
Code of Practice – Respiratory Protective Equipment

PURPOSE

This code of practice sets out requirements that NBCC will follow for the proper selection, use and care of respiratory protective equipment.

The purpose of this program is to ensure that respirators used by employees provide effective protection against airborne contaminants in our workplace.

SCOPE AND LIMITATIONS

Employees should use respirators for protection from contaminants in the air only if other hazard control methods are not practical or possible under the circumstances. Respirators should not be the first choice for respiratory protection in workplaces. They should only be used:

- when following the "hierarchy of control" is not possible (e.g., elimination, substitution, engineering or administrative controls)
- while engineering controls are being installed or repaired
- when emergencies or other temporary situations arise (e.g., maintenance operations)

1.0 DEFINITIONS

Aerosol - A particulate suspended in the air

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 material.

Chemical agents - A term used to describe all chemical elements and compounds in their natural state, or in a processed state, and their byproducts, the exposure to which, in sufficient quantities and duration, may result in illness or injury to human health.

Competent - Defined in Regulation 91-191 as:

- a) qualified, because of such factors as knowledge, training and experience, to do assigned work in a manner that will ensure the health and safety of employees,
- b) knowledgeable about the provisions of the Act and the regulations that apply to the assigned work, and c) knowledgeable about potential or actual danger to health or safety connected with the assigned work.

Contaminant - A substance that is either present in an environment where it does not belong or is present at levels that might cause harmful or adverse health effects.

Canadian Standards Association (CSA) - Canadian Standards Association (CSA) is a standards development organization accredited as a certification body. CSA is a non-profit membership

association serving industry, government, consumers and other interested parties in Canada and the global marketplace.

Dust - Solid particles generated by mechanical processes such as crushing, rapid impact and grinding that are identical in chemical composition to the parent material.

Fume - Solid particles formed when a volatilized solid, such as metal, condenses in air – such as metal fume, plastic fume, asphalt fume.

Gas - A substance whose normal physical state is gaseous at ambient room temperature and pressure.

Mist - A mist is formed when a finely divided liquid is suspended in the air, such as oil mist produced during cutting and grinding operations, acid or alkali mists from pickling and electroplating, and paint spray mist from spraying operations.

NIOSH - National Institute for Occupational Safety and Health. This is an American federal agency that conducts research in health and safety, tests and certifies respirators and performs training

Oxygen deficiency - An oxygen deficient atmosphere is defined in New Brunswick as an oxygen content below 19.5% by volume in air

Qualitative fit test - A pass/fail fit test to assess the adequacy of respirator fit that relies on the wearer's response to the test agent.

Quantitative fit test - An assessment of the adequacy of respirator fit by numerically measuring the amount of leakage in the respirator

Tight-fitting respirator - A respirator face piece that forms a complete seal with the face

User seal check - An action conducted by the respirator user to determine if the respirator is properly sealed to the face

Vapour - The gaseous state of a substance whose normal physical state is liquid at ambient temperature and pressure (toluene vapour, gasoline vapour, etc.).

2.0 IMPLEMENTATION

Roles and Responsibilities

Employer

The employer is responsible for:

- Implementing a written respirator program and designating a respirator program administrator
- Ensuring that the worksite is evaluated for breathing hazards
- Eliminating or minimizing all breathing hazards
- Providing and maintaining respirators needed for any airborne hazard present at the worksite, and ensuring that workers use the equipment when

required

- Providing time and materials for workers to clean their respirators
- Providing supervisors with the education and training necessary to ensure that workers use respirators safely
- Providing workers with the education, training, and supervision necessary for safe use of respirators
- Ensuring that all illnesses or injuries resulting from breathing hazards and requiring medical aid are reported and recorded

Program Administrator

The Manger Health and Safety will be the program administrator, responsibilities include:

- Selecting the appropriate respirators
- Implementing training and instruction programs
- Administering the overall program, including the maintenance of records
- Reviewing the program on an annual basis

Managers

Managers are responsible for ensuring that:

