

Draft Regulations

Draft Regulation

An Act respecting occupational health and safety (R.S.Q., c. S-2.1)

Occupational health and safety in mines — Amendments

Notice is hereby given, in accordance with sections 10 and 11 of the Regulations Act (R.S.Q., c. R-18.1), and section 224 of the Act respecting occupational health and safety (R.S.Q., c. S-2.1), that the Regulation to amend the Regulation respecting occupational health and safety in mines, the text of which appears below, may be adopted by the Commission de la santé et de la sécurité du travail and submitted to the Government for approval upon the expiry of 60 days following the date of this publication.

The purpose of the draft Regulation is to protect the health and ensure the safety of workers in the mining industry and to prescribe more appropriate standards to this sector.

Therefore, the draft Regulation proposes additional safety devices or measures for certain equipment, such as hoists and conveyances. It will also amend certain provisions concerning personal safety equipment, remote-controlled equipment, the quality of respirable air when diesel-powered equipment is used underground, motorized devices for the transport of persons, as well as provisions relating to certain types of work, such as sinking a shaft.

The draft Regulation also clarifies the measures to be taken when storing combustible and inflammable substances and explosives, when cleaning and inspecting conveyors, when working in a raise and when sinking a shaft.

Studies to date have revealed little impact on small and medium-sized businesses, insofar as the prescribed standards largely reflect current practice in the mining industry, while ensuring greater safety for workers.

Further information may be obtained by contacting Ghislain Fortin, Commission de la santé et de la sécurité du travail, 524, rue Bourdages, Québec (Québec) G1K 7E2, telephone: (418) 646-3908; fax: (418) 528-2376.

Any interested person having comments to make on the matter is asked to send them in writing, before the expiry of the 60-day period, to Alain Albert, Vice-Chairman, Programmation et expertise-conseil, Commission de la santé et de la sécurité du travail, 1199, rue De Bleury, 14^e étage, Montréal (Québec) H3B 3J1.

TREFFLÉ LACOMBE,
*Chairman of the Board of Directors
and Chief Executive Officer
Commission de la santé et de la sécurité du travail*

Regulation to amend the Regulation respecting occupational health and safety in mines*

An Act respecting occupational health and safety (R.S.Q., c. S-2.1, s. 223, 1st par., subpars. 1, 7, 9, 14, 19, 41, 42, and 2nd and 3rd pars.)

1. Section 1 of the Regulation respecting occupational health and safety in mines is amended by inserting, in alphabetical order, the following definition:

“misfire”: any part or remainder of a hole containing explosives that have not completely detonated following a blast; (*raté*)”.

2. Section 2 is amended by inserting section number “372,” after “349,”.

3. Section 4 is amended by substituting the words “full body harness” for “safety belt with a lanyard”.

4. The following is substituted for section 5:

“5. The body harness must:

(1) comply with CAN/CSA Standard Z259.10-M90, Full Body Harnesses;

* The Regulation respecting occupational health and safety in mines, made by Order in Council 213-93 dated 17 February 1993 (1993, *G.O.* 2, 1757), was last amended by the Regulation made by Order in Council 1236-98 dated 23 September 1998 (1998, *G.O.* 2, 4049). For previous amendments, refer to the *Tableau des modifications et Index sommaire*, Éditeur officiel du Québec, 1999, updated to 1 March 1999.

(2) be equipped with a shock absorber complying with CAN/CSA Standard Z259.11-M92, Shock Absorbers for Personal Fall Arrest Systems;

(3) be equipped with a lanyard that does not allow a fall of more than 1.2 metres (3.9 ft.) and complies with CAN/CSA Standard Z259.1-95, Safety Belts and Lanyards for the mining and construction industries.”

5. Section 6 is amended

(1) by substituting the following for the part preceding paragraph 1:

“6. The fastening point of the lanyard of the full body harness must be installed in one of the following ways:”;
and

(2) by substituting the following for paragraph 2:

“(2) by attaching it to a fall-arresting device joined to a vertical lifeline in compliance with CSA Standard Z259.2.1-98, Fall-Arresting Devices and Vertical Lifelines;

(3) by attaching it to a horizontal cable and anchoring system devised by an engineer as attested to by a plan or certification kept on the mine site and available at all times.”

6. The following is substituted for section 7;

“7. A vertical lifeline must:

(1) comply with CSA Standard Z259.2.1-98, Fall-Arresting Devices and Vertical Lifelines;

(2) be used by only one person;

(3) be less than 90 metres long (295.3 ft.);

(4) be fixed to an individual anchor having a breaking strength of at least 18 kilonewtons (4 046.6 lbs.);

(5) be protected so as to prevent contact with a sharp edge.”

