Mining Webinar: Be prepared for Ministry of Labour inspection blitz - Mobile equipment in mines and mining plants

August 23, 2018

1.888.730.7821 (Toll free Ontario)
workplacesafetynorth.ca

Welcome to the webinar: Be prepared for MOL inspection blitz on Mobile Equipment in Mines and Mining Plants

- The webinar will begin at **10:00 am Eastern Time**
- For audio, please use headphones or ear buds.
- Please note the '**CHAT BOX**' to the right of the screen and feel free to type in your questions at any time during the presentation.
- Questions may be answered during the presentation, but most will be addressed at the end of the presentation.
- For your reference, this presentation will be emailed to attendees within one business day of the webinar.
- For assistance with the webinar, phone the WSN office at: **1-888-730-7821 ext. 0**

Webinar co-hosts

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Agenda

- Introduction and Injury statistics
- Mobile equipment hazards and controls
- WSN information and resources
- What Ministry of Labour (MOL) Mining Health and Safety Inspectors will be looking for during the mobile equipment blitz
- Ontario requirements pertaining to mobile equipment in the workplace in mines and mining plants (Occupational Health and Safety Act, Regulation 854)
- Q & A

MOL Blitz Overview

The purpose of the inspection blitz:

- Ensure the workplace parties are complying with the OHSA and its regulations including:
  - Traffic management programs
  - Equipment maintenance
  - Worker visibility
  - Worker training
  - Risk assessment and risk management

MOL Blitz Overview

The purpose of the inspection blitz (continued…):

- Raise and promote the awareness of employers, supervisors and workers about hazards associated with mobile equipment to better understand the risks associated with:
  - Exposures to operating and working around mobile equipment
  - Operating equipment around open holes
  - Conducting maintenance work
  - Mobile-to-mobile interaction
  - Pedestrian-to-mobile interaction
- Increase awareness of having a functioning traffic management and equipment maintenance programs.

Workplace Health and Safety Snapshot for Ontario Mining Sector in 2017

21,423
Full-time employees

1 Injury **8** Disease*
Work-related fatalities

911
Total injuries

147
Lost-time injuries

4.25
Total injury rate per 100 workers

+3.66%
Change in injury rate from previous year

Events resulting in lost-time injury or illness

Injury or illness severe enough to require one or more days lost from work

37%
Bodily reaction and exertion
(excessive physical effort, free bodily motion that results in stress or strain on the body, assuming an unnatural position, and repetitive motion)

24%
Contact with objects or equipment
(struck by object; caught in, crushed, or compressed by equipment, objects, or collapsing materials; abraded by friction or pressure)

16%
Falls
(falls or jumps to lower level, and falls on same level)

23%
All others
(highway and non-highway incidents; contact with temperature extremes; exposure to: air pressure change, harmful, noxious or allergenic substance, radiation, traumatic event, explosion)

Most common lost-time injuries

55 **Bodily reaction and exertion**, includes injuries and illnesses resulting from repetitive motion, bending, climbing, crawling, reaching, twisting, slipping, tripping, overexertion in lifting, pulling, pushing, carrying or turning objects.

36 **Contact with objects and equipment**, includes struck by falling, flying, swinging or slipping object; struck by or against object; stepped on object; struck by rolling, sliding object on floor; compressed or pinched by rolling, sliding or shifting object, compressed by equipment or object; rubbed or abraded by foreign matter and other cave-in.

23 **Falls**, includes falls to floor, walkway or other surface, falls onto or against object, falls to lower or same level, and falls from moving vehicles.

Top 3 Occupational Diseases

Based on approved WSIB claims for healthcare, being off work, loss of wages, or permanent disability

103
Noise-induced hearing loss

22
Hand-arm vibration syndrome

14
Injury and poisoning, includes burns, heat exhaustion, toxic effects of gases or acide, bee and wasp stings.

*Disease fatality claims approved by WSIB in 2017. Source: WSIB Enterprise Information Warehouse as of February, 2018. RG 110, 113, 119 WSN May 2018.

