

Operations | Occupational Health & Safety 

Province of Ontario
Diesel Amendments
Regulation 854 Mines and Mining Plants

Mining Diesel Emissions Conference
October 5th, 2011

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Ministry of Labour

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Ministry of Labour Mandate for Occupational Health and Safety


The prevention of work-related injuries and illness is an integral part of maintaining safe and healthy workplaces and a competitive and sustainable economy.

The MOL's primary mandate for occupational health and safety is to set, communicate and enforce occupational health and safety standards for workplaces under provincial jurisdiction as a means of reducing and eventually eliminating work-related deaths, injuries and illnesses.

The goal is to create an environment that makes Ontario workplaces among the safest in the world.

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Overview of the Occupational Health and Safety Act (OHSA)

The OHSA was enacted on October 1, 1979.

Its main purpose is to protect workers from workplace health and safety hazards, and its key features include the following:

- *Sets out basic duties of employers and constructors.*
- *Sets out basic duties and rights for workers.*
- *Establishes controls for toxic substances.*
- *Prohibits reprisals by employers.*
- *Provides for enforcement by inspectors.*
- *Establishes offences and penalties.*
- *Provides authority to make regulations (which set out in detail how the general duties in the OHSA are to be carried out).*
- *As of June 15, 2010, the OHSA set out requirements to address workplace violence and workplace harassment*

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Regulation 854 under the OHSA

Regulation 854 (Mines and Mining Plants) sets out specific occupational health and safety requirements for owners, employers, supervisors and workers at mines and mining plants in Ontario.

The regulation consists of the following twelve parts:

- *General Provisions*
- *Fire Protection*
- *Access to Workplaces*
- *Protection of Workers*
- *Haulage*
- *Explosives*
- *Electrical*
- *Mechanical (including provisions for diesel equipment)*
- *Railroads*
- *Mine Hoisting Plants*
- *Working Environment*

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Safe At Work Ontario

The Ministry of Labour and its health and safety system partners are committed to eliminating all workplace injuries.

Workers have a right to come home each day to their families, safe and sound.

Safe At Work Ontario is the Ministry of Labour's (MOL's) compliance strategy, designed to:

- *Improve the health and safety culture of workplaces,*
- *Reduce workplace injuries and illness,*
- *Lessen the burden on the health care system,*
- *Avoid costs for employers and the [Workplace Safety and Insurance Board \(WSIB\)](#),*
- *Provide a level playing field for compliant companies.*


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The Mining Legislative Review Committee (MLRC)

▪ Section 21 of Occupational Health and Safety Act R.S.O. 1990 on advisory committees states:

• 21. (1) *The Minister may appoint committees, which are not committees as defined in subsection 1(1), or persons to assist or advise the Minister on any matter arising under this Act or to inquire into and report to the Minister on any matter that the Minister considers advisable. R.S.O. 1990, c. O.1, s. 21 (1).*



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The Mining Legislative Review Committee (MLRC)

Committee Purpose:

▪ *The purpose of the Committee is to provide the Minister with advice and counsel on an on-going basis from a cross-section of the mining community in Ontario, in respect to legislation and regulations relating to occupational health and safety in mines.*

The Terms of Reference for the Committee Include:

▪ *Where deemed necessary by the MLRC Committee, to establish sub-committees to investigate and report to the Committee on specific areas of mining safety with a view to drafting new legislation, and;*

▪ *Advise the Minister of required legislative and regulatory action which will promote the health of workers and safe working conditions in Ontario mines.*

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The Mining Legislation Review Committee- Diesel Subcommittee

Subcommittee Terms of Reference:

“Motion to re-direct the diesel sub-committee to look at advancing technology and how it can affect the volumes of air and testing.” (MLRC Minutes: May 25 & 26, 1993).



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The Mining Legislation Review Committee- Diesel Subcommittee


About the Diesel Subcommittee:

The subcommittee was formed in 1989 by the MLRC.

