

Mining Health and Safety 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* (OHSA). If approved, the proposed amendments would:

- Harmonize requirements in Regulation 854 with other regulations under the OHSA, including amending the definition of nondestructive test and related requirements to harmonize with O. Reg. 213/91 (Construction Projects), thereby improving the clarity, consistency and transparency of these provisions;
- Revoke several provisions that are redundant or duplicative with other requirements, thereby reducing regulatory burden;
- Update various references to recognized industry standards to keep the regulation up-to-date;
- Amend existing requirements regarding the allowable height of working faces at surface mines and regarding oxygen/acetylene containers, providing workplaces with alternate ways of complying with these requirements, thereby increasing flexibility for mines and mining plants; and/or
- Amend miscellaneous requirements to update terminology and/or clarify certain requirements.

Regulation 854 (Mines and Mining Plants) under the OHSA generally 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 Regulation 854 and makes consensus based recommendations to the Minister of Labour on an on-going, as-needed basis. This proposal has been developed in consultation with MLRC.

Summary of Proposed Regulatory Amendments

1. Non-Destructive Testing

Current Regulatory Requirements

1. In this Regulation, “nondestructive test” means the examination of a part without subjecting it to physical distortion, damage or destruction;

195. (8) A trained person shall examine, using non-destructive testing techniques, the shafting of each hoist drive train of a production crane to determine if it is in sound condition before the crane is first used.

(8.1) After a production crane has been first used, a trained person shall examine, using non-destructive techniques, the shafting of each hoist drive train of the crane at a frequency at least equal to that recommended by its manufacturer or, if there is no manufacturer’s recommendation, at a frequency at least equal to that specified by a competent person in order to determine if it is in sound condition.

197. (9) The main shafting of the drive train of a raise climber shall be subjected to a nondestructive test by a competent person to determine if it is in sound condition,

- (a) before the raise climber is first put into service; and
- (b) during every major overhaul of the raise climber and not less frequently than once for every 4,000 hours of use.

225. (5) The shaft of a sheave shall be examined for flaws by a non-destructive test by a person competent in such testing,

- (a) before being put into service in a particular location;
- (b) after installation; and
- (c) at a regular frequency as recommended by a person competent in such testing.

248. (7) An examination shall be made by a competent person, using non-destructive methods acceptable to a professional engineer, to determine the condition of the,

- (a) mine hoist shafting, brake pins and linkages; and
- (b) structural parts, attachment pins and draw bars of a shaft conveyance and counterweight.

(7.1) The examination shall be made before the parts are first used and at regular intervals that are no greater than those recommended by the competent person performing the examination.

Proposed Amendments

- Propose replacing the current definition of “nondestructive test” in section 1 with the one currently found in O. Reg. 213/91 (Construction Projects), which is:

“non-destructive test” means one of the following methods of testing or examining a material, component or part to evaluate its condition without subjecting it to physical distortion, damage or destruction:

1. Eddy current testing.
 2. Magnetic particle testing.
 3. Liquid penetrant testing.
 4. Radiographic testing.
 5. Ultrasonic testing;
- Propose adding a new provision that persons carrying out and interpreting nondestructive testing must be certified in accordance with CAN/CGSB Standard 48.9712-2014 (Non-destructive Testing – Qualification and Certification of Personnel), similar to subsection 1(1.1) of O. Reg. 213/91.
 - o References in various provisions to non-destructive tests needing to be conducted by competent or trained persons would be consequently amended to reflect this new provision.
 - Consequential amendments to requirements for non-destructive tests in sections 195, 197, 225 and 248 would be made to reflect the proposed amended definition and certification requirements to ensure the appropriate methods of testing set out in the proposed definition are used and that, where required, recommendations of a professional engineer are followed.
 - The proposed amendments would harmonize the definition of non-destructive test with O. Reg. 213/91 and improve clarity and transparency by more clearly reflecting the Ministry’s current expectations regarding these requirements.

2. Revoking Redundant or Duplicative Requirements

Current Regulatory Requirements

22. (1) For the purpose of subsection 29 (2) of the Act, drawings, plans and specifications to be kept and maintained shall be,

