Falls Hazards in Mining
MOL Blitz - May 16 to July 15, 2016
Webinar co-hosts

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Agenda

• Introduction and Injury statistics
• Falls hazards, categories and controls
• WSN information and resources
• What Ministry of Labour Mining Health and Safety Inspectors will be looking for during the blitz
• Ontario requirements pertaining to falls in the workplace in mines and mining plants (Occupational Health and Safety Act, Regulation 854)
• Q&A
The Purpose of the Blitz

• Raise awareness among workers and employers of health and safety issues involving falls from elevation and ground level in the workplace in mines and mining plants.

• Raise awareness of the importance of having a program for the protection of workers from falls hazards, work practices and controls to falls hazards in mines and mining plants.

• Promote awareness and compliance of mines and mining plants to regulatory requirements.

• Ensure the workplace parties are complying with the OHSA and its regulations
Ontario Mining Industry

Fatal and Critical Injuries 2011 - 2015

Top 7 incident categories

<table>
<thead>
<tr>
<th>Incident Classification</th>
<th>Fatal Injuries</th>
<th>Critical Injuries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Powered haulage/transportation off site</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td>Falls of ground, rockbursts</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Runs of material</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Falling, rolling or sliding rock or material of any kind</td>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td>Machinery</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Slips and falls of person</td>
<td>0</td>
<td>41</td>
</tr>
<tr>
<td>Unconsciousness</td>
<td>0</td>
<td>14</td>
</tr>
</tbody>
</table>

Ontario Mining Industry
WSIB Allowed Lost-time Injuries 2011 - 2015

<table>
<thead>
<tr>
<th>Event or Exposure Category</th>
<th>RG 110 Gold Mines</th>
<th>RG 113 Nickel Mines</th>
<th>RG 119 Other Mines</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>#</td>
<td>%</td>
<td>#</td>
<td>%</td>
</tr>
<tr>
<td>Bodily reaction &amp; exertions</td>
<td>102</td>
<td>32%</td>
<td>204</td>
<td>51%</td>
</tr>
<tr>
<td>Contact with objects &amp; equipment</td>
<td>101</td>
<td>32%</td>
<td>93</td>
<td>23%</td>
</tr>
<tr>
<td>Falls</td>
<td>66</td>
<td>21%</td>
<td>24</td>
<td>6%</td>
</tr>
<tr>
<td>Exposure to harmful substances or environments</td>
<td>21</td>
<td>7%</td>
<td>41</td>
<td>10%</td>
</tr>
<tr>
<td>Transportation incidents</td>
<td>21</td>
<td>7%</td>
<td>28</td>
<td>7%</td>
</tr>
<tr>
<td>Other events or exposures</td>
<td>4</td>
<td>1%</td>
<td>7</td>
<td>2%</td>
</tr>
<tr>
<td>Total</td>
<td>315</td>
<td>100%</td>
<td>397</td>
<td>100%</td>
</tr>
</tbody>
</table>

Fall of Person
Lost-time Injuries
N=140

Fall on Same Level 83 (59%)
Fall to Lower Level 56 (40%)
Other 1 (1%)

Source: WSIB, Claim Count Schema, as of March 31, 2016.
Ontario Mining Industry - Fall of Person
Lost-time Injuries by Incident Year 2011 - 2015

RG 110 Gold Mines - 66 (47%)
RG 113 Nickel Mines - 24 (17%)
RG 119 Other Mines - 50 (36%)

Source: WSIB, Claims Cost Analysis Schema, as of March 31, 2016.
# Ontario Mining Industry - Fall of Person

## Lost-time Injuries by Event Code 2011 - 2015

<table>
<thead>
<tr>
<th>Event Code</th>
<th>RG 110 Gold Mines</th>
<th>RG 113 Nickel Mines</th>
<th>RG 119 Other Mines</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>#</td>
<td>%</td>
<td>#</td>
<td>%</td>
</tr>
<tr>
<td>Fall from Nonmoving Vehicle</td>
<td>11</td>
<td>17%</td>
<td>3</td>
<td>13%</td>
</tr>
<tr>
<td>Fall to Lower Level, N.E.C.</td>
<td>7</td>
<td>11%</td>
<td>1</td>
<td>4%</td>
</tr>
<tr>
<td>Fall from Ladder</td>
<td>7</td>
<td>11%</td>
<td>2</td>
<td>8%</td>
</tr>
<tr>
<td>Fall Down Stairs or Steps</td>
<td>2</td>
<td>3%</td>
<td>1</td>
<td>4%</td>
</tr>
<tr>
<td>Fall from Scaffold, Staging</td>
<td>1</td>
<td>2%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Fall From Ground Level to Lower Level</td>
<td>1</td>
<td>2%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Fall to Floor, Walkway, Or Other Surface</td>
<td>32</td>
<td>48%</td>
<td>13</td>
<td>54%</td>
</tr>
<tr>
<td>Fall Onto or Against Objects</td>
<td>5</td>
<td>8%</td>
<td>4</td>
<td>17%</td>
</tr>
<tr>
<td>Fall, N.E.C.</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Total</td>
<td>66</td>
<td>100%</td>
<td>24</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: WSIB, EIW, Claim Cost Schema, as of March 31, 2016.
Ontario Mining Industry - Fall of Person