Workplace Safety North™

Workplace Safety North™ ONTARIO MINE RESCUE

For more detailed statistics and trends
workplacesafetynorth.ca/resources/mining-statistics

Workplace Safety North - Mining, Other Steel Sector

Lost Time Injuries by Incident Type: 2012-2016

Based on March 2017 Snapshot

Mining, Other Steel Sector Lost Time Injuries 2012-2016										
Incident Type	**RG 110**	**%**	**RG 113**	**%**	**RG 119**	**%**	**RG 352**	**%**	**TOTAL**	**%**
Contact with objects	101	35%	88	25%	55	28%	170	30%	414	30%
Falls	51	18%	21	6%	37	19%	68	12%	177	13%
Bodily reaction and exertion	87	30%	169	49%	80	40%	244	43%	580	41%
Exposure to harmful substances or environments	17	6%	31	9%	11	6%	51	9%	110	8%
Transportation incidents	20	7%	25	7%	15	8%	18	3%	78	6%
Fires and explosions	2	1%	4	1%	0	0%	8	1%	14	1%
Assaults or violent acts	0	0%	0	0%	0	0%	1	<1%	1	<1%
Other events or exposures/NA	8	3%	9	3%	2	1%	9	2%	28	2%
TOTAL	286	100%	347	100%	200	100%	569	100%	1,402	100%

RG=Rate Group

NOTE: Percentage may not add due to rounding.

Ontario Mining, Steel and Other Smelting Sector

Traumatic Fatal Injuries 2012 - 2016

- From 2012 to 2016, there were 14 traumatic fatal injuries in Ontario mining, steel and other smelting sector for the top 7 incident categories.
- Three (3) of the fatal injuries involve mobile equipment.

2013 - Worker was fatally injured in a motor vehicle when it was in a collision with another vehicle.

2015 - A worker was involved in an underground rail haulage accident which fatally injured the worker.

2015 - A worker was struck by a piece of equipment.

Traffic Management Program

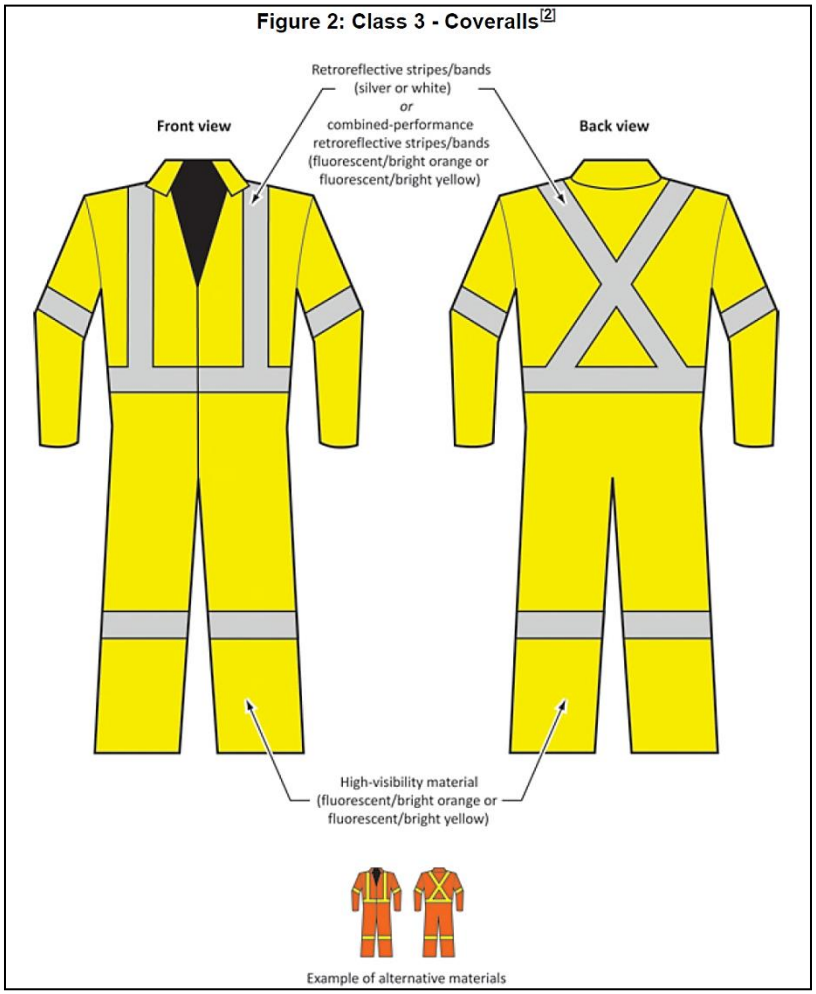
- Develop and maintain a written traffic management program including:
  - Measures and procedures to prevent motor vehicle collisions by addressing hazards related to reduced visibility of motor vehicle operators.
  - Protect the health and safety of workers who may be endangered by a moving motor vehicle.
- The program must be reviewed at least annually.

