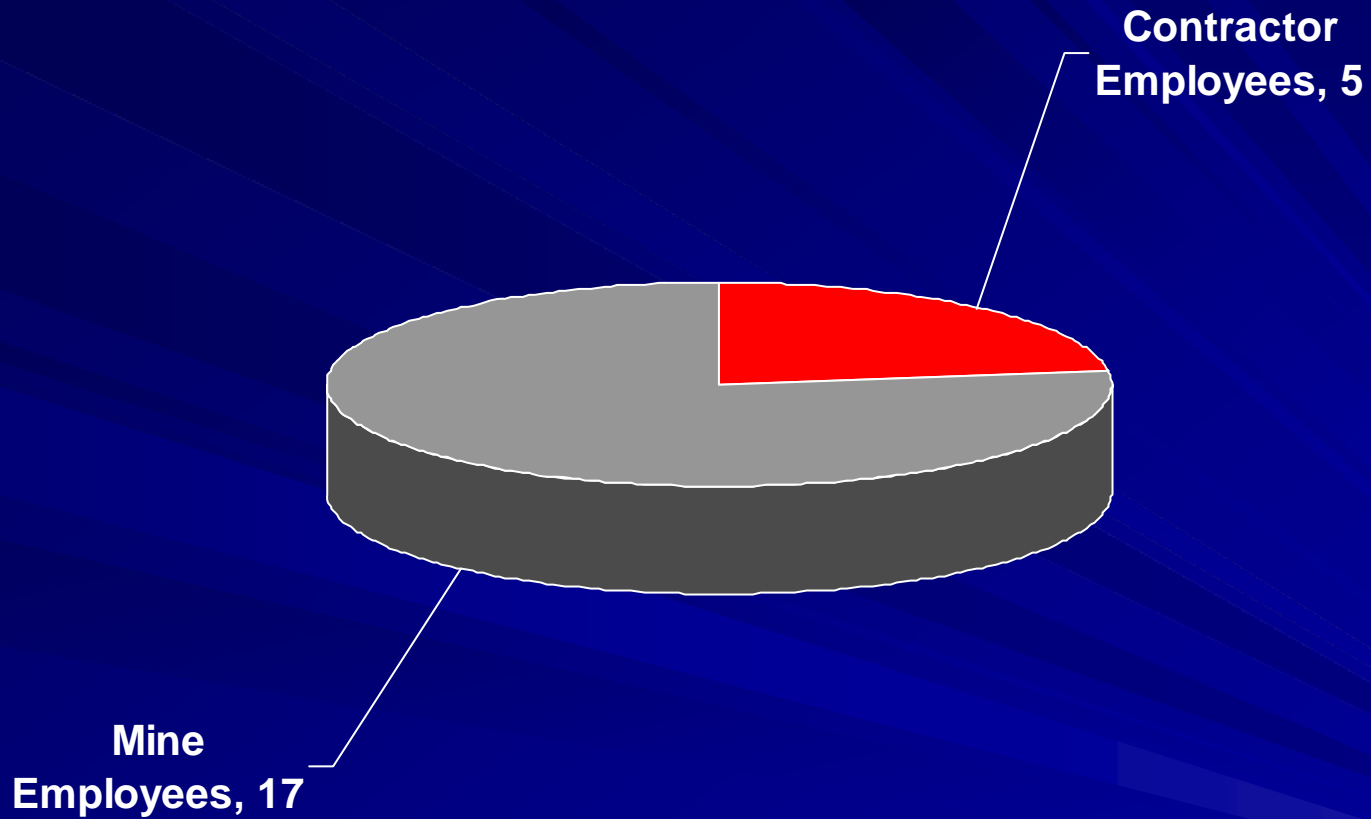