- Workers are aware of breathing hazards on the worksite(s)
- Respirators are available when required
- Workers use respirators correctly as required
- Workers are clean-shaven (*facial hair does not interfere with the seal of the respirator*)
- Respirators are properly cleaned, inspected, maintained, and stored
- Workers are aware of any equipment or clothing that may interfere with respirator use
- Working conditions are monitored in order to alert supervisors of exposure to higher concentrations of a contaminant or a new contaminant
- Workers are aware of potential issues that may develop during respirator use, such as discomfort, skin irritation, or breathing difficulty
- The Safety Coordinator is notified of concerns or conditions that might affect workers' respiratory protection

Workers

Workers are responsible for:

- Understanding and following safe work procedures
- Using their respirators as instructed
- Understanding the limitations of their respirators and following the manufacturers' instructions
- Inspecting their respirators before use
- Immediately reporting any equipment problems to their supervisors
- Properly cleaning and storing their respirators
- Employees must wear respiratory protection in the areas and for the work procedures described in Table 1. Supervisors must enforce the use of respiratory protection in these situations

Hazard Assessment

The types of airborne hazards that need to be identified are dusts, mists, fumes, aerosols, gases, vapours, oxygen deficiency or a combination of the hazards. Where possible, the specific chemical or biological agent should be listed. Information on engineering or administrative controls that must be used in conjunction with respiratory protection should be included.

The following questions should be asked when identifying the hazard.

- Is there a deficiency in the atmosphere oxygen?
- Is the atmosphere immediately dangerous to life or health (IDLH)?
- What is the physical form of the hazard (dust, mist, fume, aerosol, gas, vapour)?
- Is there more than one physical form present (such as dust and vapour)?
- What are the airborne hazard concentrations?
- What are the permissible exposure limits for the hazard in New Brunswick?
- How long are employees exposed to the hazard?
- How can the hazard enter the body?
- Does the airborne hazard have sufficient warning properties to allow the use of an air-purifying respirator (for example, the hazard may have a specific smell if it breaks through the respirator)?

Respirator Selection

Respirators must be CSA and/or NIOSH approved for contaminants that employees will be exposed to.

HAZARD AND RESPIRATOR SELECTION – Table 1

Area/Procedure	Hazards	Respirator Type	Comments
Asbestos Low Risk	Inhalation of asbestos fibers	NIOSH approved, reusable, air purifying dust respirator	SWP Working with Asbestos (Low Risk)
Sanding of Drywall Compound	Particulate dust	Particulate respirator, disposable	
Removal of Lead Containing materials	Inhalation of lead dust, fumes, or mist.	NIOSH approved, reusable, air purifying dust respirator	Bases on requirement of NBCC Lead Management Program

Training

All employees who wear respiratory protection must be trained in the following:

- Airborne contaminants in your work areas
- Symptoms and toxic effects of overexposure to contaminants

- Respirator capabilities and limitations
- Donning and field checking your respirator
- Maintenance, cleaning, sanitizing and storage of your respirator
- What to do in case of an emergency
- New Brunswick legislation on respiratory protection

Before each use, an employee must perform a field check on the respirator to be used. [3M Training Video](#)

Respirator Fit Testing

Protection will not be provided if the respirator face piece does not fit the employee properly. Employees who are required to use a tight-fitting respirator must be clean-shaven where the respirator meets the face to ensure an effective facial seal. There are two fit testing methods for determining the fit and seal of respirators on the employee's face: qualitative fit testing and quantitative fit testing.

A user seal check shall be performed by an employee each time the respirator is worn. This procedure can be done on air purifying respirators that have filters or chemical cartridges and an exhalation port. After putting on the respirator, the employee covers the cartridges or filters with either their hands, or a piece of plastic, and tries to inhale, creating a negative pressure in the respirator. The face piece should collapse slightly, and no inward leakage of air should be detected. The employee then covers the exhalation port and gently exhales into the face piece, creating a small positive pressure. The face piece should bulge out slightly, and no air should escape. Refer to [3M Training Video](#)

For testing purposes NBCC uses quantitative fit testing. A quantitative fit test is performed using equipment to numerically measure the amount of leakage of a test agent into the respirator and compare the concentration inside the respirator to the concentration outside the respirator. Quantitative fit tests can be used for both air-purifying and atmosphere-supplying respirators. The employee dons the respirator and performs a user seal check. Then, during the quantitative fit test the employee performs a series of exercises designed to simulate work movements such as normal breathing, deep breathing, turning head from side to side, nodding head up and down and talking.