Equipment Maintenance Program

- Comprehensive preventive maintenance is essential to reducing hazards associated with mobile equipment including:
  - Ensure maintenance program is in placed and strictly followed
  - A risk assessment to create an inventory of tasks for preventive maintenance on all equipment
  - A method and schedule to determine when preventive maintenance should take place
  - A recording system to document tasks associated with preventive maintenance
  - Supervisors to ensure preventive maintenance is taking place

Ministry of Labour (MOL) Visibility Guideline

- The MOL recommends CSA Class 3/Level 2 High-Visibility Safety Apparel for underground mining environments.
- Distinguishing features:
  - Parallel stripes on front
  - ‘X’ pattern on back
  - Full torso stripe
  - Markings on arms & legs
- Source - http://www.labour.gov.on.ca/english/hs/pubs/gl_hvsa.php



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Risk Assessment and Overview of Hazards

Risk assessment process:

- Identify all hazards related to mobile equipment travel
- Assess and rate the risk, evaluate existing controls, add controls:

Overview of Hazards associated with:

- Ramp Travel
- Operating equipment around open holes
- Roadway Lighting
- Vehicle Parking
- Access to shops and equipment maintenance
- Pedestrian Visibility

Traffic Control - Ramp Travel

Factors to consider for mobile equipment/vehicle travel on a ramp system:

- Equipment right-of-ways
- Pedestrians
- Tracking system
- Radio failure
- Power failure
- Encountering smoke or stench gas
- Breakdown on ramp
- Fog

Traffic Control - Operating mobile equipment around open holes

Factors to consider for operating mobile equipment around open holes:

- Dumping at the edge of an open hole (e.g. open stope or pass)
- Bumper design - sufficient size and secured in a fashion to prevent equipment from falling over the edge.
- Barricades and warning signs - maintained in proper condition to ensure that driving of equipment into open hole is avoided

Traffic Control - Lighting

Factors to consider:

- Ambient lighting underground and surface
- At underground entrances
- In areas adjacent to the workplace where workers are required to travel
- In circumstances where the nature of the equipment or the operation may create a hazard to a worker due to insufficient lighting

Traffic Control - Parking

Factors to consider:

- Orderly parking of equipment
- Parked vehicle with warning lights
- Chocking
- Circle check
- Vehicle start-up
- Fueling

Access to Shops and Equipment Maintenance

Factors to consider:

- Clearances on entry
- Safety of workers inside the shops
- Signal person
- Remove mechanics from vulnerable positions during the positioning of vehicles
- Procedures for working on tires and assemblies
- Chocking

Technology

The implementation of a collision management system:

- Cameras
- Radio frequency identification (RFID) tracking system
- Proximity detection
- Levels of intervention
  - Use of strobe lights in the back of hard hats
  - Use of strobe lights mounted on walls were service crew are performing work

The advent of battery /electrically propelled haulage vehicles:

- Quiet

Visibility Awareness Training

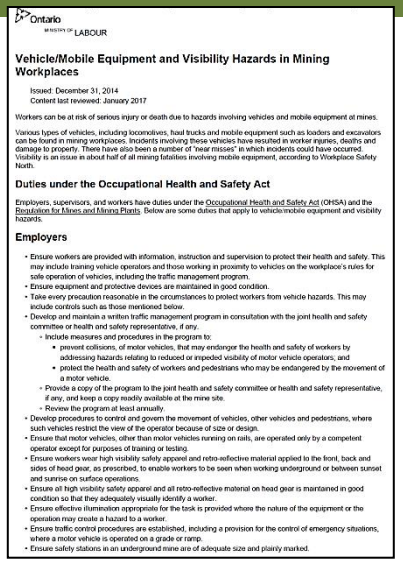
No single measure is as important in reducing the number of incidents and the likelihood of incidents as training workers.