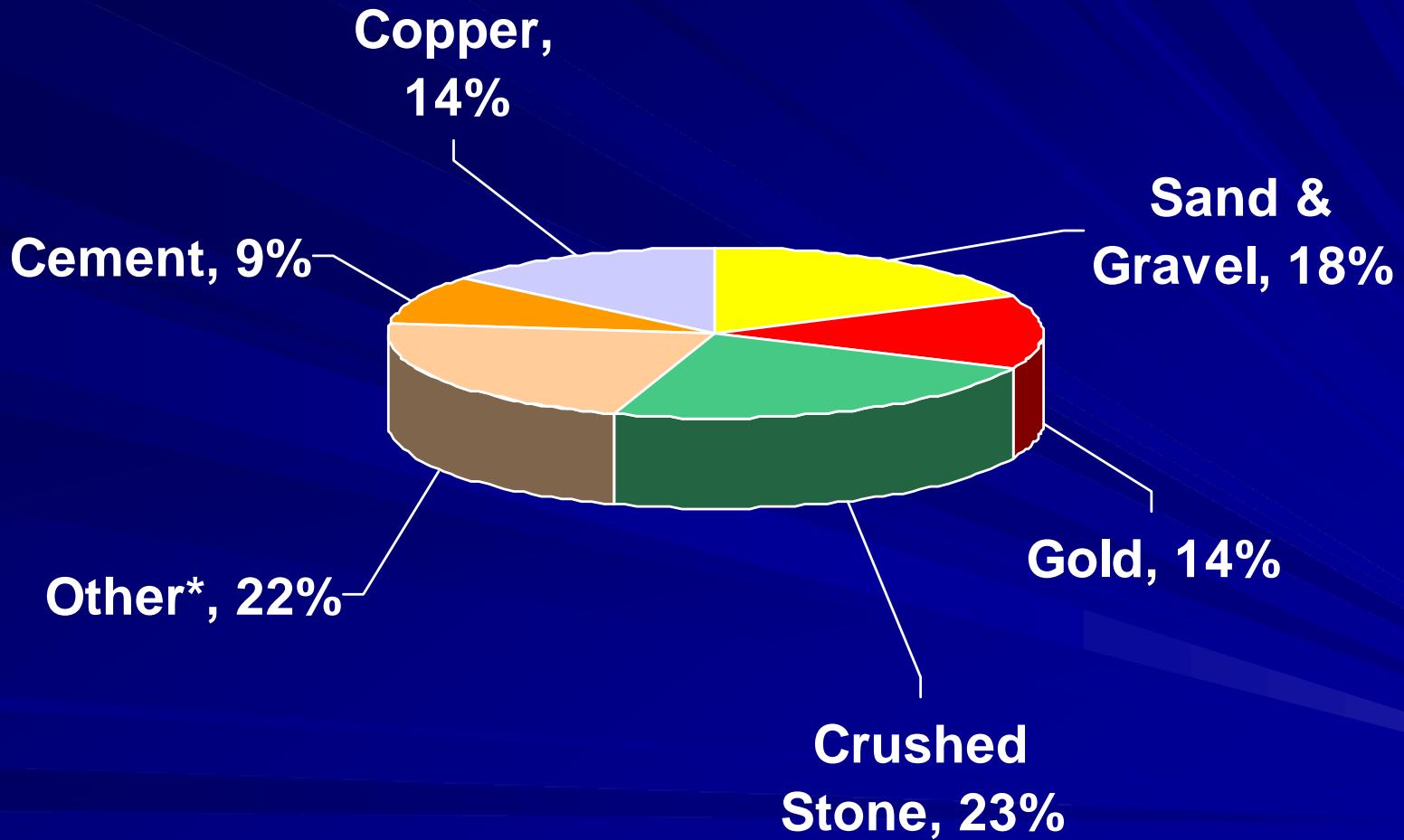


