

Mines and Mining Plants Regulatory Amendment Proposal

Summary of Proposal

The Ministry of Labour is proposing various amendments to Regulation 854 (Mines and Mining Plants) under the *Occupational Health and Safety Act*. If approved, the proposed amendments would:

- Implement recommendations made by the Mining Legislative Review Committee;
- Strengthen and improve requirements regarding high visibility safety apparel (an issue raised in the Mining Health, Safety and Prevention Review Interim Report);
- Update references to certain standards, legislation or agencies;
- Update terminology and clarify certain requirements; and
- Gradually change the fees payable for rope testing performed by the Materials Testing Laboratory.

Background

Regulation 854 (Mines and Mining Plants) under the *Occupational Health and Safety Act* (OHSA) applies to all mines and mining plants and to mining development in Ontario. Due to the serious and in some cases unique hazards faced by workers in the mining sector, the regulation sets out sector-specific requirements that protect the health and safety of workers at Ontario mines and mining plants.

The Mining Legislative Review Committee (MLRC) is established under Section 21 of the OHSA to advise the minister about occupational health and safety issues related to the mining sector. The MLRC is comprised of both labour and management representatives from the mining industry. As part of its mandate, the MLRC reviews the mining regulation and makes consensus based recommendations to the Minister of Labour on an on-going, as-needed basis.

This proposal includes MLRC-recommended changes to certain requirements for working on energized equipment and electrical locking and tagging; requirements for conveyors, as well as changes to certain hoisting provisions. It also includes proposed amendments to existing requirements for high visibility safety apparel, an issue addressed in the Mining Health, Safety and Prevention Review Interim Report.

The Ministry of Labour (MOL) is also proposing updates to the fee schedule set out in section 20 of the regulation. This schedule sets out fees charged by the ministry's Materials Testing Laboratory for testing certain types of rope used in mines and mining plants. The current fee schedule has not been amended in approximately 20 years. The proposed amendments would move the Materials Testing Laboratory towards full-

maintains a differential fee structure for users who are required to test ropes under section 228 of Regulation 854 and those who are not (such as out-of province users or Ontario workplaces to whom Regulation 854 does not apply).

Finally, the proposal includes various proposed amendments that would update and clarify certain provisions to ensure that the requirements are kept current.

Summary of Proposed Regulatory Amendments

1. Electrical Provisions

Current Regulatory Requirements

159. (1) Electrical work shall not be performed on live equipment except where,

- (a) live line techniques are used;
- (b) approved live line equipment is used;
- (c) no hazard from explosive or flammable materials exists; and
- (d) all necessary precautions to work safely are taken.

(2) Except as provided for in subsection (1), no object shall be brought closer than the distance specified in Column 2 of the following Table to an exposed, energized overhead electric supply line of the voltage specified in Column 1:

Table

Column 1	Column 2
Voltage of Powerline	Minimum Distance
300 to 150,000 volts	3 metres
150,000 to 250,000 volts	4.5 metres
Over 250,000 volts	6 metres

(3) Precautions to guard workers against injury by moving or energized parts shall be taken before maintenance, repair or adjustment work is performed on a machine that is energized.

(4) When located less than 1.5 metres measured in a horizontal plane or 2.5 metres measured in a vertical plane from a walkway or landing, any bare part of electrical equipment energized in excess of 150 volts DC or 50 volts AC shall be guarded.

(5) Machines that have movable or extendable booms must not be operated in close proximity to energized electrical supply lines unless,

- (a) they are operated in accordance with subsection (1); or
- (b) the operator of the machine has been authorized to perform such work and,

- (i) there is a clearance between any part of the machine and the energized line that is more than the greater of,
 - (A) one-half the maximum horizontal reach of the boom, or
 - (B) the distance determined under subsection (2),
- (ii) the lines are disconnected and grounded,
- (iii) the machine is a railroad crane operating on railroad tracks and the supply line is energized to less than 750 volts direct current, or
- (iv) the supply lines are guarded against contact by any part of the machine or its load.

(6) Subsections (2) to (5) apply only with respect to electrical lines installed on the surface and electrical equipment used on the surface.

160. (1) All switches controlling electrical equipment or lines shall be locked and tagged in the open position while work is being done on the equipment or lines but the locking device may be omitted where,

- (a) the locking device in itself creates a hazard due to a switch design; or
- (b) circuit breakers or fuses for voltages of less than 150 volts to ground are not equipped with a means of locking.