Training should focus on:

- Visibility/line-of-sight information
- Specific visibility and travel risks that can be encountered underground
- Pedestrians trained to use eyes and ears, safety bays and lamp signals
- Operators trained in emergency warning devices and procedures in the event of mechanical failure
- Training for both operators and pedestrians in any warning systems the company is using

Information and Resources

- **Ministry of Labour (MOL) Information Bulletin: Vehicle/mobile equipment and visibility hazards in mining workplaces**
  https://www.labour.gov.on.ca/english/hs/pubs/ib_mobilemin.php
  Free download



Ontario
MINISTRY OF LABOUR

Vehicle/Mobile Equipment and Visibility Hazards in Mining Workplaces

Issued: December 31, 2014
Content last reviewed: January 2017

Workers can be at risk of serious injury or death due to hazards involving vehicles and mobile equipment at mines.

Various types of vehicles, including locomotives, haul trucks and mobile equipment such as loaders and excavators can be found in mining workplaces. Incidents involving these vehicles have resulted in worker injuries, deaths and damage to property. There have also been a number of "near misses" in which incidents could have occurred. Visibility is an issue in about half of all mining fatalities involving mobile equipment, according to Workplace Safety North.

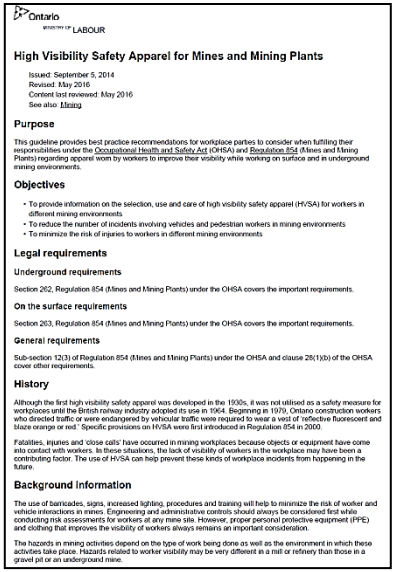
Duties under the Occupational Health and Safety Act

Employers, supervisors, and workers have duties under the Occupational Health and Safety Act (OHSA) and the Regulation for Mines and Mining Plants. Below are some duties that apply to vehicle/mobile equipment and visibility hazards.

Employers

- Ensure workers are provided with information, instruction and supervision to protect their health and safety. This may include training vehicle operators and those working in proximity to vehicles on the workplace's rules for safe operation of vehicles, including the traffic management program.
- Ensure equipment and protective devices are maintained in good condition.
- Take every precaution reasonable in the circumstances to protect workers from vehicle hazards. This may include controls such as those mentioned below.
- Develop and maintain a written traffic management program in consultation with the joint health and safety committee or health and safety representative, if any.
  - Include measures and procedures in the program to:
    - prevent collisions, of motor vehicles, that may endanger the health and safety of workers by addressing hazards relating to reduced or impeded visibility of motor vehicle operators, and
    - protect the health and safety of workers and pedestrians who may be endangered by the movement of a motor vehicle.
  - Provide a copy of the program to the joint health and safety committee or health and safety representative, if any, and keep a copy readily available at the mine site.
  - Review the program at least annually.
- Develop procedures to control and govern the movement of vehicles, other vehicles and pedestrians, where such vehicles restrict the view of the operator because of size or design.
- Ensure that motor vehicles, other than motor vehicles running on rails, are operated only by a competent operator except for purposes of training or testing.
- Ensure workers wear high visibility safety apparel and retro-reflective material applied to the front, back and sides of head gear, as prescribed, to enable workers to be seen when working underground or between sunset and sunrise on surface operations.
- Ensure all high visibility safety apparel and all retro-reflective material on head gear is maintained in good condition so that they adequately visually identify a worker.
- Ensure effective illumination appropriate for the task is provided where the nature of the equipment or the operation may create a hazard to a worker.
- Ensure traffic control procedures are established, including a provision for the control of emergency situations, where a motor vehicle is operated on a grade or ramp.
- Ensure safety stations in an underground mine are of adequate size and plainly marked.

- **MOL Guideline: High visibility safety apparel for Mines and Mining Plants**
  https://www.labour.gov.on.ca/english/hs/pubs/gl_hvsa.php
  Free download



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High Visibility Safety Apparel for Mines and Mining Plants

Issued: September 5, 2014
Revised: May 2016
Content last reviewed: May 2016
See also: Mining

Purpose

This guideline provides best practice recommendations for workplace parties to consider when fulfilling their responsibilities under the Occupational Health and Safety Act (OHSA) and Regulation 854 (Mines and Mining Plants) regarding apparel worn by workers to improve their visibility while working on surface and in underground mining environments.