**Metal and Nonmetal
Fatal Accident Review
CY - 2008**

MNM Fatalities

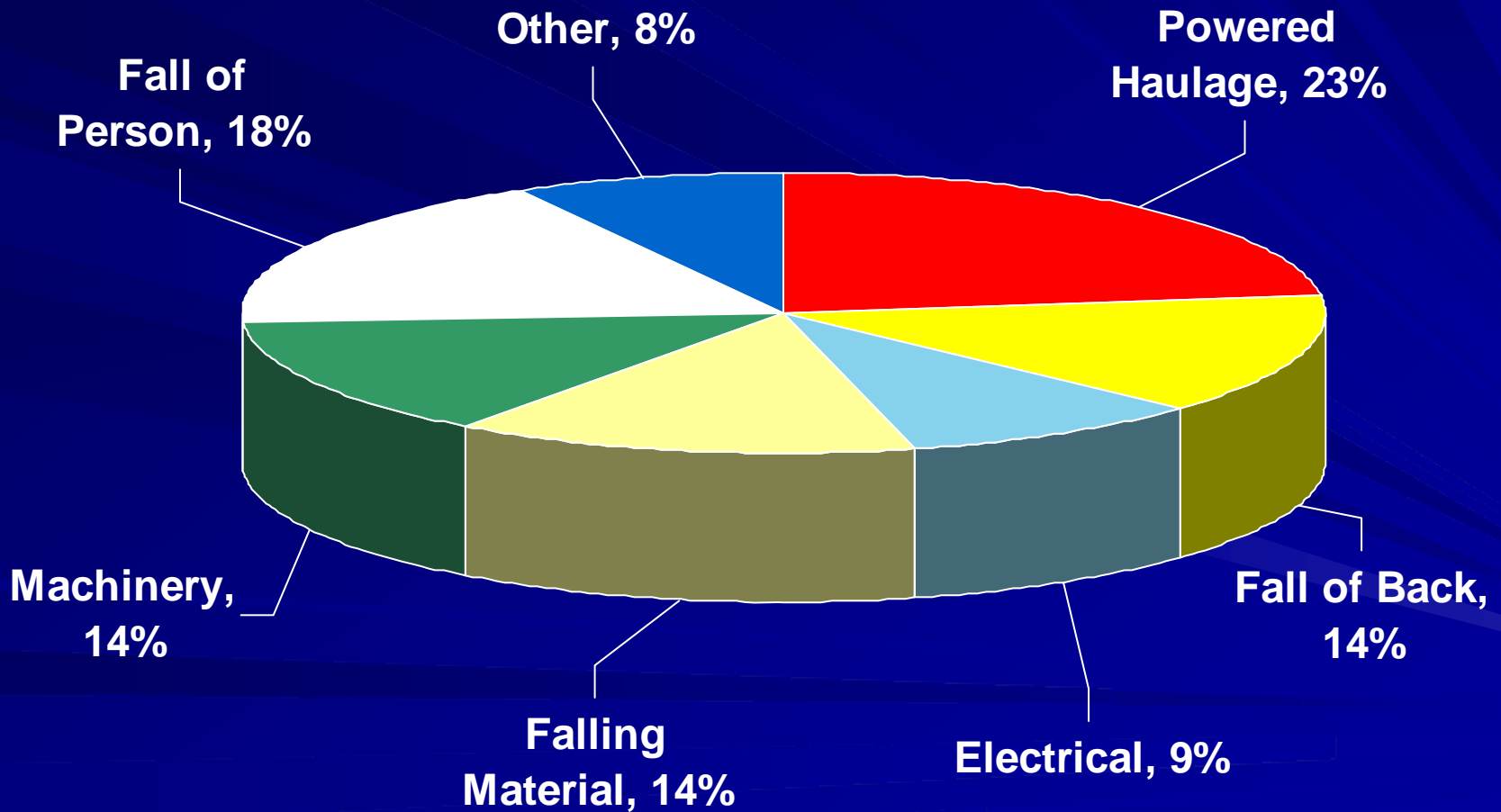


MNM Fatalities by Commodity

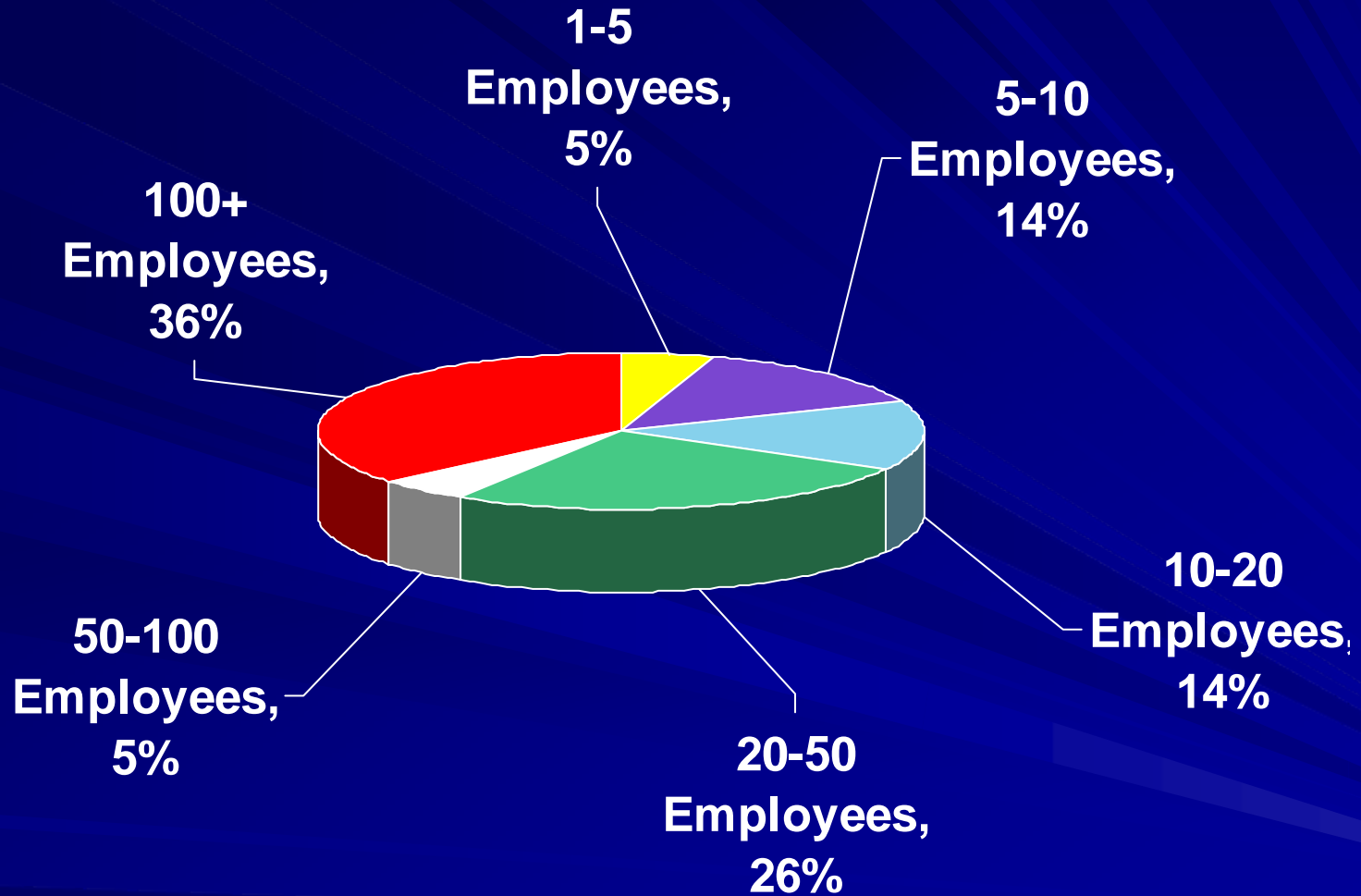