(2) Despite subsection (1), locking and tagging is not required where live work is permitted by subsection 159 (1).

(3) A tag required by subsection (1) shall,

- (a) be secured to prevent its inadvertent removal;
- (b) state the reason the switch is opened;
- (c) show the name of the person responsible for opening the switch; and
- (d) show the date on which the switch was opened.

(4) Tags on electrical equipment shall be of nonconducting materials.

185. (10) If it is not practical to comply with subsection (7) or with subsection 160 (1), work to which those subsections apply may be done if, while it is being done, barriers, shields or other effective precautions are used or taken for the safety of a worker.

Proposed Amendments

- Proposed amendments would reorder requirements so that locking and tagging sections would precede requirements for working on energized equipment.
- Proposed amendments to locking and tagging requirements would include:
 - If any work is to be done on electrical equipment or conductors (unless energized work is permitted), then
 - all hazardous sources of electrical supply to the electrical equipment or conductors shall be isolated;

- all energy isolating devices shall be properly engaged, locked and tagged in accordance with specific requirements regarding tags set out below; and
 - hazardous stored electrical energy shall be discharged before the work begins.
- A worker, before beginning work related to these requirements, shall verify by testing that the above has been complied with.
- An employer shall establish and implement a written locking and tagging program to protect the health and safety of the worker.
- Notwithstanding the above, allow for the omission of the lockout device where,
 - the lockout device in itself creates a hazard due to the design of the energy isolating device; or
 - circuit breakers or fuses for voltages of less than 150 volts to ground are not equipped with a permanent or temporary means of locking.
- Similar to requirements for mechanical locking and tagging in section 185, proposed amendments to these sections would require that a tag:
 - be secured to prevent its inadvertent removal;
 - state the reason the energy isolating devices are locked and tagged;
 - show the name of the person responsible for locking and tagging the energy isolating devices;
 - show the date on which the energy isolating devices were locked and tagged; and
 - be made of non-conducting material and shall be installed so as not to become energized.
- Working on energized equipment requirements would, if approved, be amended to allow for electrical work to be performed on energized equipment where all of the following criteria are met:
 - de-energizing introduces additional or increased hazards or is not feasible due to equipment design or operational limitations;
 - the employer has written measures and procedures for energized work to protect the health and safety of the worker;
 - no hazard from explosive or flammable materials exists; and
 - all necessary precautions to work safely are taken.
- Current requirements in ss.159 (2)-(6) would remain unchanged.
- Proposed amendment to remove reference to subsection 160(1) from subsection 185(10) so that this provision would only apply to mechanical hazards.

2. Conveyor Requirements

Current Regulatory Requirements

196. (1) No person shall ride on a conveyor belt.

(2) A conveyor shall have,

- (a) a pull cord at accessible locations along the conveyor by means of which the conveyor can be stopped;
- (b) a means whereby belt dressing may be applied safely while the conveyor is in motion;
- (c) when the conveyor is started automatically, by remote control or where a portion or portions of the conveyor are not visible from the operator's position, a start-up warning device; and
- (d) head, tail, drive, deflection and tension pulleys guarded at any pinch point that is or may become accessible.

(3) A pull cord required by clause (2) (a) shall,

- (a) be within easy reach of accessible locations along the conveyor; and
- (b) operate a manual reset type switch that stops the conveyor.

(3.1) A guard for a pulley referred to in clause (2) (d) must extend at least 0.9 metres from the pinch point.

(4) Guards shall be provided beneath a conveyor,

- (a) that passes over a worker; or
- (b) from which falling materials or parts may endanger a worker.

(5) A conveyor in an underground mine shall have,

- (a) devices that guard against excessive slip between the belt and the driving pulley; and
- (b) a fire suppression system at the driven end unless fire retardant belting is used or the conveyor is continually attended by a worker.

(6) A conveyor shall be stopped and the prime mover de-energized, locked and tagged out when the conveyor is undergoing repairs, adjustments or maintenance unless,

- (a) it is necessary to run the conveyor during such work; and
- (b) special precautions are taken to prevent injury to a worker from moving parts.