Objectives

- To provide information on the selection, use and care of high visibility safety apparel (HVSA) for workers in different mining environments
- To reduce the number of incidents involving vehicles and pedestrian workers in mining environments
- To minimize the risk of injuries to workers in different mining environments

Legal requirements

Underground requirements

Section 262, Regulation 854 (Mines and Mining Plants) under the OHSA covers the important requirements.

On the surface requirements

Section 263, Regulation 854 (Mines and Mining Plants) under the OHSA covers the important requirements.

General requirements

Sub-section 12(3) of Regulation 854 (Mines and Mining Plants) under the OHSA and clause 28(1)(b) of the OHSA cover other requirements.

History

Although the first high visibility safety apparel was developed in the 1930s, it was not utilised as a safety measure for workplaces until the British railway industry adopted its use in 1964. Beginning in 1979, Ontario construction workers who directed traffic or were endangered by vehicular traffic were required to wear a vest of 'reflective fluorescent and blaze orange or red.' Specific provisions on HVSA were first introduced in Regulation 854 in 2000.

Fatalities, injuries and 'close calls' have occurred in mining workplaces because objects or equipment have come into contact with workers. In these situations, the lack of visibility of workers in the workplace may have been a contributing factor. The use of HVSA can help prevent these kinds of workplace incidents from happening in the future.

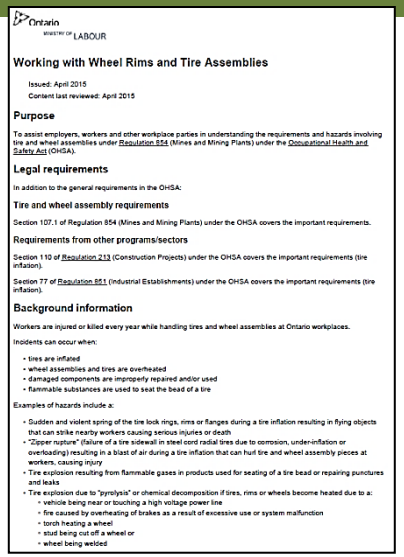
Background information

The use of barricades, signs, increased lighting, procedures and training will help to minimize the risk of worker and vehicle interactions in mines. Engineering and administrative controls should always be considered first while conducting risk assessments for workers at any mine site. However, proper personal protective equipment (PPE) and clothing that improves the visibility of workers always remains an important consideration.

The hazards in mining activities depend on the type of work being done as well as the environment in which these activities take place. Hazards related to worker visibility may be very different in a mill or refinery than those in a gravel pit or an underground mine.

Information and Resources

- **Ministry of Labour (MOL) Information Bulletin: Working with Wheel Rims and Tire Assemblies**
  https://www.labour.gov.on.ca/english/hs/pubs/gl_wheelrims.php
  Free download



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Working with Wheel Rims and Tire Assemblies

Issued: April 2015
Content last reviewed: April 2015

Purpose

To assist employers, workers and other workplace parties in understanding the requirements and hazards involving tire and wheel assemblies under Regulation 854 (Mines and Mining Plants) under the Occupational Health and Safety Act (OHSA).

Legal requirements

In addition to the general requirements in the OHSA:

Tire and wheel assembly requirements

Section 107.1 of Regulation 854 (Mines and Mining Plants) under the OHSA covers the important requirements.

Requirements from other programs/sectors

Section 110 of Regulation 213 (Construction Projects) under the OHSA covers the important requirements (tire inflation).

Section 77 of Regulation 851 (Industrial Establishments) under the OHSA covers the important requirements (tire inflation).

Background information

Workers are injured or killed every year while handling tires and wheel assemblies at Ontario workplaces.