* Lead/Zinc, Industrial Sand, Marble, Lime, Potash

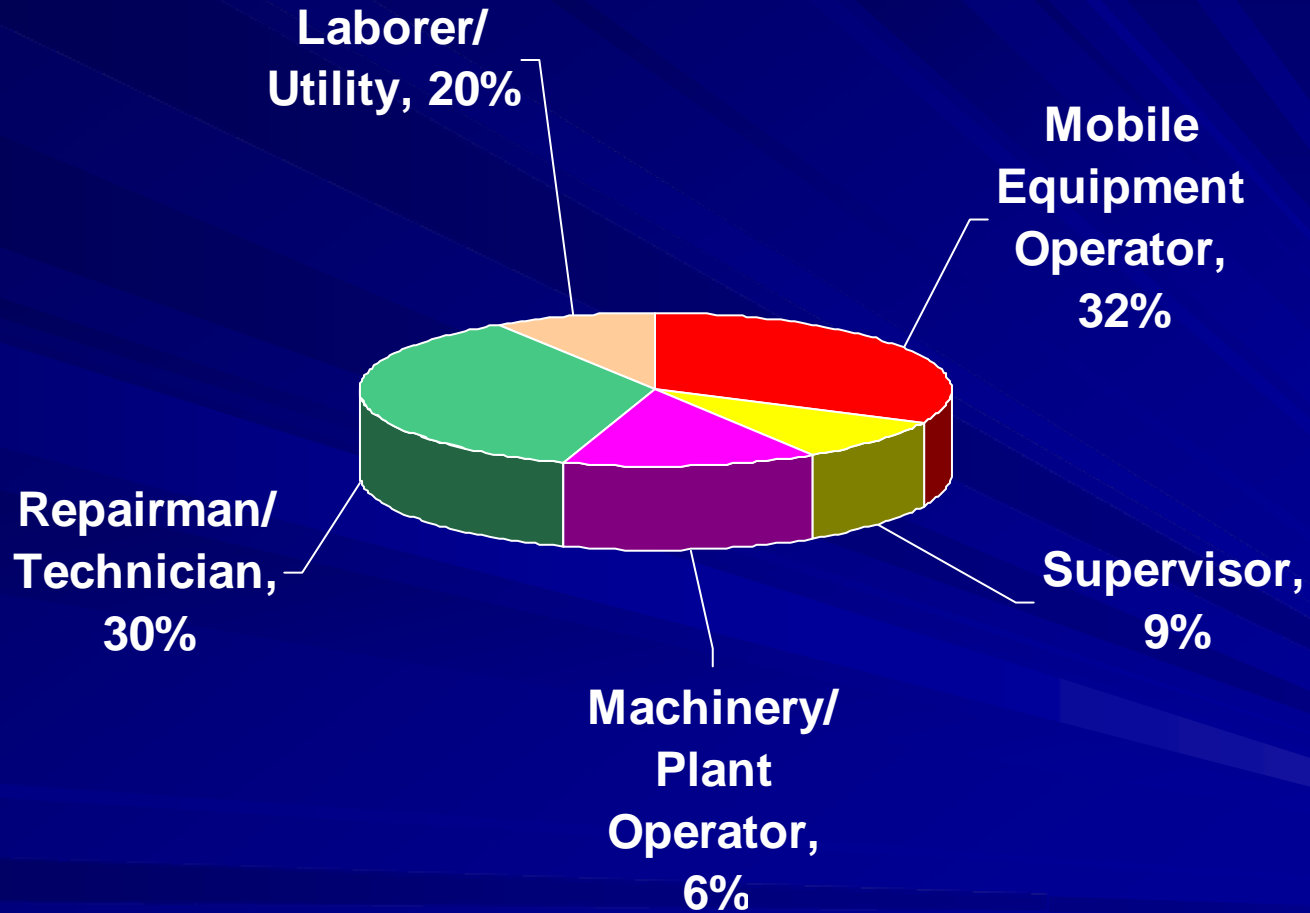
MNM Fatalities by Classification