- (a) a surface plan showing,
 - (i) the boundaries of a mining property,

- (ii) the co-ordinates of the section of a mining property under which mining has been done,
 - (iii) all lakes, streams, roads, railways, electric power transmission lines, main pipe lines, buildings, adits, surface workings, diamond drill holes, out-croppings of rock, dumps, tailing-disposal sites and openings to an underground mine, and
 - (iv) stopping of openings on the surface to an underground mine;
 - (b) plans on a horizontal plane with separate drawings for each level showing all underground workings, including shafts, tunnels, diamond drill holes, dams and bulkheads;
 - (c) plans on a vertical plane of all mine sections at suitable intervals and azimuths, showing all shafts, tunnels, drifts, stopes and other mine workings in relation to the surface, including the location of the top of the bedrock, the surface of the overburden and the bottom and surface of any known watercourse or body of water; and
 - (d) a plan or diagram showing,
 - (i) the position of all fixed electrical apparatus and communication systems in the mine,
 - (ii) the routes of all fixed power feeders and fixed branch feeders properly noted and referenced, and
 - (iii) the rating of all electrical feeder control apparatus and equipment.
- (2) The surface plan prescribed by clause (1) (a) shall show,
- (a) the boundaries of the mining property,
 - (i) related to the lot fabric where the property is in a subdivided township,
 - (ii) connected to the nearest mile post on a surveyed township boundary where the property is in an unsubdivided township, or (iii) connected to the nearest,
 - (A) mile post on a surveyed township boundary,
 - (B) base line, or
 - (C) meridian line, where the property is in unsurveyed territory, and
 - (iv) connected to a co-ordinate control survey monument if one exists within ten kilometres of the property; and
 - (b) the position and form of a permanent bench mark to which all elevations are related, and the permanent bench mark shall be related,
 - (i) where a Canadian Geodetic Datum bench mark exists within ten kilometres, to that bench mark, and

(ii) to the permanent bench mark of each adjoining property.

(3) The measurements under clause (2) (a) shall be consistent with accuracy standards for third order horizontal control surveys based on Ontario Specifications for Horizontal Control Surveys, 1979.

(4) Where operation at a mine is terminated or suspended, copies of the plans mentioned in subsection (1) shall be filed with the Ministry.

(5) Copies of all plans shall be on a legible scale and suitable for microfilming.

23. (3) Where operations at a mine or mining plant are discontinued or suspended, the notice mentioned in subsection (2) shall advise whether,

- (a) stopping and protection has been done as prescribed in section 18;
- (b) explosives have been disposed of as prescribed in subsection 122 (5);
- (c) removal and disposition of hoisting ropes has been done as prescribed in subsection 228 (17);
- (d) disconnection from the electrical power source has been done and has been confirmed in writing by the appropriate electrical utilities inspection department; and
- (e) plans required by section 22 have been filed with the Ministry.

195. (13) A person operating a production crane shall,

- (a) be physically and mentally fit to discharge the duties of a crane operator;
- (b) undergo a medical examination by a physician before commencing work as a crane operator and every twelve months thereafter;
- (c) obtain a crane operator's medical certificate from the physician certifying that the person is physically fit to operate a crane and is not subject to any infirmity of body or mind that may interfere with the duties of a crane operator.

(14) The crane operator's medical certificate shall,

- (a) expire one year from its date; and
- (b) be kept on file and recorded on a posted list of active crane operators.

(15) The crane operator's medical certificate shall be in the following form:

Occupational Health and Safety Act

CRANE OPERATOR'S MEDICAL CERTIFICATE

I have this day examined

name: and certify he (she) is
physically fit to operate a crane and is not subject to any infirmity of body or
mind that may interfere with the duties of a crane operator.

.....
(signature of physician)

.....
(date)

238. (2) A person operating a hoist shall,

- (a) undergo a medical examination by a physician before commencing work as a hoist operator and every twelve months thereafter; and
- (b) obtain a hoist operator's medical certificate from the physician certifying that the person is physically fit to operate a hoist and is not subject to any infirmity of body and mind that may interfere with the duties of a hoist operator.

(3) A hoist operator's medical certificate shall,

- (a) be kept available for inspection; and
- (b) expire twelve months after its date.

(4) A hoist operator's medical certificate shall be in the following form:

Occupational Health and Safety Act

HOIST OPERATOR'S MEDICAL CERTIFICATE

I have this day examined

Name

and certify he/she is physically fit to operate a hoist and is not subject to any infirmity of body or mind that may interfere with the duties of a hoist operator.

.....

Signature of physician

.....

(date)

285. Where a box, drum or other container contains a biological or chemical agent which is likely to affect the health or safety of a worker, the box, drum or other container shall be labelled in clear legible print to identify the agent and the label shall state the precautions to be taken in the handling, use, storage and disposal of the agent.