7. The following is substituted for the first paragraph of section 16:

“Any access to an abandoned underground working shall be closed off where the working is not in compliance with any of the standards set out in sections 28, 35, 51, 53 to 75, 85, 86, 95, 104, 120 and 398.”

8. Section 27.1 is amended by substituting “l'Or-et-des-Bois” for “Val-d'Or” in subparagraphs 1 and 2 of the first paragraph.

9. In the French text, section number “28.01.1” is substituted for “28.0.1”.

10. Section 54 is amended by substituting the following for subparagraph 4 of the first paragraph:

“(4) have a minimum capacity of 8 persons, except during the sinking of a shaft when the number of persons may be less than 8;”

11. Section 55 is amended by inserting “, except when a bucket is used to transport persons,” after the word “shaft” in the third paragraph.

12. The following is substituted for section 63:

“63. Sections 61 and 62 do not apply to a ladder used in a raise.”

13. The following is inserted after section 70:

“70.1 Any underground footbridge or platform higher than one metre (3.3 ft.) above the ground or floor, other than the platform referred to in section 364, must be equipped with guardrails on sides where there is the risk of a fall.”

14. Section 92 is revoked.

15. Section 100.1 is amended

(1) by inserting the words “and, in accordance with the provisions of Schedule VII,” after “applicable;” and

(2) by adding the following at the end:

“For the purposes of this section, CAN/CSA Standard M424.2-M90, Non-Rail-Bound Diesel-Powered Machines for Use in Non-Gassy Underground Mines and CAN/CSA Standard M424.1-88, Flameproof Non-Rail-Bound Diesel-Powered Machines for Use in Gassy Underground Coal Mines, shall apply to any diesel motor used underground notwithstanding the field of application specified in those standards.”

16. Section 102 is amended

(1) by substituting the following for paragraph 2:

“(2) notwithstanding paragraph 2 of section 101, when several pieces of equipment operated by diesel engines are used simultaneously in one ventilation circuit, the volume of fresh air shall be:

(a) for motors certified under Part 31 and Part 32 of Title 30, Code of Federal Regulations, Mine Safety and Health Administration, and for non-certified motors, 100 % of the flow given for the most demanding unit in terms of ventilation, 75 % of the flow given for the second unit and 50 % of the flow given for any additional unit, up to a minimum of 2.7 cubic metres per minute per kilowatt (71 cu. ft. per minute per HP) at the engine shaft;

(b) for motors certified under CAN/CSA Standard M424.2-M90, Non-Rail-Bound Diesel-Powered Machines for Use in Non-Gassy Underground Mines or under CAN/CSA Standard M424.1-88, Flameproof Non-Rail-Bound Diesel-Powered Machines for Use in Gassy Underground Coal Mines, and, in accordance with the provisions of Schedule VII, 100 % of the flow given for each motor used in the ventilation circuit;

(c) equal to or greater than the total of the fresh air flow prescribed in subparagraphs *a* or *b*, as the case may be, when the diesel engines referred to therein are used simultaneously;”.

(2) by substituting “0.05 %” for “0.25 %” in paragraph 4;

(3) by adding the following after paragraph 10:

“For the purposes of subparagraph *b* of paragraph 2, CAN/CSA Standard M424.2-M90, Non-Rail-Bound Diesel-Powered Machines for Use in Non-Gassy Underground Mines, and CAN/CSA Standard M424.1-88, Flameproof Non-Rail-Bound Diesel-Powered Machines for Use in Gassy Underground Coal Mines, apply to any diesel engine used underground notwithstanding the area of application specified in those standards.”.

17. Section 150 is amended by substituting the words “, except for solid wastes which may be buried in a fill” for “or buried in the fill”.

18. The following is inserted after section 210:

“**210.1** Notwithstanding paragraph 2 of section 210, rail-bound equipment may be used where it is only partly visible to the operator provided that measures be taken to meet one of the following conditions:

(1) no one, with the exception of those persons whose presence is required to operate the equipment, may enter the area where the equipment is moving;

(2) the remote control must be equipped with a device that will stop the equipment as soon as any person enters the area where the equipment is moving.”.

19. Section 211 is amended by adding the following paragraph at the end:

“Subparagraph 3 of the first paragraph does not apply to rail-bound equipment, in which case the equipment operator shall remain outside the track.”.

20. The following is substituted for section 242:

“**242.** When transporting persons, a conveyance must travel at a speed of less than 8 metres (26.2 ft.) per second.

Where the rated speed of the conveyance is more than 8 metres (26.2 ft.) per second, a device to limit its speed must be installed and be activated automatically when the operator of the hoist responds to a three-bell signal.”.

21. Section 316 is amended by substituting the following for the second sentence:

“The cage must meet the standards set out in sections 323 to 325, have metal side walls with doors and be independent from any motorized device for the transport of persons described in section 53.”.

