

# Mine Rescue Certification Training Standard



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Employers who have workers working in an underground workplace shall take the necessary precautions to ensure worker safety and shall develop a plan to respond to critical and emergency situations such as rescuing trapped workers, finding and extinguishing fires and examining workplaces for noxious gases.

The objective of the Mine Rescue Training Standard is to provide employers with a training standard for the development, selection and training for emergency response personnel involved in mine rescue and recovery operations.

This standard shall apply to all underground workplaces where employees are expected to carry out work and includes areas where mining is to take place such as: exploration drilling/sampling activities, tunnels, adits, ramps and shafts/structures.

### 1 Legislative Authority

#### 1.1 Legislative Authority

This standard is based on the legislative authority of the *Workplace Health, Safety and Compensation Act* as well as the Newfoundland and Labrador *Occupational Health and Safety Regulations*. Appropriate sections are referenced as follows:

*Workplace Health, Safety and Compensation Act:*

- 20.2** In order to promote health and safety in workplaces and to prevent and reduce the occurrence of workplace injuries and diseases the commission shall:

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- (e) develop standards for the certification of persons required to be certified under the *Occupational Health and Safety Act* and approve training programs for certification;
- (f) certify persons who meet the standards referred to in paragraph (e).

Occupational Health and Safety Regulations:

- 541.** An employer at an underground place of employment shall
- (f) require that workers attend training courses in mine rescue work as prescribed by the commission;

### 1.2 Minimum Standards

WorkplaceNL has prescribed minimum standards for Mine Rescue Certification Training which mining operations must meet in the following areas:

- a) mine operators and managers will have qualified trainers that are certified by WorkplaceNL to deliver Mine Rescue Certification Training;
- b) mine operators and managers will ensure the delivery of Mine Rescue Training meets WorkplaceNL's Mine Rescue Certification Training Standard;
- c) mine operators and managers are responsible for testing trainees' competencies and maintaining training records after all components of training has been completed - these records must be maintained on site for as long as the workers are employed;
- d) mine operators and managers will maintain a training matrix to document refresher training and the hours of instruction, for both the mines rescue team members and trainers;
- e) mine operators and managers are responsible for conducting self-audits of the Mine Rescue Certification Training to ensure it adheres to WorkplaceNL's Mine Rescue Training Standard;
- f) mine operators and managers will ensure there are at least three (3) fully-outfitted, five-person teams (15 people), with additional equipment for one (1) person, for each property – there must be 10 trained mine rescue people on surface/site or in close proximity per shift at all times;
- g) mine operators and managers will provide WorkplaceNL with list of all active mine rescue team members (in a format as prescribed by WorkplaceNL); and,
- h) mine operators and managers will ensure that arrangements are made with other established mining operations for mine rescue assistance, that personnel are available to receive the arriving teams if required and that OHS Branch, Service NL, is notified of the arrangements.

## 2 Selection

### 2.1 Selection

The selection of personnel suitable to perform mine rescue and recovery operations depends on the judgement of mine management and the examining physician based on the following general, medical and physical requirements.

### 2.2 General Requirements

To qualify as a mine rescue worker a candidate must successfully complete the introductory and refresher mine rescue training (as required) and demonstrate the necessary mental and physical capabilities.

A member of mine rescue team should be:

- a) in good physical and mental health;
- b) clean-shaven, with no facial hair to interfere with the face mask seal of the apparatus worn;

- c) calm and self-controlled in emergency situations;
- d) known to be of good judgement and initiative;
- e) capable of performing long and arduous physical labour;
- f) familiar with underground mining conditions and practice;
- g) hold a valid Standard First Aid Certificate from a recognized training provider, as prescribed by WorkplaceNL; and,
- h) able to communicate in the working language.

### 2.3 Medical Requirements

Mine rescue personnel shall be examined by a physician and certified as fit or unfit for mine rescue training. If accepted, personnel shall be certified annually to remain in active training.

Mine rescue personnel and other persons assigned to wear a self-contained breathing apparatus (SCBA) shall have a baseline medical examination as per CAN/CSA-Z94.4: selection, use, and care of respirators.

The physician shall retain an original copy WorkplaceNL's annual medical report form for mine rescue personnel. The employer shall retain a copy of the section signed by the physician indicating the candidate is fit/unfit for mine rescue and medical records in the worker's personnel file.

### 2.4 Physical Requirements

The physical demands on a mine rescuer may be extreme for extended periods, so above average strength, endurance and physical capabilities are required.

## 3 Training

The focus of mine rescue training is on preparing mine rescue personnel to be ready to respond in the event of an emergency. This requires a regular and ongoing training program that includes an introductory level, refresher training and more advanced training.