Proposed Amendments

- Proposal to amend the guarding requirements in current ss. 196(2) and (3.1) to:
 - Require the guarding of pinch points at both return rollers and carry rollers where the lift of the belt is restricted, in addition to those pinch points that

- are or may become accessible already mentioned under 196(2)(d);
- Allow for the use of fencing or barricading as a means of protecting workers if it is not practicable to guard pinch points that are otherwise required to be guarded;
- Allow for an exemption from the guarding requirements if the position or construction of the conveyor provides for equivalent protection that renders the pinch points inaccessible;
- Clarify that a guard mentioned above must extend at least 0.9 metres from a pinch point unless the guard renders the pinch point inaccessible.
- Proposed amendments to pull cord requirements in ss. 196(2) and (3) to:
 - Require all conveyors to have an emergency stopping device, which may include a pull cord;
 - Clarify that the emergency stopping device must be located at prescribed places along the conveyors, and specifically at locations where a worker can access a pinch point. Where a conveyor is not accessible because of fencing, its location or a combination thereof, there would be greater flexibility about the location of the emergency stopping system.
 - Clarify that the emergency stopping system must be at locations within easy reach of the worker and must operate a manual reset type switch that stops the conveyor.
- Replace the phrase “special precautions” in clause 196(6)(b) with the phrase “effective precautions,” consistent with language used in the existing subsection 185(10) of Regulation 854.
- Requirements in current 196(1); (2)(b) and (c); (4) and (5) would be unchanged.

3. High Visibility Safety Apparel Requirements

Current Regulatory Requirements

262. (2) Every worker in an underground mine shall wear retroreflective material on headgear and outer clothing.

263. (2) Subject to subsection (3), between sunset and sunrise, every worker shall wear retroreflective material on headgear and outer clothing that enables the worker to be seen. (*Note: This requirement applies to workers on the surface.*)

(3) A worker is not required to comply with subsection (2) if the worker is in a booth, vehicle cab or another protective enclosure or if a work area is provided with fixed lighting that enables the worker to be seen.

Proposed Amendments

- Proposal to require that every worker wear high visibility safety apparel if they work:
 - in an underground mine; or
 - at a surface mine or the surface of an underground mine, between sunset and sunrise.
- High visibility safety apparel must have the following features:
 - Be made of fluorescent background material.
 - The apparel must have retro-reflective striping that measures 50 millimetres in width. The striping must be located on outer apparel so that it is visible to others and specifically must:
 - Entirely encircle each arm and each leg (below the knee), as well as the waist;
 - Be arranged in two vertical lines on the front extending over the shoulders and down to the waist;
 - Be arranged in an “X” on the back of the portion covering the upper body.
- Proposal to require every worker in an underground mine, or on surface between sunset and sunrise, to wear headgear that has retro-reflective material applied to the front, back and both sides.
- Proposal to require that the fluorescent and retro-reflective components of the apparel and headgear be maintained in such condition that it visually identifies the worker’s presence in the workplace to others.
- It is proposed that the exemption for workers on surface set out currently in subsection 263(3) would continue to apply.
- Proposal would allow a 6-12 month implementation period to provide employers with time to comply with the new requirements to coincide with apparel replacement and purchasing cycles.

4. Update References to Standards

Current Regulatory Requirements

1 “SABS” means South African Bureau of Standards.

217. (2) Despite clause (1) (b), a drum hoist may have a maximum of five layers of rope if,

- (a) the mine hoisting plant meets the standards set out in SABS Code of Practice 0294, Ed. 1, “The performance, operation, testing and maintenance of drum winders relating to rope safety” as approved according to procedures of SABS on August 4, 2000; and
- (b) the rope is used, maintained and examined according to the requirements set out in SABS Code of Practice 0293:1996, “Condition assessment of steel wire ropes on mine winders” as approved by the President of SABS on September 16, 1996.

228. (12.1) Clause (12) (c) does not apply if,

- (a) the mine hoisting plant meets the standards set out in SABS Code of Practice 0294, Ed. 1, “The performance, operation, testing and maintenance of drum winders relating to rope safety” as approved according to procedures of SABS on August 4, 2000; and
- (b) the rope is used, maintained and examined according to the requirements set out in SABS Code of Practice 0293:1996, “Condition assessment of steel wire ropes on mine winders” as approved by the President of SABS on September 16, 1996.