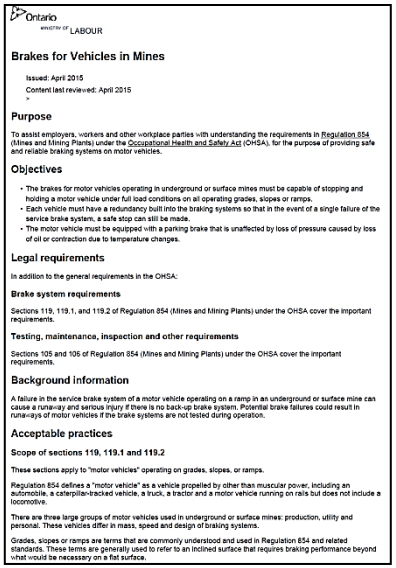
Incidents can occur when:

- tires are inflated
- wheel assemblies and tires are overheated
- damaged components are improperly repaired and/or used
- flammable substances are used to seat the bead of a tire

Examples of hazards include a:

- Sudden and violent spring of the tire lock rings, rims or flanges during a tire inflation resulting in flying objects that can strike nearby workers causing serious injuries or death
- "Zipper rupture" (failure of a tire sidewall in steel cord radial tires due to corrosion, under-inflation or overloading) resulting in a blast of air during a tire inflation that can hurl tire and wheel assembly pieces at workers, causing injury
- Tire explosion resulting from flammable gases in products used for seating of a tire bead or repairing punctures and leaks
- Tire explosion due to "pyrolysis" or chemical decomposition if tires, rims or wheels become heated due to a:
  - vehicle being near or touching a high voltage power line
  - fire caused by overheating of brakes as a result of excessive use or system malfunction
  - torch heating a wheel
  - stud being cut off a wheel or
  - wheel being welded

- **MOL Guideline: Brakes for vehicles in mines**
  https://www.labour.gov.on.ca/english/hs/pubs/gl_brakes.php
  Free download



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Brakes for Vehicles in Mines

Issued: April 2015
Content last reviewed: April 2015

Purpose

To assist employers, workers and other workplace parties with understanding the requirements in Regulation 854 (Mines and Mining Plants) under the Occupational Health and Safety Act (OHSA), for the purpose of providing safe and reliable braking systems on motor vehicles.

Objectives

- The brakes for motor vehicles operating in underground or surface mines must be capable of stopping and holding a motor vehicle under full load conditions on all operating grades, slopes or ramps.
- Each vehicle must have a redundancy built into the braking systems so that in the event of a single failure of the service brake system, a safe stop can still be made.
- The motor vehicle must be equipped with a parking brake that is unaffected by loss of pressure caused by loss of oil or contraction due to temperature changes.

Legal requirements

In addition to the general requirements in the OHSA:

Brake system requirements

Sections 119, 119.1, and 119.2 of Regulation 854 (Mines and Mining Plants) under the OHSA cover the important requirements.

Testing, maintenance, inspection and other requirements

Sections 105 and 106 of Regulation 854 (Mines and Mining Plants) under the OHSA cover the important requirements.

Background information

A failure in the service brake system of a motor vehicle operating on a ramp in an underground or surface mine can cause a runaway and serious injury if there is no back-up brake system. Potential brake failures could result in runaways of motor vehicles if the brake systems are not tested during operation.

Acceptable practices

Scope of sections 119, 119.1 and 119.2

These sections apply to "motor vehicles" operating on grades, slopes, or ramps.

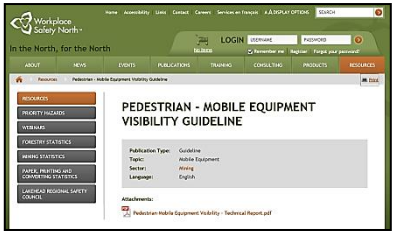
Regulation 854 defines a "motor vehicle" as a vehicle propelled by other than muscular power, including an automobile, a caterpillar-tracked vehicle, a truck, a tractor and a motor vehicle running on rails but does not include a locomotive.

There are three large groups of motor vehicles used in underground or surface mines: production, utility and personal. These vehicles differ in mass, speed and design of braking systems.

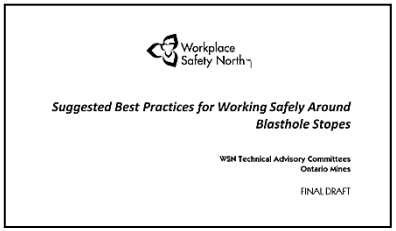
Grades, slopes or ramps are terms that are commonly understood and used in Regulation 854 and related standards. These terms are generally used to refer to an inclined surface that requires braking performance beyond what would be necessary on a flat surface.