It consists of equal representation from Management and Labour (i.e. 2 per side).

Additional resource members are consulted as required.




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The amending regulation introduces new *Section 181.1*

- **The purpose of the amendment is to clarify that sections Sections 182, 183, 183.1 and 183.2 apply only with respect to underground mines in the province.**

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Amending Regulation 296/11

- ***Amendments come into force January 1, 2012.***

Current Regulation	Amended Section
<p>182. (1) Before diesel powered equipment is first used in an underground mine, the employer shall complete Form 1. O. Reg. 272/97, s. 32.</p> <p>(1.1) Once the information is complete on Form 1, the employer shall ensure that the form is kept readily available at the mine site. O.Reg. 272/97, s.32.</p>	<p>Subsections 182 (1) and (1.1) of the Regulation are revoked and the following substituted:</p> <p>(1) Diesel-powered equipment shall not be used in an underground mine unless a form obtained from the Ministry has been completed with information relating to the equipment and the completed form is readily available at the mine site.</p>

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**Province of Ontario
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Amending Regulation 296/11

▪ *Amendments come into force January 1, 2012.*

Current Regulation	Amended Section
<p>182.(6) For each piece of diesel-powered equipment, the employer shall ensure that a record containing the following information is maintained:</p> <ol style="list-style-type: none"> 1.The company identification number. 2.The make and model of the piece of equipment. 3.The prescribed ventilation rate in cubic metres per second. 4.The maximum rated load in kilowatts. 5.The maximum speed at the maximum rated load RPM 6.The maximum fuel injection rate 7.The results of any test made under paragraph 2 of subsection 183.2 (1). O. Reg. 779/94, s. 6. 	<p>Subsection 182 (6) of the Regulation is revoked</p>

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**Province of Ontario
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Amending Regulation 296/11

▪ *Amendments come into force January 1, 2012.*

Current Regulation	Amended Section
<p>Section 182.</p> <p>(5) An employer shall ensure that the undiluted exhaust gases from diesel-powered equipment is less than 1,500 parts per million by volume of carbon monoxide. O. Reg. 779/94, s. 6.</p>	<p>Subsection 182 (5) of the Regulation is revoked and the following substituted:</p> <p>(5) An employer shall ensure that the undiluted exhaust emissions from diesel-powered equipment contain less than <u>600 parts per million by volume of carbon monoxide.</u></p>

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Amending Regulation 296/11

Amendments come into force January 1, 2012.

Current Regulation	Amended Section
<p>183.1 (1) The employer shall ensure that a flow of air that meets the requirements of this section is provided to the workplace where diesel-powered equipment is operating. O. Reg. 779/94, s. 7.</p> <p>...</p> <p>(5) The flow of air must reduce the time-weighted average exposure of a worker to airborne respirable combustible dust to not more than 1.5 milligrams per cubic metre of air. O. Reg. 779/94, s. 7.</p>	<p>Subsection 183.1 (5) of the Regulation is revoked and the following substituted:</p> <p>(5) The flow of air must,</p> <p>(a) reduce the time-weighted average exposure of a worker to total carbon to not more than 0.4 milligrams per cubic metre of air; or</p> <p>(b) reduce the time-weighted average exposure of a worker to elemental carbon, multiplied by 1.3, to not more than 0.4 milligrams per cubic metre of air.</p>

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Amending Regulation 296/11

Amendments come into force January 1, 2012.


