being assigned the use of the selected respirator.

Examples of a physical condition include, but are not limited to: lung disease, hypertension, emphysema, chest pain on exertion, breathing difficulties, shortness of breath, chronic bronchitis, heart problems, allergies, cardiovascular disease, thyroid problems, diabetes, neuromuscular disease, fainting spells, dizziness/nausea, seizures, temperature susceptibility, claustrophobia, hearing impairment, dentures, panic attacks, colour blindness, asthma, pacemaker, vision impairment, reduced sense of smell, reduced sense of taste, back/neck problems, facial features, skin conditions, prescription medication to control a condition.

If such a concern exists then the employer should obtain an opinion from a health care professional regarding the worker's ability to use a respirator.

Such opinion shall be obtained prior to the worker using the respirator or if a change in condition warrants an additional opinion.

Employer shall retain the documentation from the health professional confirming the user's ability to use a respirator.

## **POLICY COMMUNICATION**

Program to be communicated during training

## **RELATED PROCEDURES**

Job Hazard Assessment

Departmental Standard Operating Procedures (SOPs)

## **RELATED DOCUMENTS/LEGISLATION**

Corporate Health and Safety Manual, Personal Protective Equipment Procedure;

Occupational Health & Safety Act Sections 25(1)(a)to(d), 27(1) & 28(1)(b);

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