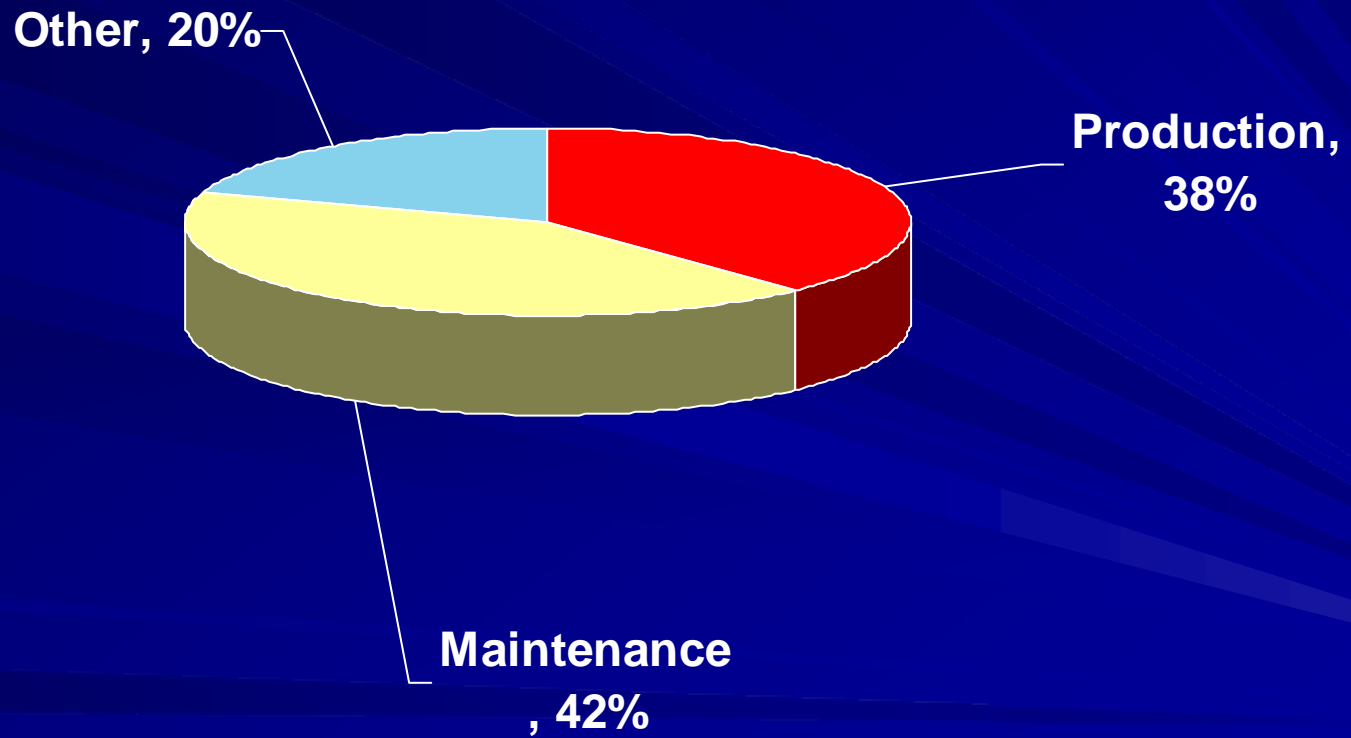
MNM Fatalities by Mine Size



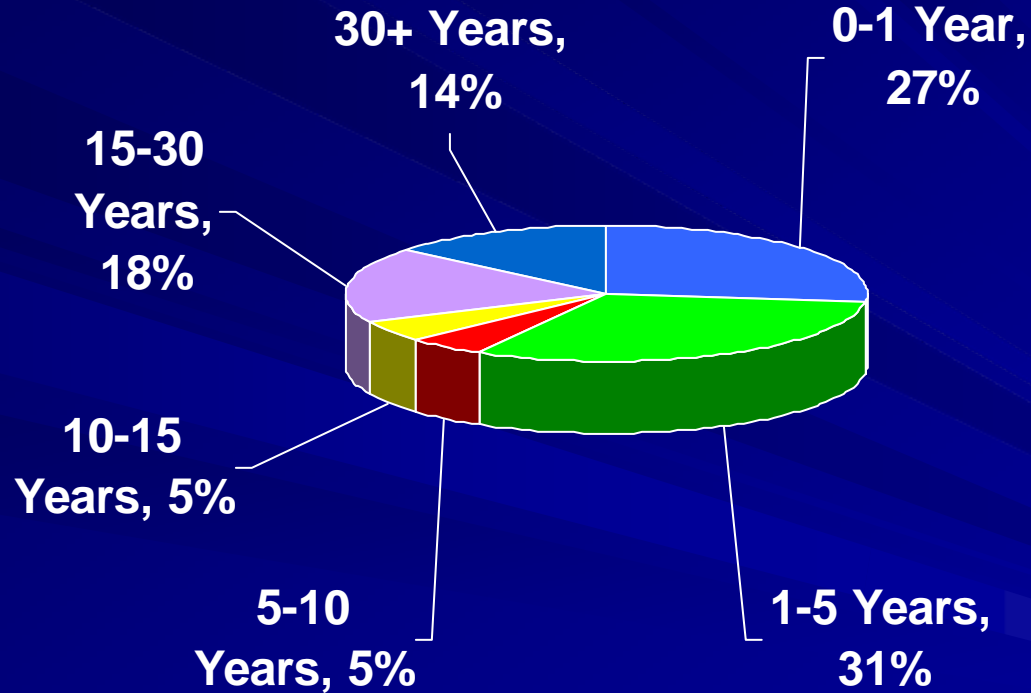
MNM Fatalities by Occupation



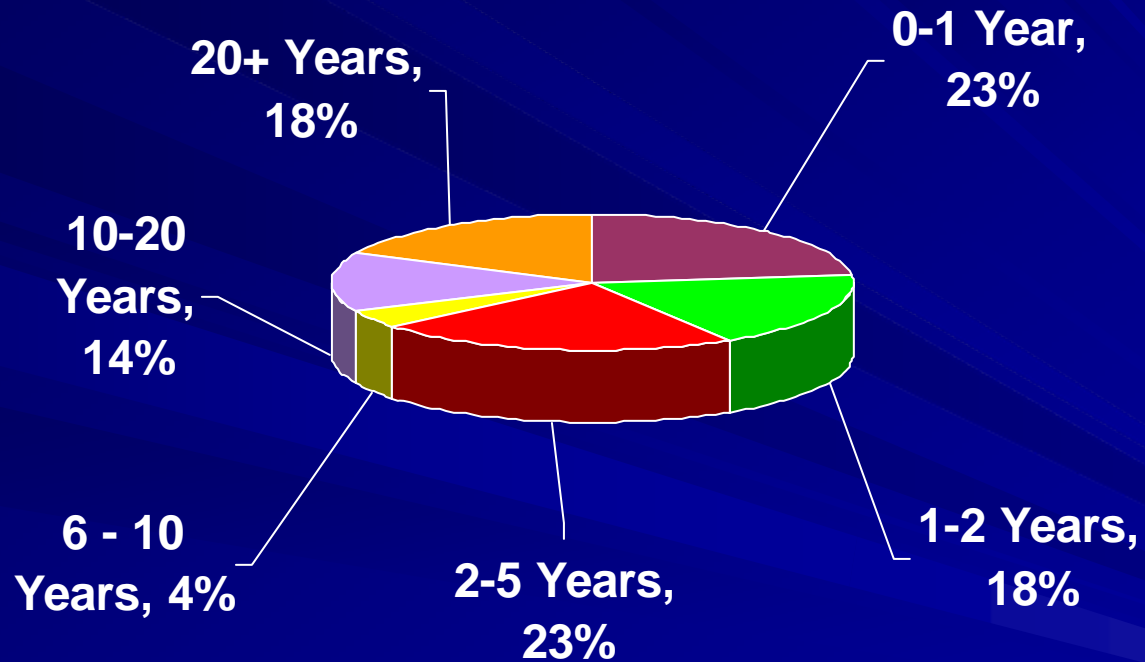