Lost-time Injuries by Age of Injured Worker 2011 - 2015

Source: WSIB, EIW, Claim Cost Schema, as of March 31, 2016.
Ontario Mining Industry - Fall of Person
Top 5 Nature of Lost-time Injuries 2011 - 2015

Nature of Injury – Top 5

- Fractures – 55 (39%)
- Sprains & Strains – 34 (24%)
- Bruises, Contusions – 12 (9%)
- Dislocations – 5 (4%)
- Nonspecific Injuries – 5 (4%)

Source: WSIB, EIW, Claim Cost Schema, as of March 31, 2016.
## Ontario Mining Industry - Fall of Person

Lost-time Injuries by Part of Body Injured 2011 - 2015

<table>
<thead>
<tr>
<th>Part of Body Injured</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>#</td>
</tr>
<tr>
<td>Head &amp; Neck</td>
<td>8</td>
</tr>
<tr>
<td>Shoulder</td>
<td>18</td>
</tr>
<tr>
<td>Wrists, Hands, Fingers</td>
<td>7</td>
</tr>
<tr>
<td>Arms, Elbows, Forearms</td>
<td>21</td>
</tr>
<tr>
<td>Trunk, Chest, Abdomen</td>
<td>9</td>
</tr>
<tr>
<td>Back &amp; Spine</td>
<td>17</td>
</tr>
<tr>
<td>Hips, Pelvis, Groin</td>
<td>5</td>
</tr>
<tr>
<td>Legs, Knees, Ankles, Feet</td>
<td>38</td>
</tr>
<tr>
<td>Multiple Parts</td>
<td>17</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>140</td>
</tr>
</tbody>
</table>

Source: WSIB, EIW, Claim Cost Schema, as of March 31, 2016.
Anticipation

Recognition

Assessment

Control

Compliance to Controls and Auditing

Compliance with Regulations

Training

Falls Hazards Protection Program

Policies and procedures

Record-keeping

Communication

Inspections

Falls Hazards Protection Program

Compliance with Regulations

Training
Fall Hazards and Locations in the Workplace in Mines and Mining Plants

- Unguarded opening (mine shafts, ore passes, open stopes, etc.)
- Elevated work platforms with missing or inadequate guard rail system
- Working from scissor lifts or man lifts and elevated platforms without proper safeguards in place
- Operating equipment
- Working from ladders
- Condition and maintenance of escape-ways
Fall Hazards and Locations in the Workplace in Mines and Mining Plants

• Uneven ground conditions
• Slippery surfaces (oily, greasy, spills of wet, etc.) or slippery or obscured hazards concealed by mud or water
• Tripping hazards (cluttered workplace, unsecured mats, debris and cables on walkways, unsuitable footwear, etc.)
• Others
Fall Hazards Categories

- Control conditions (e.g. barricades, travel restraint system on platforms such as railings, etc.)
- Equipment conditions (ladders, manlift, scissor deck, Alimak platform, etc.)
- Fall arrest system conditions (e.g. anchor points, harness, lifeline, lanyard, shock absorber, fall arrestor, etc.)
- Workplace conditions (e.g. poor housekeeping, working surface conditions, lighting, etc.)
- Human factor (e.g. failure to follow procedures, lack of training, physical limitations, etc.)
Fall Hazards Controls

- **Engineering controls**
  - Properly designed barricades, travel restraint system on platforms such as railings, ladders, manlift, scissor deck, Alimak platform, etc.

- **Administrative controls**
  - Availability of effective policies and procedures
  - Ensure workers are trained
  - Effective supervision
Fall Hazards Controls

- Safe work practices
  - Ensure workers follow policies and procedures
  - Effective supervision
- Personal protective equipment (PPE) provided to workers,
  - Ensure that workers are trained on proper use and care of PPEs
  - Ensure that workers are trained to inspect PPEs
Pertinent Legislations

Ontario requirements pertaining to falls hazards in mining workplaces are covered under Regulation 854 (*Mines and Mining Plants*) and under the Occupational Health and Safety Act (OHSA), which will be discussed by Rick Shulist, Acting Provincial Mining Specialist, Ontario Ministry of Labour.
Information and Resources

WSN Fall Prevention Posters - Stop falls before they stop you
http://www.workplacesafetynorth.ca/resources/stop-falls-they-stop-you
Free download

WSN Every Worker Health and Safety Magazine - Slips, Trips and Falls No Laughing Matter
https://www.workplacesafetynorth.ca/sites/default/files/pdf/Every-Worker-Fall-2011-Online.pdf
16 pp. Free download
Information and Resources

WSN - Fall Protection Leader’s Guide for Safety Meeting
https://www.workplacesafetynorth.ca/sites/default/files/Fall%20Protection%20Leader%20Guide.pdf
8 pp. Free download