### 3.1 Introductory Mine Rescue Training

To qualify as an active mine rescue team member, a candidate must successfully complete an Introductory Mine Rescue Training course approved and delivered by a qualified mine rescue instructor certified by WorkplaceNL.

Introductory Mine Rescue Training will consist of a minimum of a five day (40 hours) training session in the classroom and underground. The mine rescue team members must demonstrate their understanding of theory and apply knowledge in the following areas:

- a) the objective of rescue and recovery;
- b) the properties of normal air and gases encountered in a contaminated mine atmosphere;
- c) gas detection methods and use of gas detection equipment;
- d) respiratory protection as per CAN/CSA-Z94.4: Selection, use, and care of respirators;
- e) training in wearing respiratory protection;
- f) travel and work in smoke; and,
- g) demanding work under oxygen.

In order to qualify for certification, participants must demonstrate a satisfactory degree of knowledge, skill, competency and proficiency in the use of mine rescue equipment and must attain a minimum of 75 per cent on a final exam.

### 3.2 Minimum Course Outline for Introductory Mine Rescue Training

The following topics must be covered in an Introductory Mine Rescue Training course:

- a) authorization;
- b) definition of mine rescue;
- c) objectives of mine rescue;
- d) selection of mine rescue personnel;
- e) mine gases;
- f) gas detection;
- g) protection against gases;
- h) self-rescuer apparatus;
- i) primary breathing apparatus – BG 4 (industry standard);
- j) apparatus tests;
- k) apparatus servicing;
- l) standard equipment;
- m) emergency procedures; and,
- n) firefighting.

Evaluations must include a:

- a) written test;
- b) practical evaluation that includes:
  - i. travel underground;
  - ii. emergency procedures;
  - iii. travel in smoke or simulated environment;
  - iv. fire hose drill;
  - v. construct barricade;
  - vi. use fire extinguisher;
  - vii. perform arduous work;
  - viii. equipment servicing, maintenance, use and care; and,
  - ix. first aid.

### 3.3 Refresher Mine Rescue Training

Each year, all active members of mine rescue teams shall receive at minimum six (6) training sessions, of eight (8) hours each, in order to maintain active mine rescue status. Refresher training curriculum shall include basic and advanced mine rescue techniques and training topics. Sessions should be scheduled on a bi-monthly basis and shall consist of customized on-site training delivered by a qualified mine rescue instructor certified by WorkplaceNL.

Practical sessions shall resemble actual emergency situations as closely as possible, with the mine rescue instructor acting as the briefing officer / on-site official-in-charge. Practical session shall be conducted in an underground environment and apply standard competency-based mine rescue practices and procedures.

Refresher training is necessary to maintain the competency of mine rescue teams. If an individual completes less than six (6) but greater than three (3) sessions the mine rescue instructor can determine if the individual is competent and if the person will remain an active team member. The mine rescue instructor shall document these decisions, and keep them in the individual's personnel file along with all supporting documentation. These decisions will be made available to WorkplaceNL upon request. Records shall include the following information:

- a) date of the decision;
- b) name of the mine rescue instructor and instructor certification number;

- c) name of the individual;
- d) date of the session(s) missed and why the individual was absent;
- e) methodology the instructor used to evaluate competency in lieu of training;
- f) result of the competency evaluation; and,
- g) decision of the mine rescue instructor.

However, if an individual attends less than four (4) of the required six (6) training sessions, or the individual fails to demonstrate competency in the use of critical mine rescue equipment, he/she must recertify by completing the Introductory Mine Rescue Training course.

### 3.4 Advanced Mine Rescue Training

Any individual active in Newfoundland and Labrador mine rescue for two (2) years or more may attain Advanced Mine Rescue Certification by completing a one (1) day (8 hours) course. In order to qualify for certification, participants must demonstrate competency in theory and application of knowledge in the following areas:

- a) use of special rescue and extrication equipment;
- b) advanced rescue techniques and procedures; and,
- c) detailed coverage of primary and secondary breathing apparatus and standard equipment.

Individuals are required to achieve a minimum of 75 per cent on a written final exam to qualify for advanced certification.

### 3.5 Mine Rescue Technician Certification

Mine Rescue Technician training is a comprehensive introductory course that trains individuals in procedures for maintaining and repairing key equipment used by mine rescue personnel.

Participants who have successfully completed the Newfoundland and Labrador Introductory Mine Rescue Training are eligible to enroll in a Mine Rescue Technician Certification course with a certified provider/instructor approved by WorkplaceNL.