22. Section 356 is amended by deleting paragraph 6.

23. Section 361 is amended by substituting “must be operational in the raise within 4 hours” for “shall be available within 2 hours”.

24. The following is substituted for section 372:

“**372.** It is prohibited to clean or inspect a component of a moving conveyor unless the process used does not require any handling that may cause a worker to come into contact with a moving element.”.

25. Section 394 is amended by substituting “in compliance with CAN/CSA Standard Z259.1-95, Safety Belts and Lanyards for the mining and construction industries” for “mentioned in the first paragraph of section 5”.

26. The following is substituted for section 398:

“**398.** Except where a mechanical device eliminating the need for ladders is used, any raise inclined at more than 50 degrees from the horizontal and driven for a distance of more than 10 metres (32.8 ft.) must be divided into at least two compartments, one of which must be used for a travelway, be equipped with ladders in accordance with sections 67 and 68 and be separated from the other compartments by a partition, a protective grate or by another similar protective separation in order to prevent workers moving in the compartment from

being hit by rocks or other matter coming from another compartment. The timbering may never be more than five metres (16.4 ft.) from the active heading.”

27. The regulation is amended by adding the following after section 418:

“418.1 Notwithstanding subparagraph 5 of the second paragraph of section 418, during the sinking of a shaft and the ensuing development work, the recess may be at a minimum distance of 10 metres (32.8 ft.) from the shaft and the working face until the progress of the work allows compliance with the requirements of subparagraph 5 of the second paragraph of section 418, in which case the quantity of explosives stored in the recess may never exceed the quantity required for one shift.”

28. Section 424 is amended by substituting the following for subparagraph *a* of paragraph 1:

“(a) a shaft;”

29. Section 439 is amended by adding the following after paragraph 4:

“(5) the distance stipulated, in the case of a frozen cut, in any of the following situations:

(a) 300 millimetres (12 in.) from the frozen cut, where it is 460 millimetres (18 in.) deep or less;

(b) a distance equal to the depth of the frozen cut, where it is more than 460 millimetres (18 in.) but less than 915 millimetres (36 in.) deep;

(c) 915 millimetres (36 in.) from the frozen cut, where it is more than 915 millimetres (36 in.) deep.

For the purposes of clauses *a*, *b* and *c* of subparagraph 5 of the first paragraph, the prescribed minimum distance for drilling holes must be measured from a circle marking the outside edge of the frozen cut and the holes must be drilled parallel to the cut. In the cases of clauses *b* and *c* of the said subparagraph, the drill holes must not be deeper than the frozen cut.

For the purposes of subparagraph 5 of the first paragraph, “frozen cut” means the first holes blasted in a round that did not break the rock as expected but rather fractured and compacted it and where explosives are not detected.”

30. Section 457 is amended by inserting “and cellular telephones with a wattage of more than 600 milliwatts” after the word “transmitters” in subparagraph *c* of paragraph 8.

31. The Regulation is amended by substituting the following for paragraphs 2 and 3 of Schedule IV:

“(2) Any building or explosives magazine not referred to in paragraph 3;

(3) Any other explosives magazine separated by a mound of earth or equivalent substance that is as high as the edge of the roof of the explosives magazine and at least one metre (3.3 ft.) wide at the top so as to form a shield between each magazine. (Column 3 applies only to the distance between explosives magazines).”

32. The Regulation is amended by adding Schedule VII at the end.

33. This Regulation comes into force on the fifteenth day following its publication in the *Gazette officielle du Québec*, with the exception of sections 3 to 6 which shall come into force on 1 January 2000.

SCHEDULE VII

(ss. 100.1 and 102)

Minimum ventilation rate – CANMET certification

The minimum ventilation rate of a diesel engine used in an underground mine shall be the higher of the values calculated in accordance with the following methods:

(a) the rate required to dilute contaminants in the exhaust gases in accordance with CAN/CSA Standard M424.2M-90, Non-Rail-Bound Diesel-Powered Machines for Use in Non-Gassy Underground Mines or CAN/CSA Standard M424.1-88, Flameproof Non-Rail-Bound Diesel-Powered Machines for Use in Gassy Underground Coal Mines, as the case may be;

(b) the rate required to dilute the predominant contaminant to a concentration equal to the value of the denominator, which represents the contaminant, where the value calculated in accordance with paragraph *a* is insufficient to dilute the combustion emissions indicated in the equation below to concentrations lower than the respective individual value of the denominator in that equation for each of the contaminants.

Equation:

$$EQI = \frac{CO}{50} + \frac{NO}{25} + \frac{RCD}{2} + 1.5 \left(\frac{SO_2}{3} + \frac{RCD}{2} \right) + 1.2 \left(\frac{NO_2}{3} + \frac{RCD}{2} \right)$$

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