Information and Resources

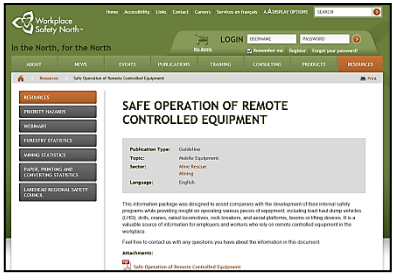
- **WSN Technical Report: Pedestrian - mobile equipment visibility**
  https://www.workplacesafetynorth.ca/resources/pedestrian-mobile-equipment-visibility-guideline
  Free download



- **WSN Technical Report: Suggested Best Practices for Working Safely Around Blasthole Stopes**
  For branding and posting on WSN's website



- **WSN Technical Report: Safe operation of remote controlled equipment**
  https://www.workplacesafetynorth.ca/resources/safe-operation-remote-controlled-equipment
  Free download



Ministry of Labour

Mobile Equipment

SAFE AT WORK ONTARIO

Ontario Ministry of Labour

Blitz Information
Webinar
August 23, 2018

Ontario

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IMPORTANT NOTE RE: Mobile Equipment

- This presentation references specific sections of Regulation 854 (Mines and Mining Plants) under the Occupational Health and Safety Act (OHSA) to highlight some key focus areas of Ministry of Labour (MOL) inspectors' activities during this Blitz. It is the employer's responsibility to be aware of all relevant requirements that are set out under the OHSA and its regulations.

- MOL inspectors will also check for compliance with other requirements under the OHSA and its regulations, such sections 25, 26, 27, and 28 of the OHSA that set out the general duties of all employers, supervisors, and workers.

- Inspectors will take enforcement action, as appropriate, if they find violations of the requirements in OHSA and any of its regulations.

Mobile Equipment Blitz

Rationale:

- Interaction between workers and mobile equipment continues to be the leading cause of injury and death to workers in the mining industry. Between 2000 and 2017, 16 workers died in Ontario mines as a result of fatal interaction with a vehicle or mobile equipment, including collisions.
- The Mining Health, Safety, and Prevention Review, completed in 2015, identified interactions with mobile equipment as one of five hazard themes to be focused on.
- This blitz will raise awareness about the hazards of mobile equipment, and increase workplace parties' understanding about the risks associated with operating mobile equipment in mines and how traffic management programs can help to reduce or eliminate these hazards.

Enforcement Focus

INSPECTIONS DURING THE BLITZ WILL FOCUS ON:

Traffic Management Programs: Is there a written traffic management program that has been developed in consultation with the joint health and safety committee (JHSC) or health and safety representative (HSR) to prevent collisions that may endanger the health and safety of a worker?

Equipment Maintenance: Is equipment being properly maintained in safe working condition? Are there procedures for testing, maintenance and safe access in place?

Material Dumping Areas: When material is dumped by a motor vehicle, does the dump point includes features to prevent the vehicle from going over the bank or into an open hole?

Enforcement Focus

INSPECTIONS DURING THE BLITZ WILL FOCUS ON:

Worker Visibility: Are workers who are required to wear high visibility apparel wearing appropriate clothing and is it being maintained to ensure workers can be seen?

Worker Training: Are workers properly trained to operate and use the equipment? Are they properly supervised when it is used?

Risks Assessed and Managed: Have employers assessed the risks associated with mobile equipment operation and maintenance, and have controls been identified and put in place as appropriate?

Hazards

Some examples of key mobile equipment hazards, and their associated activities, that can be found in the workplace include but are not limited to:

- being struck by or pinned by mobile equipment
- driving into an unguarded open hole underground
- colliding with obstacles or other equipment
- falling off mobile equipment while performing maintenance
- being fatigued or tired while operating equipment

Controls

Methods of eliminating or mitigating these hazards include:

- ensuring there is a traffic management program in place to prevent collisions that might endanger workers.
- putting engineering controls in place to prevent workers coming into contact with mobile equipment and to prevent collisions.
- providing a safe means of accessing equipment during maintenance and operation.
- Ensuring a maintenance program is in place to ensure motor vehicles are in safe working condition.

Reg. 854 - Mines and Mining Plants

- Section 5.1 requires employers to conduct a risk assessment of the workplace for the purpose of identifying, assessing and managing hazards including potential hazards that may expose a worker to injury.
- Section 5.2 requires consultation with the JHSC or HSR, if any, to develop and maintain measures to eliminate the hazards and potential hazards identified in the risk assessment.
- Section 5.3 requires a review annually or as often as necessary.

