

Welcome to the Mobile Equipment Traffic Control Measures blitz webinar

- Thank you for joining us!
- We will be getting started at **10:00 a.m. EST**
- To access the audio portion of this webinar, please phone:
 - **1. 866. 613. 5223**
 - Access code: **3 7 5 5 2 0 0**
- We will have the phone lines on mute for the presentation.
- If you have any questions, please use the **Chat Box** in the top right corner of the screen.
- For assistance with the webinar, phone the WSN office at:
 - **1. 888. 730. 7821 ext.0**

**Ontario Ministry of Labour
Inspection Blitz – Mobile Equipment
Traffic Control Measures**



Webinar

Webinar co-hosts

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Housekeeping notes

- Please note the 'CHAT BOX' in the top right hand corner of your screen. At any time during the presentation, feel free to type in your questions. We may answer some questions as we go, but most will be answered right after the presentation.
- During the webinar, *the phone line is set up so that you're able to hear us, but we can't hear you.* Please use the chat box for questions or assistance with the webinar.
- For your reference, this presentation is available for download on WSN's website: www.workplacesafetynorth.ca/mobile-equipment-webinar

AGENDA

- Statistics
 - Rick Banting, WSN
- Blitz Objectives
 - Jerry Wedzicha, MOL
- Key Topics
 - Jerry Wedzicha, MOL
- Applicable Regulations
 - Jerry Wedzicha, MOL
- MOL Visibility Guideline
 - Megan Waqué, WSN
- Overview of Hazards associated with:
 - Rick Banting, WSN
 - Ramp Travel
 - Lighting
 - Parking
 - Access to maintenance shops
 - Visibility Training for new workers
- Q&A

Fatal Injuries 2000 –2014

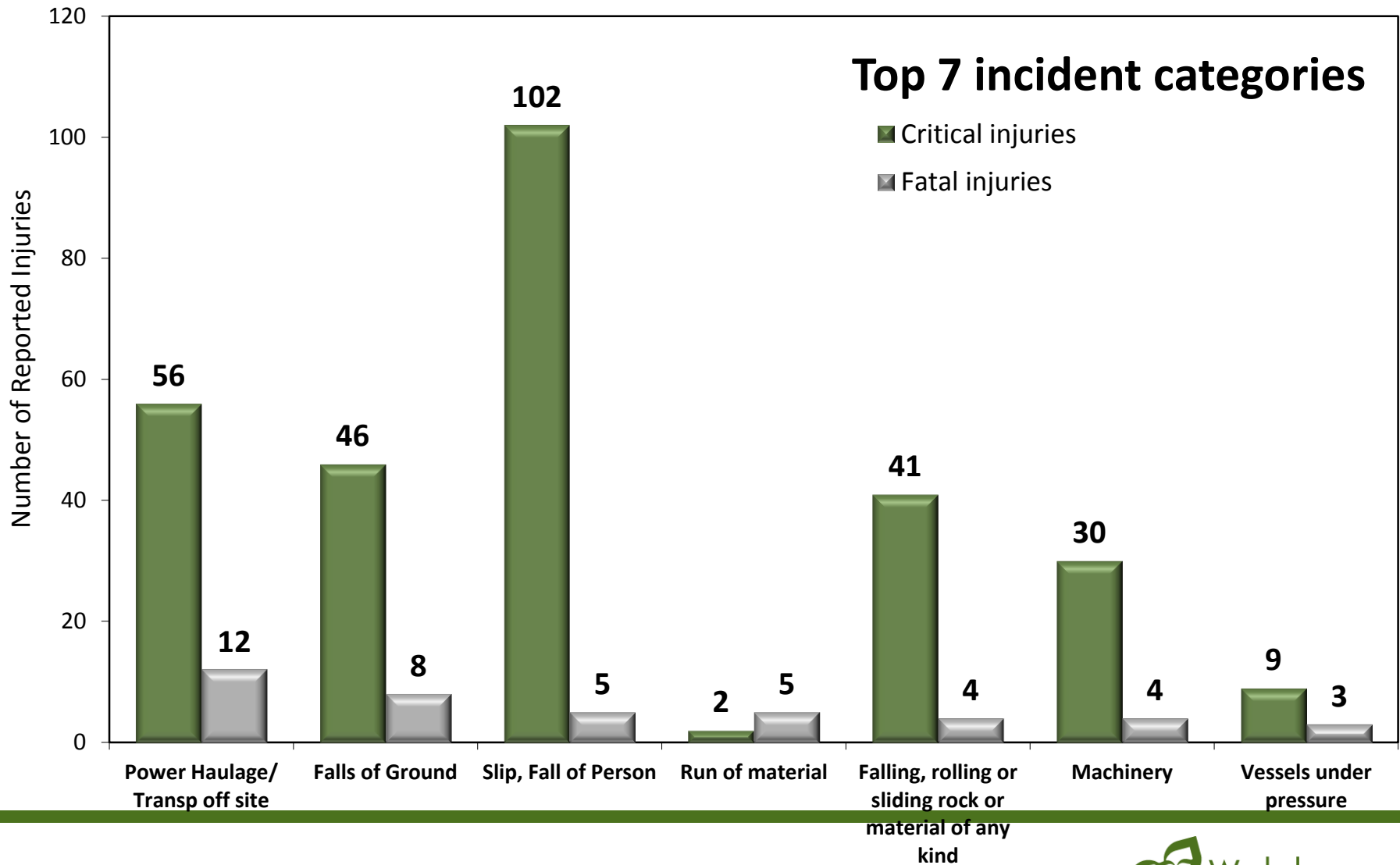
- 45 fatalities were reported, 27 (60%) occurred underground and 18 (40%) were on surface.
- 3 fatally injured workers were under the age of 25.

