Metal and Nonmetal Fatal Accident Review
CY - 2009
Crushed Stone, 12%

Sand & Gravel, 31%

Other*, 57%

* Alumina, Cement, Clay, Gold, Lead/Zinc, Salt, Dimension Stone, Lime, Copper
MNM Fatalities by Classification

- Fall of Person: 13%
- Fall of Roof: 6%
- Electrical: 6%
- Powered Haulage: 31%
- Falling Material: 19%
- Machinery: 25%

Machinery incidents account for the highest percentage, followed by powered haulage. The fall of roof incidents are the least common.
MNM Fatalities by Mine Size

- 1-5 Employees, 25%
- 6-10 Employees, 32%
- 11-20 Employees, 6%
- 21-50 Employees, 6%
- 51-100 Employees, 6%
- 100+ Employees, 25%
MNM Fatalities by Occupation

- Laborer/Utility, 20%
- Delivery Person, 6%
- Supervisor, 13%
- Mobile Equipment Operator, 25%
- Repairman/Technician, 30%
- Machinery/Plant Operator, 6%
- Mobile Equipment Operator, 25%
- Supervisor, 13%
- Repairment/Technician, 30%
- Delivery Person, 6%
- Laborer/Utility, 20%
MNM Fatalities by Activity

- Production, 31%
- Maintenance, 56%
- Other, 13%
MNM Fatalities by Total Experience

- 0-1 Year: 19%
- 2-5 Years: 25%
- 6-10 Years: 6%
- 11-15 Years: 19%
- 16-30 Years: 12%
- 30+ Years: 19%
MNM Fatalities by Job Experience

- 0-1 Years: 44%
- 2-5 Years: 25%
- 2-5 Years: 25%
- 10-15 Years: 6%
- 16-30 Years: 25%
MNM Fatalities by Age

- 51-60, 56%
- 41-50, 13%
- 25-40, 25%
- 60+, 6%
MNM Fatalities by Day of Week

- Saturday: 31%
- Sunday: 6%
- Tuesday: 32%
- Thursday: 25%
- Friday: 6%
MNM Fatalities by Hour of Day

- 6-8 a.m., 6%
- 8-10 a.m., 25%
- 12-3 p.m., 38%
- 3-4 p.m., 25%
- 9-10 p.m., 6%
Root Causes

- No Risk Assessment Conducted
- Inadequate Policies, Procedures, Controls
- Did not use Personal Protective Equipment
- Lack of Pre-operation Checks
- Equipment not Maintained
- Failure to Conduct Examinations
- Training Inadequate
MNM Fatalities – 1999-2009

- 1999: 55
- 2001: 47
- 2003: 42
- 2005: 35
- 2007: 33
- 2009: 23
- 2009: 16
## Electrical

<table>
<thead>
<tr>
<th>Year</th>
<th>‘05</th>
<th>‘06</th>
<th>‘07</th>
<th>‘08</th>
<th>‘09</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatalities</td>
<td>2</td>
<td>5</td>
<td>1</td>
<td>2</td>
<td>1</td>
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</tbody>
</table>

- MCC fires / explosions
- Deenergize
- Lockout/Tagout
- Power line clearance
- Monitor Contractors
## Fall of Material

<table>
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<tr>
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<th>'07</th>
<th>'08</th>
<th>'09</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatalities</td>
<td>3</td>
<td>6</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

- Block equipment against motion
- Cover or secure openings
- Barricade area below work
- Avoid suspended loads
Fall of Roof or Back

Year   ‘05  ‘06  ‘07  ‘08  ‘09
Fatalities  0   0   3   3   1

- Examine and test for loose ground
- Design, install, and maintain a support system to control the ground in places where persons work or travel in performing their assigned tasks
Slip / Fall of Person

Year  ‘05  ‘06  ‘07  ‘08  ‘09
Fatalities  3  3  6  4  2

- Many serious fall injuries
- Eliminate Hazards and use PPE
  - Inadequate walkways and scaffolds
  - Fall protection not used
  - Persons not anchored
  - Holes not covered or protected
Human Element

Safe Work Practices **not** Established or Followed–

- Hazards not eliminated
- Fall protection not attached
- Seat belt not worn
- No barricades while working below
- Working near an open hole
- Circumvented a guard

SLAM Risks