182. (4) The fuel used in a diesel engine shall conform to CAN/CGSB-3 16-99 “Mining Diesel Fuel,” Special-LS or CAN/CGSB-3.517 “Automotive Low Sulphur Diesel Fuel” Type A-LS.

Proposed Amendments

- Revoke current definition of SABS in section 1 and replace with the following to align with the current name for South African standards:

“SANS” means South African National Standard published by the South African Bureau of Standards.

- Update references to SABS Code of Practice 0294 to SANS 10294:2000 and SABS Code of Practice 0293:1996 in sections 217 and 228 to SANS 10293:1996 to reflect current names of these standards.
- Remove reference to CAN/CGSB 3 16-99 in section 182, as that standard has been withdrawn, and update reference to CAN/CGSB 3.517, which is now titled “Diesel Fuel.”

5. Fees for Materials Testing Laboratory

Current Regulatory Requirements

20. (2) The fee for testing, at a laboratory, a rope of the type described in Column 1 of the Table to this subsection and the size set out in Column 2 is the corresponding amount,

- (a) set out in Column 3, for a rope tested for a mine in Ontario; or
- (b) set out in Column 4, for a rope tested for a mine outside Ontario or for the manufacturer of the rope.

Proposed Amendments

- Proposal would amend the schedule in section 20 that sets fees that may be charged by a laboratory approved by the Minister for testing ropes (the ministry's Materials Testing Laboratory (MTL)) to move towards full cost-recovery after three years.
- The proposed fees include changes to the types and sizes of rope currently listed in the current fee schedule, and would include new categories for additional costs for PVC-filled and/or compacted/die form ropes.
- Fees for a rope tested for a mine in Ontario, which are currently set out in Column 3 of the current Table, would change over a three-year period in accordance with the proposed fee schedule attached as Appendix A (in the column entitled 'Ontario Regulated User Fees'). If the proposal is approved, this fee schedule would replace the existing Table set out in section 20 of Regulation 854.
- Fees for a rope tested for a mine outside Ontario or for a manufacturer of the rope, which are currently set out in Column 4 of the current Table, would change over a three year period in accordance with the proposed fee schedule attached as Appendix A (in the column entitled 'Other User Fees'). If the proposal is approved, this part of the proposed fee schedule would no longer be set out in Regulation 854. However, the ministry would still make these fees publicly available.

6. Miscellaneous

Current Regulatory Requirement

11.2.3 The training programs described in sections 11 to 11.2.2 must be developed jointly by labour and management in the mining industry and the Ministry of Training, Colleges and Universities and must be approved by the Director.

Proposed Amendment:

- Replace reference to "the Director" with approved by "Ministry of Training, Colleges and Universities" to reflect fact that MTCU approves said programs, and to align with

similar requirements for modular programs set out in Reg. 851 and O. Reg. 278/05 under the *OHSA*.

Current Regulatory Requirement

18 (3) The stopping prescribed in clause (2) (a) shall be,

- (a) secured to solid rock or to a concrete collar secured to solid rock; and
- (b) capable of supporting a uniformly distributed load of twelve kilopascals or a concentrated load of fifty-four kilonewtons, whichever is greater.

Proposed Amendment:

- Proposed to change clause (3)(b) so that the stopping must be capable of supporting a uniformly distributed load of **eighteen(18)** kilopascals or a concentrated load of **eighty-one (81)** kilonewtons, whichever is greater.
- Proposed changes would improve consistency with existing requirements set out in the Mining Rehabilitation Code, schedule 1 of O. Reg. 240/00 under the *Mining Act*.

Current Regulatory Requirement

37. (1) Except during the initial stages of exploration and development of a mine, in addition to the opening through which workers are let into or out of the mine and the ore extracted, a separate escapement exit shall be provided.

Proposed Amendments:

- Change to "...exploration and development of **an underground** mine..." to clarify that requirement applies to underground mines only.

Current Regulatory Requirement

123. (5) The notice shall contain the following information:

- 3. The ministry's Premise Project Identification Number.

Proposed Amendments

- Amend to include reference to another identification number provided by the ministry, as the number issued by the ministry is no longer called a Premise Project Identification Number.
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Current Regulatory Requirement

150. (1) Where the source of current is a portable direct current battery or blasting machine the firing cables or wires shall,

- (a) not be connected to the source of current until,
 - (i) the workplace to be affected by the blasting operation has been cleared of persons, and
 - (ii) immediately prior to blasting; and
- (b) be disconnected and short-circuited immediately after the blast has been fired.