MNM Fatalities by Activity



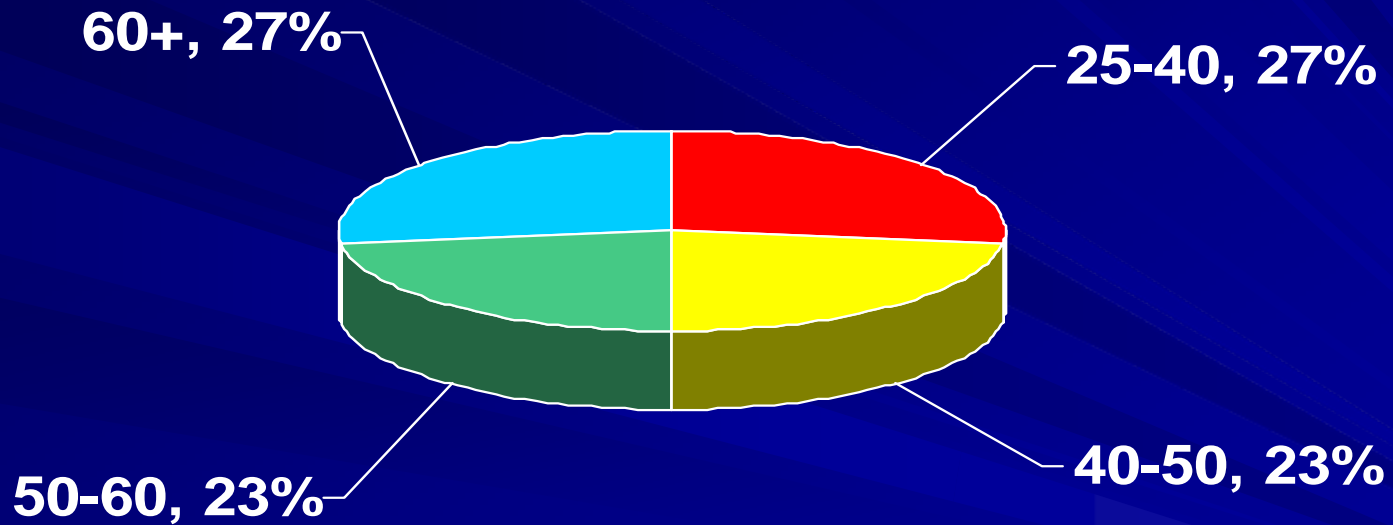
MNM Fatalities by Total Experience



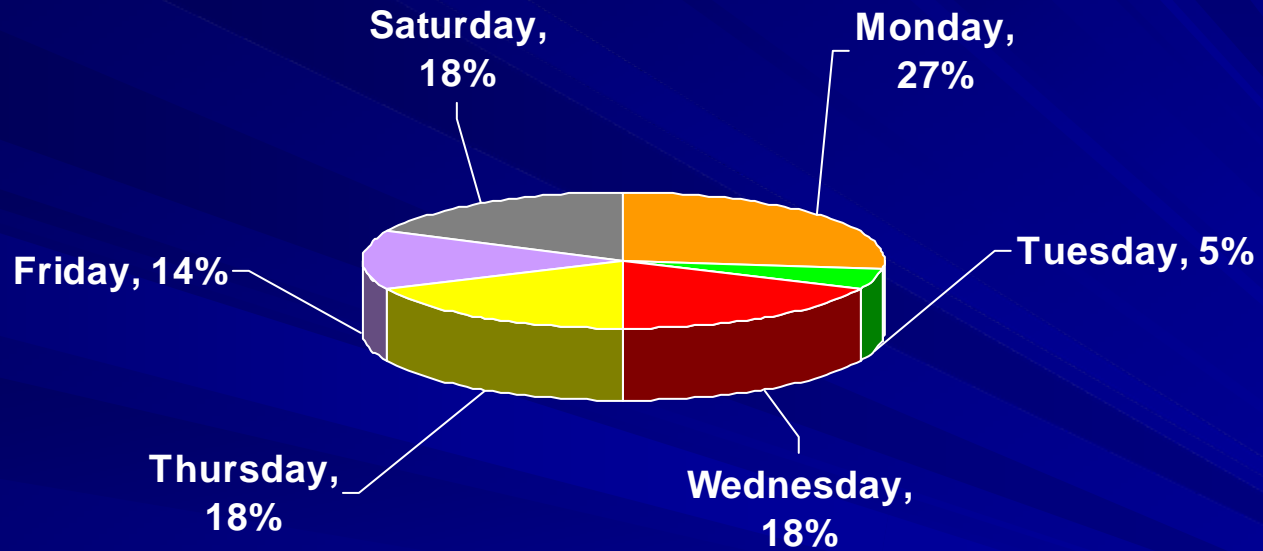
