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Overview of the Province of Ontario's Ventilation Blitzes in Underground Mines

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Ministry of Labour

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Province of Ontario Underground Mine Ventilation Blitzes

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Underground Mine Ventilation Blitzes



Ministry of Labour's Mandate:


The Ministry of Labour's (MOL's) occupational health and safety mandate is to set, communicate and enforce occupational health and safety legislation and its regulations with respect to Ontario workplaces.

The Ministry's strategic objective of reducing or eliminating workplace injury or illness is consistent with that of its occupational health and safety system partners, including the Health and Safety Associations and the Workplace Safety and Insurance Board.

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

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Key Roles of Occupational Health and Safety System Partners

Ministry of Labour (MOL) –sets, communicates and enforces occupational health and safety standards as a means of reducing and eventually eliminating work-related deaths, injuries and illnesses, while encouraging greater workplace self-reliance; it also develops, coordinates and implements strategies to prevent workplace injuries and illnesses and set standards for health and safety training.

Workplace Safety and Insurance Board (WSIB) – administers the Workplace Safety and Insurance Act, 1997 (WSIA); provides compensation/benefits to injured workers or their survivors; supports early return to work; promotes occupational health and safety and supports/collaborates with MOL and the Chief Prevention Officer.

Health and Safety Associations (HSAs) – provide occupational health and safety support services (training, consultation clinical services and workplace audits) to employers and workers.


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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.
- Sets out duties regarding workplace violence and workplace harassment.
- Sets out a procedure to follow when a worker refuses unsafe work.
- Prohibits reprisals by employers.
- Provides for enforcement by inspectors.
- Establishes offences and penalties.
- Provides authority to make regulations.


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Regulation 854 Mines and Mining Plants under the OHSA

Regulation 854 (Mines and Mining Plants) under the OHSA 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 eleven parts:

- i. General Provisions
- ii. Fire Protection
- iii. Access to Workplaces
- iv. Protection of Workers
- v. Haulage
- vi. Explosives
- vii. Electrical
- viii. Mechanical (including provisions for diesel equipment)
- ix. Railroads
- x. Mine Hoisting Plants
- xi. Working Environment (including provisions for ventilation underground)

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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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Ministry of Labour Health and Safety Programs

Within the Ministry of Labour's Occupational Health and Safety Branch (OHSB), there are four sector-specific occupational health and safety programs that oversee enforcement of the OHSA and its 26 regulations:

- Construction Health and Safety Program (CHSP)
- Health Care Health and Safety Program (HCHSP)
- Industrial Health and Safety Program (IHSP)
- Mining Health and Safety Program (MHSP)

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Health and Safety Inspection Blitzes Safe At Work


The Ministry of Labour's proactive inspection blitzes on sector-specific hazards are designed to raise awareness and increase compliance with occupational health and safety legislation.

These blitzes are announced in advance and results are reported after they are completed.

From 2008 to August 31, 2013 there have been 54 blitzes completed by the Ministry of Labour.

Information about the blitzes can be reviewed at the MOL website provided.

<http://www.labour.gov.on.ca/english/hs/sawo/blitzes/index.php>

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Inspection Blitzes January 1, 2013 - October 31, 2013.

Date (Duration of Focus)	Program Area(s)	Focus
January – February 2013	MHSP	Underground Mining (ventilation hazards)
February – March 2013	IHSP and CHSP	Slips, Trips and Falls (ladder safety and fall protection hazards)
February – March 2013	HCU	Workplace Violence
May 2013	CHSP	Excavation
May – August 2013	IHSP and HCU	Vulnerable Workers (New and Young Workers)
July – August 2013	MHSP	Internal Responsibility System (IRS)
September – October 2013	CHSP	Fall Hazards

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Underground Mine Ventilation Blitzes


The Underground Ventilation Blitzes' Goal:


- Raise awareness of the amendments to diesel provisions in the Mining Regulation that came into effect on January 1, 2012;
- Raise awareness of health and safety issues involving ventilation hazards in underground mines;
- Address and remedy non-compliance with requirements in the OHSA and Mining Regulation; and
- Promote healthier workplaces through routine testing and control of diesel emissions in mines.

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Safe At Work Ontario Ventilation Blitz October – November 2011



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Underground Ventilation Blitz October - November 2011


Provincial Mining inspectors focused on the following key priorities:

Ventilation Systems: Inspectors checked that ventilation systems at underground mines provided adequate clean air supply.

Diesel Equipment Areas: Inspectors checked that portable auxiliary ventilation systems provided 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 checked that employers regularly tested the air in underground mines to ensure concentrations of toxic prescribed substances did not exceed levels set in the Mining Regulation.



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Ventilation Blitz October 2011

Inspection activity:


In October and November 2011, Ministry inspectors conducted 61 visits to 36 underground mines.

Issued 207 orders under the OHSA and its regulations, including 22 stop work orders to underground mines.

On average, this was 3.4 orders per visit.



Regulations for Mines and Mining Plants

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Orders issued under the Occupational Health and Safety Act (OHSA), and Regulations for Mines and Mining Plants

Reason for order	Number of orders	Percentage of total orders issued
Employer duty to take every reasonable precaution to protect a worker [OHSA S. 25(2)(h)]	24	11.5%
Employer duty to prepare a plan to comply with an inspector's order [OHSA S. 57(4)]	11	5%
Employer duty to erect signs or barricades to isolate hazardous areas in a mine [Mining Reg. S. 68(a)&(b)]	11	5%
Employer duty to fill out a notice when diesel-powered equipment is first used [Mining Reg. S. 182(1)]	9	4.3%
Employer duty to maintain a chart outlining procedures for ventilation when diesel is present [Mining Reg. S. 183]	9	4.3%
Worker duty to comply with OHSA and its regulations [OHSA S. 28]	2	1.0%



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Ventilation Blitz
January - February 2013



During January and February of 2013, Ministry of Labour (MOL) inspectors conducted an enforcement focus to ensure that mining operations were complying with the Occupational Health and Safety Act (OHSA) and its regulations.