(2) A blasting machine shall,

- (a) be of a type and design specifically manufactured for the purpose;
- (b) be kept in good mechanical and electrical condition;
- (c) be tested regularly using methods specified by the manufacturer;
- (d) be tested before any blasts that may require the maximum output of the machine;
- (e) be clearly marked with the capacity of the machine; and
- (f) not be used in excess of its rated capacity.

Proposed Amendments:

- Amend section 150 to include a new requirement that the battery must “be of a type and design specifically manufactured for the purpose,” similar to existing requirement for blasting machines under ss. 150(2).
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Current Regulatory Requirement

236. (1) A signal for hoist movement shall be given only,

- (a) by an authorized worker; and
- (b) when the shaft conveyance or counterweight is at the same location as the worker signalling, except during,
 - (i) shaft sinking and preliminary shaft development, or
 - (ii) maintenance work in a shaft.

Proposed Amendments

- Add phrase “or on the mine hoisting plant” to this existing 236(1)(b)(ii) to clarify that the exception in that provision applies to other areas of a hoisting plant (sheave deck, hoist room), not just the shaft itself.
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Current Regulatory Requirement

252 (1) In a mining plant building, a ventilation system shall be provided, maintained and used, that will,

- (a) provide a partial pressure of oxygen in the atmosphere of more than eighteen kilopascals to all workplaces therein; and

253(1) In an underground mine, a mechanical ventilation system shall be provided, maintained and used that will,

- (a) provide a partial pressure of oxygen of more than eighteen kilopascals; and

255(2) The examination prescribed in clause 1(c) shall consist of an examination for,

- (a) oxygen deficiency due to a partial pressure of oxygen in the atmosphere that is less than eighteen kilopascals;

Proposed Amendments

- Proposal to replace reference to “partial pressure of oxygen in the atmosphere” of eighteen (18) kilopascals with “oxygen content in the atmosphere” of at least 19.5per cent by volume, which is more consistent with current industry practice and similar requirements in other *OHSA* regulations, such as O. Reg. 632/05 (Confined Spaces).

Current Regulatory Requirement

283. As a factor to be considered under clause 33 (8) (f) of the Act, the threshold limit values for chemical substances and physical agents set out in “TLVs Threshold Limit Values and Biological Exposure Indices for 1986-87” issued by the American Conference of Governmental Industrial Hygienists are adopted as criteria or guides.

Proposed Amendments

- Revoke Section 283, which is out -of date.
- Revoke cross-references to section 283 in clauses 183.1(4)(b), 252(1)(b)(ii), 253(1)(b)(ii), 254(1)(b)(ii), and 286(1)(b) of Reg. 854.

Current Regulatory Requirement

293. (5) An employer shall forward a copy of a record kept under subsection (4) to the National Dose Register established under the *Atomic Energy Control Act* (Canada).

Proposed Amendments

- Replace reference to the *Atomic Energy Control Act*, which has been repealed, with reference to the National Dose Registry administered by Health Canada’s Radiation Protection Bureau.

Comments Due Date

February 13, 2015

Address

Proposed Mining Regulation Amendment Project
Health and Safety Policy Branch
Ministry of Labour
400 University Avenue, 12th Floor
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Notice to Consultation Participants

Submissions and comments provided to the Ministry of Labour are part of a public consultation process to solicit views on the proposed new regulatory requirements related to Regulation 854 (Mines and Mining Plants). This process may involve the ministry disclosing submissions, comments, or summaries of them, to other parties during and after the public consultation period. However, personal information in the ministry's possession, such as names and contact details, will not be disclosed except as required by law.

If you, as an individual, want to make a submission or provide comments and you do not want personal information to be made public, you should not include it or other information by which you could be identified in the main body of the submission. As well, you should not include the names of other individuals or any other information from which other individuals could be identified. By submitting your comments you are consenting to the use of your information, which may include personal information, by the Ministry of Labour.

Personal information collected during this consultation is under the authority of Section 70 of the *Occupational Health and Safety Act* and is in compliance with section 38 (2) of the *Freedom of Information and Protection of Privacy Act*.

If you have any questions regarding freedom of information or privacy matters, you may contact the ministry's Freedom of Information and Privacy Office at 416-326-7786.