Proposed Amendments

- Subsections 22(4) and (5) and clause 23(3)(e), which require the filing of certain closing plans with and notification of the Ministry, would be revoked as they are duplicative of similar requirements under the Mining Act and do not reflect current industry practice. Other provisions in these sections would remain unchanged.
- The prescribed medical certificate forms for crane and hoist operators in subsections 195(15) and 238(4), respectively, would be revoked. Instead, consequential amendments to sections 195 and 238 would clarify that physicians would still need to examine these workers and certify, in writing, as to the worker's physical fitness to perform the work. This certification would need to contain certain information but would no longer need to be set out in a prescribed form.
- The changes would maintain current requirements to ensure the physical fitness of these crane and hoist operators, but provide flexibility by not prescribing the format for the required medical certificates. For those physicians who still want to use them, medical certificate forms would continue to be available online from Service Ontario.
- Section 285 would be revoked as requirements for labelling are covered by Reg. 860 - Workplace Hazardous Material Information System (WHMIS) under the OHSA.

3. Updating Various Industry Standards

Current Regulatory Requirements

228. (1) A shaft rope shall not be used unless,

- (a) a 2.5 metre representative sample has been subjected to a destructive test in accordance with CSA Standard G4-00 “Steel Wire Rope for General Purpose and for Mine Hoisting and Mine Haulage”; and
- (b) a Certificate of Test has been obtained from a cable testing laboratory approved by the Minister.

228. (2.1) A piece of the rope at least 2.5 metres long located at the lower end above the attachment to the conveyance shall be cut off, have its ends fastened to prevent unravelling and be tested in accordance with CSA Standard G4-00 “Steel Wire Rope for General Purpose and for Mine Hoisting and Mine Haulage”.

251. (2) A direct gas fired non-recirculating make-up heater being used for heating a mine or a mining plant shall be installed, operated and maintained to conform to CSA Standard 3.7-77, Direct Gas-Fired Non-Recirculating Make-Up Air Heaters.

265. An air supplied respirator that provides compressed air for breathing purposes shall comply with CSA Standard Z180.1-00, “Compressed Breathing Air and Systems”.

Proposed Amendments

- The references to the CSA Standard for wire rope testing in section 228 would be updated to the most recent (2015) version of the standard. However, new requirements in the 2015 standard for high tensile wire ropes in shaft sinking applications, which are not currently required to be tested under regulation 854, would not be adopted.
 - o The updates to seizing methodology and testing validation requirements in the latest CSA standard would improve the quality of destructive testing and would improve the safety of end users if referenced in Regulation 854.
- The CSA Standard for air heaters in section 251 would be updated to the most recent (2015) version.
 - o The provision would be amended to clarify that the 1977 version of the standard continues to apply to those air heaters currently found in mines and mining plants, while the newer version would apply to equipment installed on a go-forward basis.

- The CSA Standard for compressed breathing air and systems in section 265 would be updated to the most recent (2018) version.
 - o The latest version of the CSA Standard provides greater clarity to stakeholders and improves worker health and safety in respect of ambient air systems (AAS) and sampling and analysis requirements for compressed breathing systems.
- The proposed amendments to all three sections would keep the regulation up-to-date and are consistent with Ontario's regulatory principles to adopt recognized industry standards as appropriate.

4. Increasing Flexibility for Mines and Mining Plants

Current Regulatory Requirements

89. Where metallic or non-metallic rock is being removed from a surface mine,
- (a) the vertical height of the working face shall not be more than twenty-five metres; and
 - (b) except where a tunnelling method is used to remove the rock, no undercutting of the working face shall be permitted or done.

194. (11) The regulators and manifolds of oxygen and acetylene cylinders shall be disconnected when the cylinders are being transported underground.

Proposed Amendments

- Section 89 would be amended to allow a working face at a surface mine to exceed a vertical height of 25 metres if a professional engineer certifies that the safety of workers would not be endangered as a result.
 - o The proposed amendment would provide surface mines with an alternative to existing requirements, thereby increasing flexibility, while maintaining worker health and safety protections. The proposal would align Ontario with other jurisdictions such as Alberta and Nova Scotia.
- Subsection 194(11) would be amended to allow the regulators and manifolds of oxygen and acetylene cylinders to remain connected during transportation of these cylinders if the construction of the cylinder caps is such that remaining connected would not endanger worker health and safety during transportation.

- o The proposed amendment would reflect current technology and design of such cylinders, which precludes the removal of regulators and manifolds. As such, the current requirements could result in inadvertent hazards to worker health and safety. The proposal would provide flexibility to workplaces, address compliance issues with current requirements and reflect current technology and design of these cylinders.

5. Miscellaneous Amendments

Current Regulatory Requirements

[11, 11.1, 11.1.1, 11.2, 11.2.1, 11.2.2, and 11.2.3](#)

229. (3) No wedge type attachments shall be used unless the attachments are,

- (a) in sound condition; and
- (b) certified at least once every six years of use as being in sound condition by a competent person or by the manufacturer.