EFFORT Category	Underground	Surface
Fire/explosion	0	2
Fall Caught Struck Object	5	6
Fall of Person	4	1
Fall of Rock	8	0
Exposure to Gas	0	1
Run of Material	4	1
Transportation	6	7
Total	27	18

Source: WSN, Mining Sector Fatality Database, as of Jan. 21, 2015.

Ontario Mining Industry

Fatal and Critical Injuries 2000 – 2014



Sources: Ontario Ministry of Labour, MIS, ICE, 2000-2014 as of Jan. 21, 2015.
WSN, Mining Sector Fatality Database, as of Jan. 21, 2015.

Incident Classification



**MOBILE EQUIPMENT TRAFFIC CONTROL MEASURES
IN
SURFACE AND UNDERGROUND MINES**

**JULY - AUGUST
2015**

**Ministry of Labour
Webinar June 12, 2015**

NOTES

The material in this presentation is being provided as information only. It is not intended to replace the Occupational Health and Safety Act (OHSA) or the regulations and reference should always be made to the official version of the legislation and regulations.

It is the responsibility of the workplace parties to ensure compliance with the legislation and to seek independent legal advice where questions remain.

WHY IS THE MOL DOING A TRAFFIC CONTROL BLITZ?

- Workers can be at risk of serious injury due to hazards involving vehicles and mobile equipment at mines.
- Various types of vehicles can be found in mining workplaces, including:
 - ✓ locomotives
 - ✓ haulage equipment such as trucks and LHD (Load, Haul, and Dump vehicles, also known as scooptrams)
 - ✓ mobile equipment such as loaders and excavators
- 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 was an issue in about half of all mining fatalities involving mobile equipment.

IMPORTANT NOTE RE: TRAFFIC CONTROL BLITZ

- While this presentation explicitly references specific sections of Regulation 854 to highlight some key focus areas that MOL inspectors will be looking for compliance with during this blitz, employers should be aware of all of the regulatory requirements relating to Haulage and Working Environment which are set out in Part V and XI of Reg. 854.
- During the blitz, MOL inspectors will be checking for compliance with these and any other relevant regulatory provisions (for example, using remote controlled equipment as per subsection 174(5)) of Reg. 854.
- MOL inspectors may also check for compliance with requirements in the OHSA (for training, procedures, etc.) or other regulations that apply to mines and mining plants.