Current Regulation	Amended Section
<p>183.2 (1) The employer shall ensure that tests are conducted to determine the following matters at the times indicated:</p> <p>...</p> <p>3. The volume of air flow and the carbon monoxide, nitrogen dioxide, formaldehyde or respirable combustible dust contents of the atmosphere. These must be tested at the request of a worker. O. Reg. 779/94, s. 7.</p> <p>(2) The employer shall provide the results of every test conducted under subsection (1) to the joint health and safety committee or the health and safety representative, if any, for the workplace.</p>	<p>Section 183.2 of the Regulation is amended by adding the following:</p> <p>183.2 (1) The employer shall ensure that tests are conducted to determine the following matters at the times indicated:</p> <p>...</p> <p>3. The volume of air flow and the carbon monoxide, nitrogen dioxide, formaldehyde or Total Carbon contents of the atmosphere. These must be tested at the request of a worker.</p> <p>(2) The employer shall provide the results of every test conducted under subsection (1) to the joint health and safety committee or the health and safety representative, if any, for the workplace.</p>

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Amending Regulation 296/11
Amendments come into force January 1, 2012.

Current Regulation	Amended Section
<p>Section 183.2</p> <p>(3) The employer shall record the results of every test conducted under <u>paragraph 3</u> of subsection (1) and shall maintain the record. O.Reg. 779/94, s.7.</p> <p>(4) If a test indicates that a worker has been exposed to diesel exhaust emissions containing a toxic substance in excess of the level set out in subsections <u>183.1 (4) and (5)</u> and if this test result could not have been predicted in the circumstances, the employer shall,</p>	<p>Section 183.2 of the Regulation is amended by adding the following:</p> <p>(3) <u>The employer shall record</u> the results of every test conducted under <u>paragraphs (2) and (3)</u> of subsection (1) and shall maintain the record.</p> <p>(4) If a test indicates that a worker has been exposed to diesel exhaust emissions containing a toxic substance in excess of the level set out in subsection <u>183.1 (4) or clause 183.1 (5)(a)</u> and if this test result could not have been predicted in the circumstances, the employer shall,</p>

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Amendments come into force January 1, 2012.

Current Regulation	Amended Section
<p>183.2 (1) The employer shall ensure that tests are conducted to determine the following matters at the times indicated:</p> <p>(2) The employer shall provide the results of every test conducted under subsection (1) to the joint health and safety committee or the health and safety representative, if any, for the workplace. O. Reg. 779/94, s. 7.</p> <p>(3) The employer shall record the results of every test conducted under paragraph 3 of subsection (1) and shall maintain the record. O. Reg. 779/94, s. 7.</p>	<p>Section 183.2 of the Regulation is amended by adding the following subsection:</p> <p>(1.1) The employer shall ensure that the following rules are complied with in relation to tests conducted under paragraph 2 of subsection (1):</p> <ol style="list-style-type: none"> 1. The employer shall develop and implement testing measures and procedures in consultation with the joint health and safety committee or health and safety representative, if any, and shall take into consideration any recommendations made by the committee or representative. 2. Each individual piece of equipment must be tested under consistent conditions so that results from different tests can be compared. 3. Testing must be carried out, as far as is practical, on equipment under full load.


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Provincial Diesel Surveys

- The purpose of the surveys was to provide information to the M.L.R.C.
- MLRC recommended changes based on the survey findings.
- Changes to legislation in 1994 included:
 - Removal of required weekly gas tests.
 - Testing at the request of a worker.
 - Removal of prescribed logbooks.
 - Exposure to respirable combustible dust (RCD) set at 1.5 mg/m³.
 - Inclusion of the CAN/CSA M424.2-M90, "Non-Rail-Bound Diesel-Powered Machines for Use in Non-Gassy Underground Mines".