WSN - Sample: Inspection Checklist for Slips, Trips and Falls Specific
Information and Resources

WSN - Fall Protection: Take Ten to Safety
http://www.workplacesafetynorth.ca/sites/default/files/Fall%20Protection%20Presentation.pdf
26 pp. Free download

- MOL Working at Heights Training Program Standard
  http://www.labour.gov.on.ca/english/hs/pubs/wah/
- MOL Health and Safety Awareness Training for Workers and Supervisors - Working at Heights
  http://www.labour.gov.on.ca/english/hs/training/index.php
- MOL Fact Sheet - Prevent slips, trips and falls in all workplaces
  http://www.labour.gov.on.ca/english/hs/sawo/pubs/fs_falls.php
- MOL calls for action on workplace falls
Information and Resources

• CDC NIOSH Investigation of a Slip/Fall Accident http://www.cdc.gov/niosh/mining/UserFiles/works/pdfs/isfa.pdf
• Canadian Centre for Occupational Health and Safety (CCOHS) - Safety Hazards: Prevention of Slips, Trips and Falls http://www.ccohs.ca/oshanswers/safety_haz/falls.html
• CCOHS - e-Course on Preventing Falls From Slips and Trips http://ccohs.ca/products/courses/preventing_falls/&print=true
Falls in the Work Place

Ontario Ministry Of Labour
16 May – 15 July 2016

Blitz Information
Webinar May 2016
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.

This document does not constitute legal advice. If you require assistance regarding the interpretation of the legislation and its potential application in specific circumstances, please contact your legal counsel.
WHY IS THE MOL DOING A FALLS BLITZ?

• Every day, 80 workers in Ontario are injured in a fall – that’s one every 20 minutes.

• There are approximately 17,000 lost-time injuries in Ontario each year due to workplace falls.

• 65 per cent of all fall-related injuries are from slips and trips, i.e. same level falls.
Why is the MOL Doing a Falls Blitz

- Whether a few centimetres or 120 storeys, 34 per cent of injuries and many work-related deaths are the result of a fall from height.
- One in five lost-time injuries results from falls.
- Between 1991 and 2015, 10 workers died in Ontario mines as a result of incidents involving falls.

Data comes from Workplace Safety North article: MINISTRY OF LABOUR CALLS FOR ACTION ON WORKPLACE FALLS, January 08, 2014
IMPORTANT NOTE RE: Falls BLITZ

• While this presentation 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.

• 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.
Measures and procedures in place for the protection from falls in the work place.

Regulation 854
Access to Workplaces
- Safe means of access to a work place (section 46)
- Platform more than 1.5 meters above floor requires railings (section 46 (3))
- Access by use of a stairway (section 46 (7))
- Stairway requirements ( Section 46 (9))
- Ladder Access (section 46 (8))
- Ladder requirements (section 47)
- Fixed ladder requirements (section 48)
- Portable ladder (section 49)
- Ladders being used in the shaft (section 50-51)
BLITZ FOCUS: Escape Ways

Requirements for escape way maintenance

Regulation 854
• The escape way shall be inspected at least once a month by a competent person who shall give a written report of such inspection to the supervisor in charge of the mine. (section 37 (2)(F))

• Escape must be available and in safe condition should an emergency occur.
BLITZ FOCUS: Fall Arrest Systems

- Fall arrest system requirements

Regulation 854

- Fall arrest systems requirements (section 14)
- Raised platform worker protection (section 190)
- Bulk material movement worker protection (section 84)
- Use of fall arrest when barring material (section 94)
- Use of fall arrest during bin work (section 60)

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: Falls

• Protection of Hazardous Areas

  Regulation 854

  • Openings which constitute a hazard shall be fenced or guarded (section 59)

  • The employer needs to establish procedures to ensure that workers are not being exposed to hazards underground by having barricades, fencing or other suitable means (section 68)

  • Protection of mine openings (section 18)

  • Mining plans showing mine openings (section 22 (1)(a)(iv))
Worker Training

*Occupational Health and Safety Act*

- 25. (2) (a) An employer shall provide information, instruction and supervision to a worker to protect the health or safety of the worker.

- Worker training: Inspectors will check that workers were properly trained and supervised to prevent injuries and deaths from falls hazards. They will also check that workers are aware of their right to refuse unsafe work. The training needs to be site specific to protect workers from what they will be exposed to.
Ministry of Labour

Health and Safety Contact Centre
Toll-free: 1-877-202-0008
TTY: 1-855-653-9260

• Report incidents, critical injuries or fatalities. If this is an emergency call 911 immediately.
• Workplace health and safety inquiries.
• Report unsafe work practices.
Tools

- **Ministry of Labour**, Fall Hazards
  http://www.labour.gov.on.ca/english/hs/topics/falls.php

- **WorkPlace Safety North WSN**, Call for action on workplace falls

- **Regulations for Mines and Mining Plants**, E-Laws
Questions?

Please use the CHAT BOX in the top right hand corner of your screen or send an e-mail to

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philipdirige@workplacesafetynorth.ca

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