BLITZ FOCUS: Measures and Procedures

INSPECTIONS DURING THE BLITZ WILL FOCUS ON:

- **Measures and procedures in place for traffic control and equipment operation when operator visibility is limited**

Motor Vehicles (not on rails)

- *Need another worker to direct/warn when operated in reverse (clause 105(1)(k))*
- *Procedures where operator view limited by vehicle's size/design (ss. 105(6))*
- *Traffic control procedures and warning to approaching traffic (ss. 106 (1) & (2))*
- *Establish maximum speeds on grades and ramps (clause 106(3)(b))*

Motor Vehicles (on rails)

- *Have headlights and an audible warning system (clauses 103(1)(c) & (d))*
- *Trains shall have a tail light unless operated in good visibility (section 104)*

BLITZ FOCUS: Worker Visibility

INSPECTIONS DURING THE BLITZ WILL FOCUS ON:

- **Workers must have retro-reflective material on headgear and outer clothing that enables worker to be seen**

Regulation 854

- *Requirements for workers underground (subsection 262(2))*
- *Requirements for workers on surface between sunset and sunrise (subsection 263(2))*
- *Employers shall require workers to use necessary personal protective equipment, clothing and devices (subsection 12(3))*

Occupational Health and Safety Act

- *Employers shall maintain equipment, materials and protective devices in good condition (clause 25(1)(b))*
- *Workers shall use or wear the equipment, protective devices or clothing that the worker's employer requires to be used or worn (clause 28(1)(b))*

BLITZ FOCUS: Remote Controlled Equipment

INSPECTIONS DURING THE BLITZ WILL FOCUS ON:

- **Procedures are in place to ensure operators and other workers are in a safe location when using remote controlled equipment**

Regulation 854

- *The employer shall establish procedures to ensure that the operator and other workers are in a safe location when the equipment is being operated or moved (subsection 174(5))*

Section 174 applies to equipment that can be operated or moved by remote control using a system, device, or controller that produces radio frequencies or radiates electromagnetic energy

BLITZ FOCUS: Effective Illumination

INSPECTIONS DURING THE BLITZ WILL FOCUS ON:

- **Effective illumination is made available when insufficient lighting exists due to nature of equipment or operation**

Regulation 854

- *Effective illumination by stationary lighting shall be provided in underground mines (subsection 262(1))*
- *Effective illumination appropriate for the task shall be provided on surface mines (subsection 263(1))*

BLITZ FOCUS: Clearance Requirements

INSPECTIONS DURING THE BLITZ WILL FOCUS ON:

- **The workplace's engineered design meets the clearance requirements for the safe operation of large equipment**

Regulation 854

- *Width requirements for haulageways used by motor vehicles (section 112)*
- *Clearance requirements for underground haulageways (section 113)*
- *Design, construction and maintenance of haulage roads on surface (section 116)*
- *Clearance requirements for surface and mining plants (section 117)*

Update on MOL Mining Review Key Findings

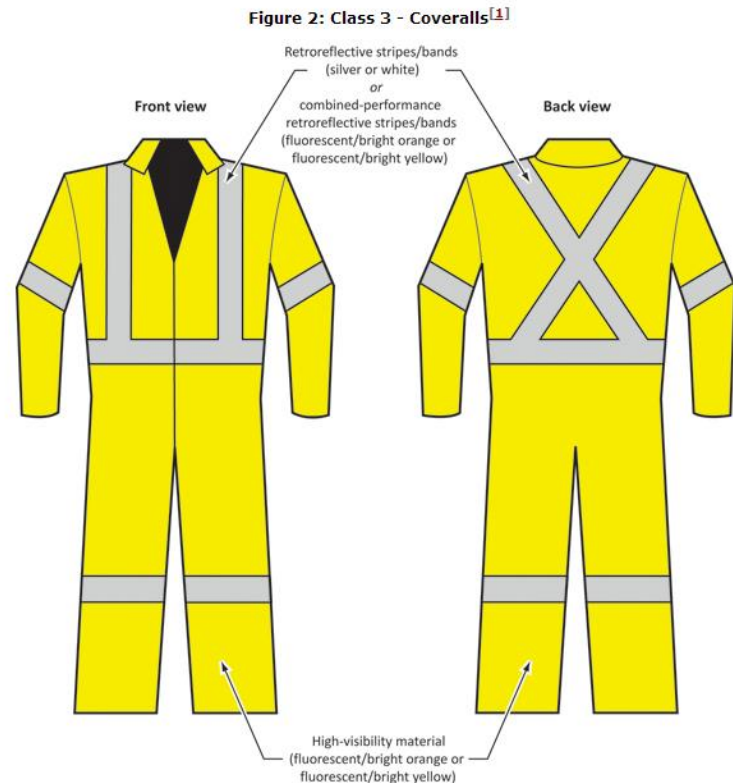
- The Ministry of labour launched the risk assessment initiative in effort to gain better insight into the risks facing workers, sector by sector, in Ontario workplaces.