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Provincial Diesel Surveys

1996 Survey:

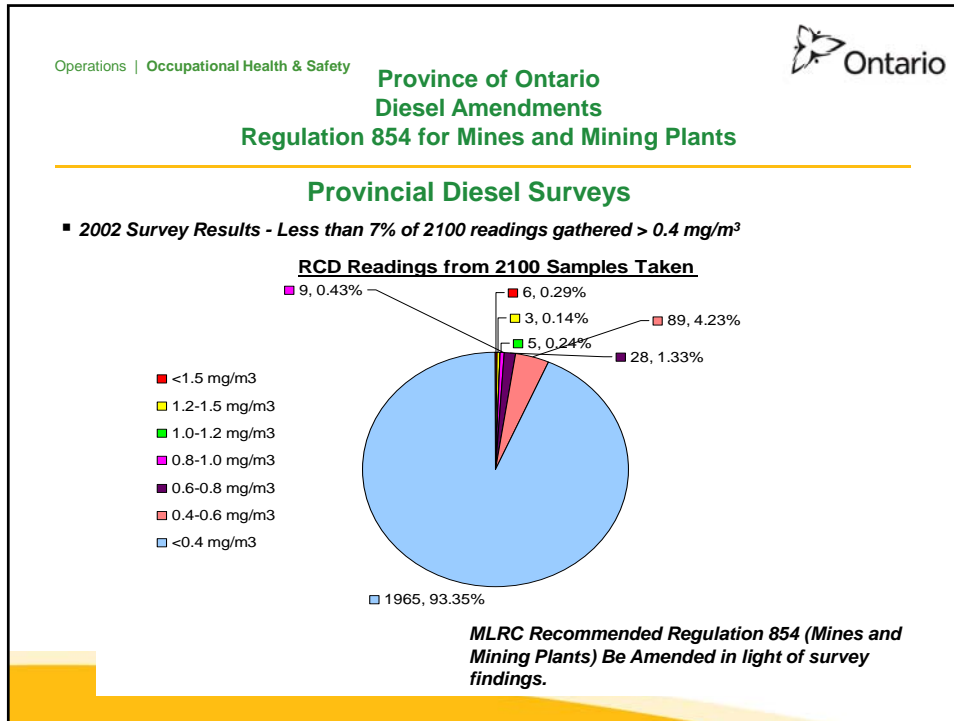
The subcommittee focused on diesel fuel and:

- Lowering the fuel sulphur content from 2500 to 500 ppm.
- Allowing the use of "Automotive Low Sulphur Diesel Fuel" Type AL-S.

2002 Survey:

The survey provided information regarding:

- Make up of fleet (i.e. 1952 diesel units with 248,033 bhp. # Units Fell H.P. increased).
- Engines data (i.e. electronically controlled engines represented 35.6% of the units).
- RCD data (i.e. 93.3% of samples <0.40 mg/m³; 96.5% <0.50 mg/m³; 98% <0.60 mg/m³).
- Diesel Survey Presented to MLRC February 2004.



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New Provincial Diesel Survey Endorsed by the MLRC

New Mines Survey to be undertaken in Ontario will focused on:

- **Emission reduction information:**
 - gathered and shared with stakeholders.
- **Information sharing:**
 - future access for employers contemplating programs for lowering emissions in their operations.
- **Providing up to date:**
 - information on tail pipe emissions RCD dust samples and NIOSH 5040 sampling.

New - mining contractors operating equipment in the province will be included in the new survey.

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Ministry of Labour Heightened Enforcement Focuses

The Ministry of Labour's proactive inspection blitzes on sector-specific hazards are:

- *designed to raise awareness and increase compliance with health and safety legislation;*
- *announced in advance and results are reported after they are completed.*

Since June 2008, 34 blitzes have been held in the mining, construction, industrial and health care sectors.

An Underground Mining Ventilation Blitz is planned for October 2011. It will be the Ministry of Labour's 35th blitz.



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Underground Ventilation Blitz - October 2011

Mining inspectors will focus on the following key priorities:

Ventilation Systems: Inspectors will check that ventilation systems at underground mines are providing adequate clean air supply.

Diesel Equipment Areas: Inspectors will check that portable auxiliary ventilation systems are providing adequate air supply to underground workplaces. These portable auxiliary ventilation systems are used to bolster the air quality in areas where any diesel equipment is operated.

Workplace Air Sampling: Inspectors will check that employers are regularly testing the air in underground mines to ensure concentrations of toxic prescribed substances do not exceed levels set in Regulations for Mines and Mining Plants.