Employees should be fit tested at least every two years.

Use of Respirators

The Manager must monitor the use and care of respirators to ensure the health and safety of employees is adequately protected (for example, employees wearing their respirators when required, respirators being worn properly and respirators in good repair)

Cleaning, Inspection, Maintenance and Storage of Respirators

Each employee is responsible for cleaning, maintaining, and storing their respirators. Cleaning supplies, replacement parts and new respirators will be supplied by NBCC as needed.

Respirators need to be inspected before each use. Respirators found to be defective must be removed from service and repaired or discarded. Worn or damaged valves, straps, and other parts must be replaced using the original manufacturers replacement parts as per their specifications. Only trained individuals must do repairs on respiratory equipment.

When not in use, reusable respirators are maintained and stored in a clean and sanitary location which is easily accessible

Health Surveillance

Employees who have questions about their ability to wear a respirator due to health reasons are asked to report their concern to their supervisor or the Manager – Health & Safety. Those employees will be required to have a medical evaluation and obtain clearance from their physician before using respiratory protection. The physician will be asked to inform the supervisor/Manager – Health and Safety, whether the employee is able to wear the respirator for the conditions or work procedures required. NBCC will not request any other information and will pay the cost of the medical evaluation

Program Evaluation

Annually, the Manager – Health & Safety will lead a review the respirator program. The Manager Health and Safety will consult with respirator wearers during the review. The review will include the following:

- Effectiveness and appropriateness of the respirators being used
- Fit testing
- Respirator wearer training
- Respirator use, maintenance, cleaning, and storage
- Health surveillance of respirator wearers
- Wearer suggestions for improvements in the respirator program
- Possible workplace improvements to minimize respirator use
- New respiratory equipment on the market

This review will be done jointly by all campuses to insure consistency in the program.

Record Keeping

Records of fit testing are kept with the Program Administrator - Manager Health & Safety. The records include;

- The type of respirator(s) used by the employee
- Fit testing records
- Training
- Medical clearance information

Appendix A

NEW BRUNSWICK

REGULATION 91-191

under the

Occupational Health and Safety Act

(O.C. 91-1035)

Respiratory Protective Equipment

- 45(1) An employer shall ensure that a code of practice concerning respiratory protective equipment is established for a place of employment at which the use of respiratory protective equipment is required.
- 45(1.1) The code of practice referred to in subsection (1) shall contain the following information:
- (a) the name of the employee responsible for implementing the code of practice;
 - (b) a description of the respiratory protective equipment to be used to protect the health and safety of employees;
 - (c) a description of any possible hazards that may affect the health or safety of employees;
 - (d) the requirements for the proper selection, care, use, maintenance and fitting of the respiratory protective equipment;
 - (e) the training requirements for employees who use respiratory protective equipment;
 - (f) the record-keeping requirements; and
 - (g) the frequency by which the code of practice is to be reviewed.
- 45(2) An employer shall comply with CSA standard Z94.4-11(R2016), Selection, use, and care of respirators or a standard offering equivalent or better protection in developing the code of practice.
- 45(4) An employer shall consult with the committee or health and safety representative, if any, or with employees if there is no committee or representative, in developing the code of practice.
- 45(5) An employer shall ensure that a copy of the code of practice is readily available to an officer upon request and to employees in the areas where the respiratory protective equipment may be required to be used.
- 45(6) An employer shall ensure that the code of practice referred to in subsection (1) is implemented and adhered to at the place of employment.

Effective facial seal when using equipment

- 47 An employee who may be required to use respiratory protective equipment shall, for the purpose of ensuring that the equipment fits effectively, cooperate with any person identified in the code of practice referred to in section 45 and, if a tight fit is essential to the proper functioning of the equipment, be as clean shaven as is necessary to ensure an effective seal to the facial skin of the employee.