The Review identified five key hazards that pose the greatest risk to health and safety, one of these was “Mobile equipment and the risk of collisions”: [Read Volume 2, Final Report Addendum, Appendix F](#)

- Recommendations from the Mining Review related to hazards associated with mobile equipment included:
 - the use of high visibility clothing,
 - a requirement that all underground mines have in place a formal traffic management plan.
- The full report can be found on the Ministry of Labour Website

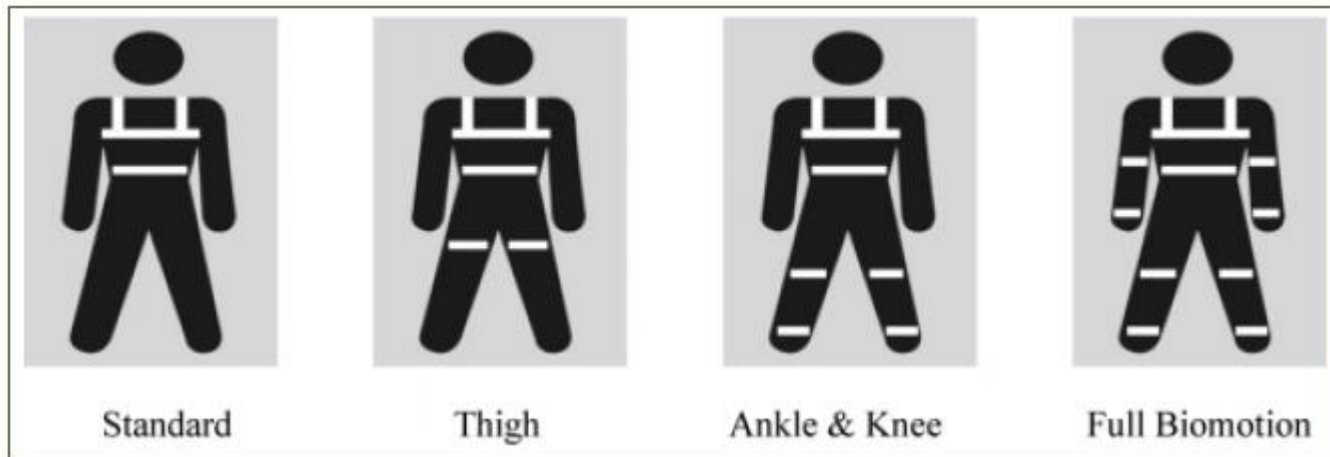
MOL VISIBILITY GUIDELINE

- 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



HVSA – BEST PRACTICES

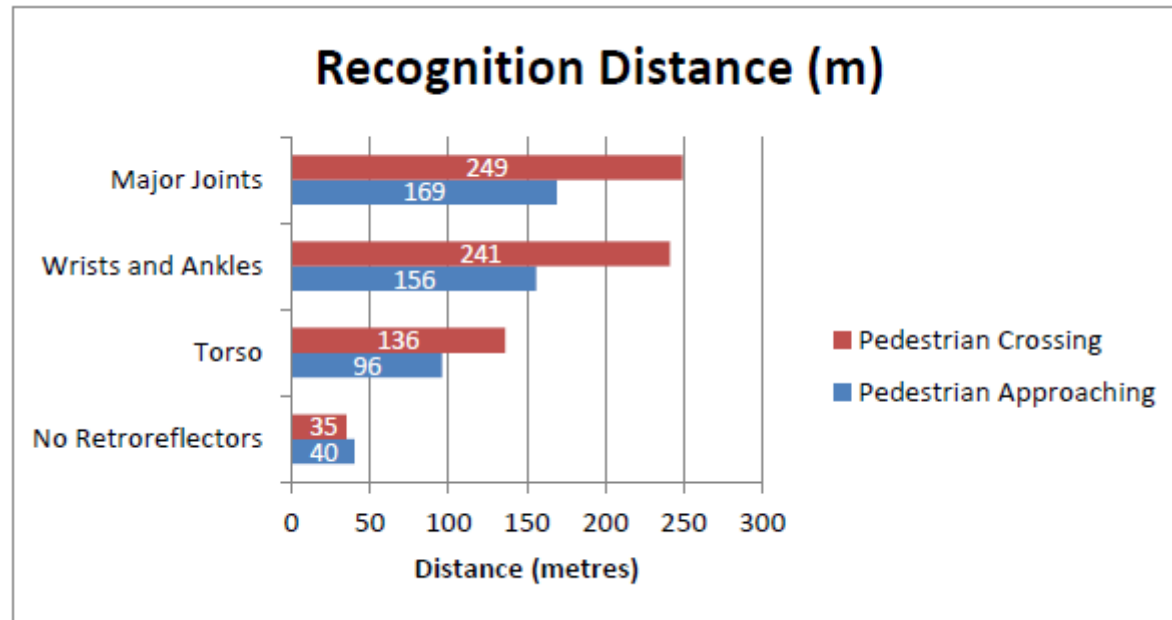
- 1995 study highlights the importance of placement of retro reflective apparel.
- Using four different configurations, the study's participants were in a car moving 50 km/h and instructed to press and hand-held response button when they saw a pedestrian on or alongside the road ahead of the test vehicle.



Luoma, J., Schumann, J., Traube, E. C. (June 1995). Effects of retroreflective positioning on nighttime recognition of pedestrians. Retrieved from

HVSA – BEST PRACTICES

Results:



Luoma, J., Schumann, J., Traube, E. C. (June 1995). Effects of retroreflective positioning on nighttime recognition of pedestrians. Retrieved from

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
- Roadway Lighting
- Vehicle Parking
- Access to maintenance shops
- Pedestrian Visibility

TRAFFIC CONTROL / RAMP TRAVEL

Factors to consider for vehicle travel on a ramp system:

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