Certification training shall consist of a three (3) day (24 hours) training session. To obtain certification participants shall achieve a minimum of 75 per cent on a written final exam and demonstrate competency in the following areas:

- a) BG4 service:
  - i. function testing;
  - ii. storage;
  - iii. troubleshooting; and,
  - iv. repair;
- b) operating oxygen booster pump;
- c) automatic rescue ventilators;
- d) servicing gas detection equipment; and,
- e) servicing self-rescue units.

Upon successful completion of this course, participants will receive a Mine Rescue Technician Certificate which is valid for five (5) years provided that the individual completes the prescribed annual refresher training.

### 3.6 Mine Rescue Instructor Certification

All Mine Rescue Instructors must be affiliated with an underground workplace in the province of Newfoundland and Labrador. Applicants who wish to be certified as a Mine Rescue Instructor may forward an application to WorkplaceNL demonstrating the following education, training and experience prerequisites.

#### Education and Training

Proof of completion of the following education and training courses approved by WorkplaceNL:

- a) completion of high school graduation or equivalent or with experience in delivering training and knowledge of adult education principles;
- b) occupational health and safety (OH&S) education and training;
- c) valid Introductory Mine Rescue Training;
- d) valid Mine Rescue Technician Training;
- e) valid Mine Management Training;
- f) valid Workplace Hazardous Materials Information System (WHMIS);
- g) valid Transportation of Dangerous Goods (TDG) or Hazmat Awareness (NFPA Standard 472);
- h) valid Fall Protection training;
- i) valid Confined Space Entry training;
- j) valid Basic Firefighting;
- k) valid High Angle Rescue / Technical Rope Rescue;
- l) Valid Standard First Aid Level C CPR; and,
- m) valid Oxygen (O<sub>2</sub>) Administration.

#### Experience

Applicants for Mine Rescue Instructor Certification shall have proficient knowledge and experience as prescribed by WorkplaceNL in:

- a) underground environments and the associated hazards;
- b) rescue equipment used in an underground environment;
- c) Occupational Health and Safety Regulations and industry standards for mining;
- d) emergency response preparedness in an underground environment;
- e) adult education principles and conducting adult training;
- f) completion of a train-the-trainer course;
- g) fall protection equipment;
- h) confined space entry; and,
- i) respiratory protection and gas detection.

Prior to final approval, all candidates must successfully pass a trainer assessment as prescribed by WorkplaceNL. Candidates who have completed Mine Rescue Instructor Certification shall obtain approval in writing form WorkplaceNL before they are authorized to teaching Mine Rescue Training.

To remain certified as a Mine Rescue Instructor, a candidate shall instruct a minimum of three (3) courses per year, each of eight (8) hours duration, and complete refresher training as prescribed by WorkplaceNL. WorkplaceNL may suspend and / or decertify a trainer, at any time, in circumstances where it becomes satisfied that:

- a) a trainer failed to deliver training that meets WorkplaceNL's certification training standard;
- b) a trainer has failed a quality control audit; or,
- c) a trainer has breached the Trainer's Code of Ethics.

### 3.7 Documentation, record keeping and adherence to administrative requirements of WorkplaceNL

Mine rescue training providers must maintain records of mine rescue trainers and training programs by:

- a) collecting and submitting training records to the CTR as prescribed by WorkplaceNL;
- b) collecting and maintaining records of competent and qualified trainers including their names and contact information, high school diploma or equivalent, training experience, records of training mine rescue equipment, systems and planning and background in OH&S education and training;
- c) developing and implementing internal auditing systems to ensure trainers are following the mine rescue certification training standard;
- d) providing WorkplaceNL with participant's evaluations upon request for data analysis and quality assurance purposes; and,
- e) submitting any information regarding the mine rescue certification training program to WorkplaceNL as a means of measuring the effectiveness of WorkplaceNL in meeting its objectives.

If a training provider elects to issue a certificate of attendance to participants, the document must clearly indicate the type of certification training, the name of the training provider and trainer, the participant's name, date of successful completion, and date of expiry. The official record of certification will be housed in WorkplaceNL's Certification Training Registry.

### 3.8 Monitoring of Program Integrity and Delivery

To ensure the integrity of the mine rescue certification training program, all providers/trainers must strictly adhere to the content of the mine rescue certification training standard and training programs being delivered.

WorkplaceNL will conduct random quality assurance audits and investigate all allegations of non-compliance to determine if training providers and their trainers are adhering to the contents of this standard. As per Policy HS-03 Occupational Health and Safety Certification Training, the status of a certified training provider or trainer may be revoked or suspended if WorkplaceNL has reason to believe the above certification training standard is not being met.