Reg. 854 - Mines and Mining Plants

- Section 46 requires a safe means of access to a workplace shall be provided during operation and when being maintained or serviced.
- Section 103 requires motor vehicle on rails be in safe condition, including having:
  - brakes that will stop and hold the vehicle under full load,
  - head lights,
  - an audible warning system,
  - guard in place to protect the operator during a collision and
  - safe guards in place when operated in remote control.
- Section 104 requires trains to have a tail light unless operated in areas where natural or artificial lighting provides good visibility.

Reg. 854 - Mines and Mining Plants

- Subsection 105 (1) sets out requirements for a motor vehicle, including but not limited to that it:
  - Be in safe working condition, including having brakes that will stop and hold the vehicle under full load on all grades, slopes and ramps;
  - Have head lights and tail lights, unless there is adequate natural or artificial lighting to allow the operator a clear view;
  - When operated by remote control, be arranged so that, in the event of a failure, the vehicle will be brought to a stop; and
  - When operated in reverse and the operator or another person may be endangered, have a worker stationed to direct and warn the operator of any hazard.

Reg. 854 - Mines and Mining Plants

- Subsection 105 (3) requires that, where the view of the operator of a motor vehicle is limited in the direction of travel, the vehicle must be equipped with an audible alarm that is activated before the vehicle is put in motion.
- Subsection 105 (5) requires a motor vehicle to have windows consisting of safety glass maintained to provide an unobstructed view and have procedures in place for testing, maintenance and inspection.
- Subsection 105 (6) requires there be procedures to control and govern the movement of vehicles with a restricted operator view because of their size or design, shall be established to govern movement of such vehicles and other vehicles and pedestrians.

Reg. 854 - Mines and Mining Plants

- Subsection 105(7) requires that procedures for testing, maintenance and inspection be adopted, including
  - Scheduling the testing of brakes, steering and lighting prior to initial use,
  - Scheduling the motor vehicle for routine inspections,
  - Itemizing tests following maintenance,
  - Providing records of the testing, inspections and maintenance carried out, and
  - Providing that testing, inspections and maintenance be performed by a competent person.

Reg. 854 - Mines and Mining Plants

- Section 105.1 requires an employer at a mine to develop, in consultation with the JHSC or HSR, if any, a written traffic management program containing measures and procedures to prevent collisions of motor vehicles that might endanger a worker, and protect the safety of workers who may be endangered by the movement of vehicles. A copy of the program must be given to the JHSC or HSR, and the program must be reviewed annually.
- Section 106 sets out requirements for vehicles on ramps, as well as the steps to be taken to warn approaching traffic where a motor vehicle is disabled or parked on a roadway.

Reg. 854 - Mines and Mining Plants

- Section 107 requires a motor vehicle be equipped with wheel chocks that comply with SAE Standard J348 Jun90 “Wheel Chocks”. Wheel chocks must be used to block movement whenever a vehicle is left unattended or is being maintained unless an alternate means for blocking movement has been developed in consultation with the JHSC or HSR, if any.
- Section 107.1 sets out requirements for written procedures for work on tire and wheel assemblies.
- Section 108 sets out requirements when the controls of specific types of equipment are left unattended.
- Subsection 109(2) requires that rail tracks be in good working condition.

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- Section 116 requires haulage roads on surface be designed and maintained to minimize slipping, enable safe passing, and avoid steep grades. A suitable barrier on the open side of the ramp must be provided.
- Section 118 requires that when material is dumped from a vehicle occupied by a person, the vehicle must have features designed to prevent it from going over the bank. In an underground mine, these features cannot include the use of a ridge of material.
- Sections 119, 119.1 and 119.2 sets out requirements for various brake systems, including commissioning tests and use of automatic brakes.

Resource Material

- Occupational Health and Safety Act
- Regulations for Mines and Mining Plants
- Vehicle/Mobile Equipment and Visibility Hazards in Mining Workplaces
- Working with Wheel Rims and Tire Assemblies
- https://www.workplacesafetynorth.ca/resources/pedestrian-mobile-equipment-visibility-guideline
- Final Report: Mining Health and Safety Prevention Review

Thank you
Questions or Comments?

Ontario

Thank you

Thank you for attending today and helping make workplaces safer.

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