TRAFFIC CONTROL / LIGHTING

Factors to consider:

- Ambient lighting underground & surface
- At underground entrances

Regulation 854, Section 263 states:

- (1) Effective illumination appropriate for the task shall be provided at all workplaces on the surface, including,
 - (a) in those areas adjacent to the workplace where workers are required to travel; and
 - (b) in those 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
- Fuelling

ACCESS TO MAINTENANCE SHOPS

Factors to consider:

- Clearances on entry
- Safety of workers inside the shops
- Signal person
- Remove mechanics from vulnerable positions during the positioning of vehicles

TECHNOLOGY

The implementation of a collision management system

- Cameras
- RFID – radio frequency identification
- Proximity detection
- Levels of intervention

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

Tools

- MOL Information Bulletin:
[Vehicle/Mobile Equipment and Visibility Hazards in Mining Workplaces](#)
- MOL Guideline for high visibility safety apparel:
[High Visibility Safety Apparel \(HVSA\) for Mines and Mining Plants](#)
- MOL Guideline on brakes for vehicles in mines: [Mobile Equipment](#)
- WSN Technical Report: [Pedestrian/Mobile Equipment Visibility](#)
- WSN Technical Report: [Remote Controlled Equipment](#)

Q&A and Resources

- If you have any questions, please type these in the chat box and we will answer them in order.
- This presentation and referenced documents can be found on our website at:
www.workplacesafetynorth.ca/mobile-equipment-webinar
- Please complete our Webinar Evaluation Form:
www.workplacesafetynorth.ca/webinar-feedback