Provincial Mining inspectors focused on the following key priorities:

- Hazards involving diesel equipment and ventilation systems;
- Changes to emission requirements for diesel-powered equipment under the OHSA Regulation for Mines and Mining Plants that came into force on January 1, 2012.



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Amendments to Regulation 854
(Part VIII – Mechanical)




Undiluted tail pipe limits for CO lowered to 600 parts per million (PPM) from 1500 (PPM) by volume.

Employers required to develop and implement testing measures and procedures in consultation with the joint health and safety committee or health and safety representative, and take into consideration any recommendations made by the committee or representative.


Measures and procedures for testing of each individual piece of diesel-powered equipment under consistent conditions so that results from different tests can be compared.

Testing must be carried out, as far as it is practical, on equipment with the engine in a fully loaded condition.



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Ventilation Blitz
January - February 2013




Provincial Mining inspectors focused on the following key priorities:

Committee Consultation: Inspectors checked that employers had developed and implemented testing measures and procedures for each piece of diesel equipment, in consultation with the Joint Health and Safety Committee (JHSC) or a health and safety representative.


Diesel Equipment: Inspectors checked that equipment used for underground transportation of workers and materials was being regularly tested, as required.

Workplace Air Sampling: Inspectors checked that employers were regularly testing the air in underground mines to ensure exposure to toxic airborne substances did not exceed the prescribed limits.



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Ventilation Blitz January - February 2013





Inspection activity:

In January and February 2013, Ministry inspectors conducted 27 visits to 21 workplaces visited.

Issued 82 orders under the OHSA and its regulations, including 12 stop work orders to underground mines.

On average, this was 3.04 orders per visit.





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Orders issued under the Occupational Health and Safety Act (OHSA), and Regulations for Mines and Mining Plants

Table 2: Frequently Issued Orders during Blitz

Reason for order	Number of orders	Percentage of total orders issued
Stop work order employer failed to meet the intent of the legislation where a danger or hazard exists to the health or safety of a worker [(OHSA Section 57(6))].	12	14.63%
Provide a plan to comply with inspector's order [(OHSA Sec. 57.(4)]	10	12.20%
Employer fails to develop testing measures and procedures in consultation with JHSC for diesel-powered equipment [Mining Reg. Sec. 183.2 (1.1)]	9	10.98%
Employer failure to ensure flow of air protects a worker from exposure to total carbon [Mining Reg. Sec. 183.1.(5)]	4	4.88%
Employer fails to provide testing results to the JHSC [Mining Reg. Sec. 183.2.(2)]	4	4.88%

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- Orders were also issued during the blitzes for failing to:
- Provide a safe means of access to maintain or service equipment.
 - Install electrical equipment according to good electrical practices.
 - Examine ground conditions in the workplace for hazards and make them safe.
 - Prevent contact between blasting cables and power cables, pipes or other metal grounded circuits.
 - Keep underground mines free of the accumulation of water.

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Underground Mining Ventilation Hazards


Conclusions:

The Ministry will continue to inspect underground mines regularly to check on whether employers are providing adequate air/ventilation for workers.

The underground mining ventilation blitzes were an important enforcement initiative focused on serious workplace hazards in underground mines.

The blitz identified violations of the OHSA and the Mining Regulation, and created a greater level of awareness of ventilation hazards in underground mines.

Such enforcement will help protect workers from over-exposure to diesel emissions, which is a known cancer-causing substance.

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Underground Mining Ventilation Hazards

Next Steps:

Inspectors will continue to focus on ventilation systems, an integral component in providing clean air to underground mines.

Over-exposure to diesel emissions poses a serious health risk for workers. The Ministry will continue its enforcement focus to check that employers are complying with occupational health and safety legislation.

The Ministry will continue to focus on conditions in underground mines to fulfil its mission of advancing healthy, safe and productive workplaces in Ontario.

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Underground Mining Ventilation Hazards

A key to workplace health and safety in Ontario is the internal responsibility system (IRS). Employers, supervisors, workers, health and safety associations and the government all have key roles to play in taking responsibility for health and safety in the workplace, leading to the elimination of workplace injuries and deaths.

The MOL will continue to work with health and safety associations (HSAs) such as Workplace Safety North (WSN) to produce webinars that provide information to stakeholders, and provide them with an opportunity to pose questions to both WSN and the Ministry of Labour for future blitzes.

Seventy-eight participants registered for the ventilation webinar January 9, 2013 and there were 29 guests (sites), according to WSN, suggesting the Ministry's public information initiatives and outreach are useful tools for providing information.

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Thank you

Questions & Comments

This document is not intended to replace the OHSA or the regulations and reference should always be made to the official version of the legislation.

It is the responsibility of the workplace parties to ensure compliance with the legislation. This document does not constitute legal advice. If you require assistance with respect to the interpretation of the legislation and its potential application in specific circumstances, please contact your legal counsel.

Ministry of Labour inspectors, will apply and enforce the OHSA and its regulations based on the facts as they may find them in the workplace.