Proposed Amendments

- Would revoke existing subsections 11(8), 11.1(4), 11.1.1(4), 11.2(5), 11.2.1(4) and 11.2.2(4) and replace them with a single provision stating that a document issued by the Ministry of Training, Colleges and Universities showing a worker has successfully completed a module of a program referenced in sections 11 to 11.2.2 is conclusive proof of the worker's successful completion of that module. These amendments would be purely administrative intended to streamline existing provisions without affecting their application.
 - o References to "Ministry of Advanced Education and Skills Development" in modular training requirements would be replaced with "Ministry of Training, Colleges and Universities".
- Clause 229(3)(b) would be amended to require that wedge type attachments be certified every six years by a competent person or the manufacturer "as meeting manufacturer's specifications" rather than the current "being in sound condition".
 - o The proposal provides clarity and reflects current industry practice.

Anticipated Impact on Business

All ministries are subject to requirements set out in the Reducing Regulatory Costs for Business Act, 2017 (RRCBA), which came into force January 1, 2018. As part of its obligations under the RRCBA, the Ministry of Labour is conducting a Regulatory Impact Analysis (RIA) of these proposed amendments. A RIA is a process of identifying and assessing the potential benefits and costs of proposed regulations.

It is anticipated that most of the proposed amendments outlined above would not result in any additional costs to workplaces.

There may be some minimal additional costs associated with the proposal to update the CSA Standard for air supplied respirators. Changes to the standard may result in additional costs of approximately \$1,000 to upgrade existing air cylinder filling stations, at those mines where these stations exist, but it is not expected that these would exceed \$20,000 total for all mines. Any additional upfront costs (estimated at a further \$1,000 per mine) that are anticipated as a result of the changes to the standard are expected to be offset by long term cost savings associated with other changes in the standard, and therefore are assumed to be neutral.

In addition, although the proposal to amend requirements for non-destructive testing would include a new provision that persons who conduct this testing need to be certified in accordance with the applicable CSA Standard, the administrative costs associated with this proposal are anticipated to be minimal, if any. It is estimated that the costs of certification would be approximately equal to the current administrative and training costs of ensuring these people are “competent” or “trained” within the meaning of the current regulatory requirements.

The impact of these proposed changes would be limited. The requirements for nondestructive tests apply only in underground mines or to production cranes, of which there are a limited number in the province. In addition, many mines contract with a third party to conduct this type of testing or have one worker “in-house” who performs these tests at multiple mine sites. Many of these persons are assumed to already be, or could easily become, certified at minimal to additional direct cost to business.

Workplaces would need to spend approximately one to two hours to review and learn about the proposed changes, including reading the updated industry standards where applicable. The estimated administrative costs associated with this is expected to be between \$30-60 per mine, or approximately \$150,000-\$330,000 for all of Ontario.

Some of the proposals that would revoke certain out-of-date provisions could result in cost savings to mines and mining plants. For example, the proposed elimination of duplicative requirements to file certain closure plans with the Ministry could result in savings to business. In order to comply with the existing filing requirements, as written,

it is estimated that it costs a mine approximately \$200-500 (including copying documents, filing a hard copy in person or via courier, etc.). As the requirement applies to all underground and surface mines in the province, it is estimated that revoking these provisions could result in savings over \$1,000,000 associated with complying with Regulation 854 as currently written.

There are not expected to be any increased costs to the public, not-for-profit sector or government as a result of these proposed amendments.

As part of this consultation, the Ministry is seeking your comments and feedback pertaining to the anticipated costs and benefits of implementing these proposed amendments. We would be particularly interested in receiving information about whether or not you agree with our assessment, as set out above, or how you think the proposed amendments would impact costs associated with: capital and equipment; training and education; maintenance of new or previously owned equipment; labour; record keeping and reporting; other operating costs; and, other administrative costs. The Ministry will consider the information provided as we develop the proposal and the associated RIA.

Comments Due Date

March 29, 2019

Address

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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 and to facilitate the Ministry's development of proposed new regulatory requirements related to Regulation 854 (Mines and Mining Plants). This process may involve the Ministry publishing (in hard copy and on the internet) your submissions, comments, or summaries of them during and after the public consultation period. In addition, the Ministry may disclose your submissions, comments or summaries of them to third parties as part of the consultation process or where

required by law. 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.

If you identify yourself or other individuals in the body of the submission, this identifying information may be published or otherwise disclosed to the public. Any name and contact information provided outside of the body of the submission will not be disclosed by the Ministry unless required by law. Any individual who provides a submission and indicates an affiliation with an organization will be considered a representative of that organization and his or her name and other identifying information may be published or otherwise disclosed.

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.