MNM Fatalities by Job Experience



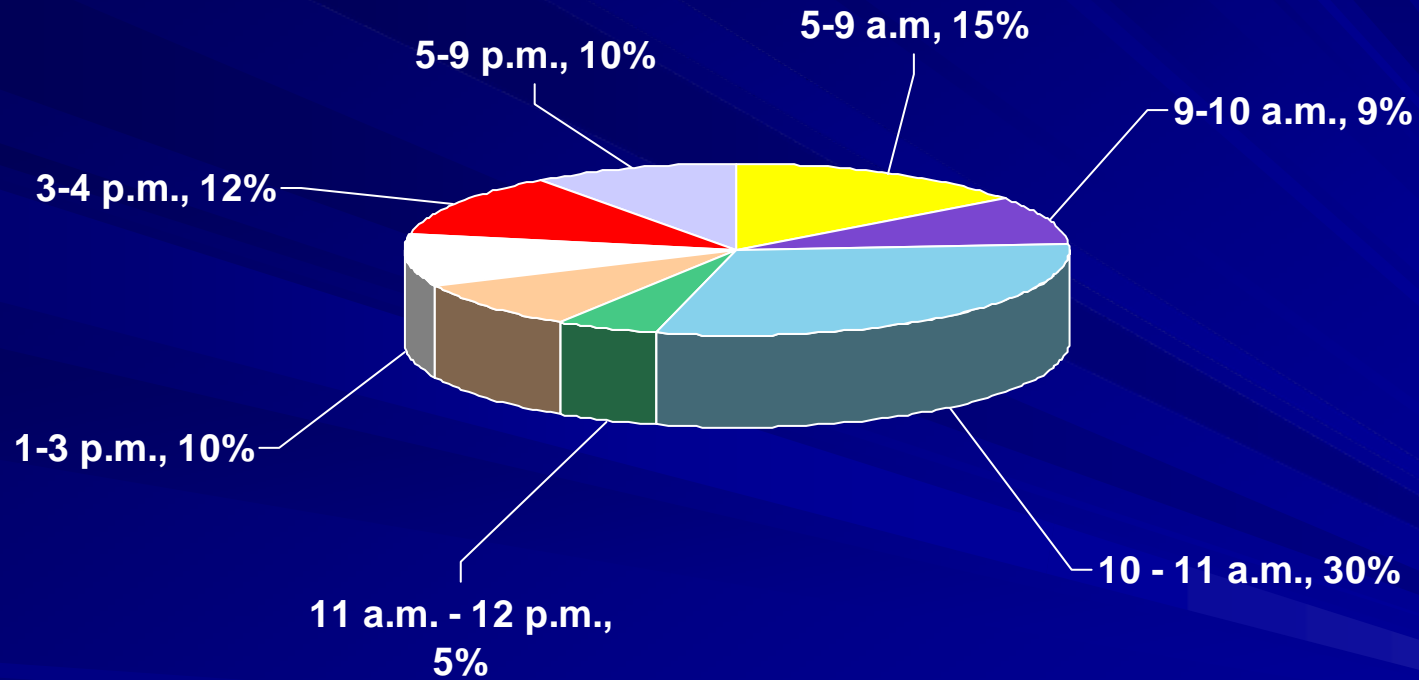
MNM Fatalities by Age



MNM Fatalities by Day of Week



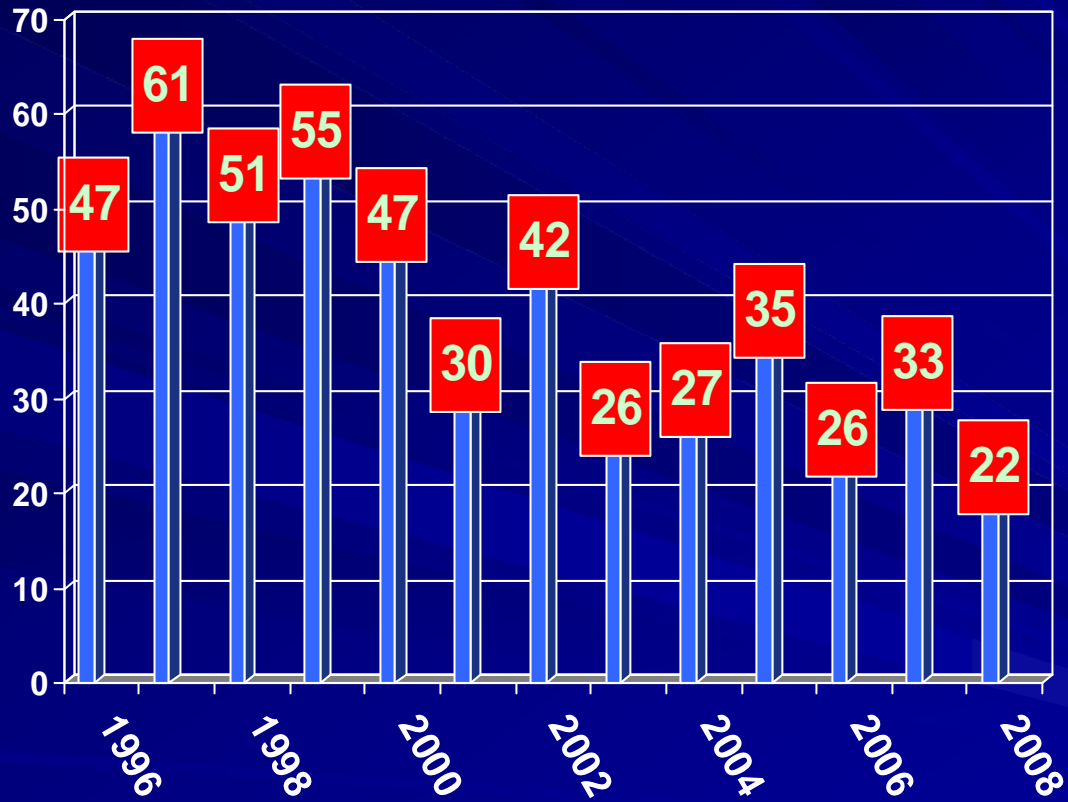
MNM Fatalities by Hour of Day



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 – 1996-2008



Electrical

Year	'03	'04	'05	'06	'07	'08
Fatalities	2	1	2	5	1	2

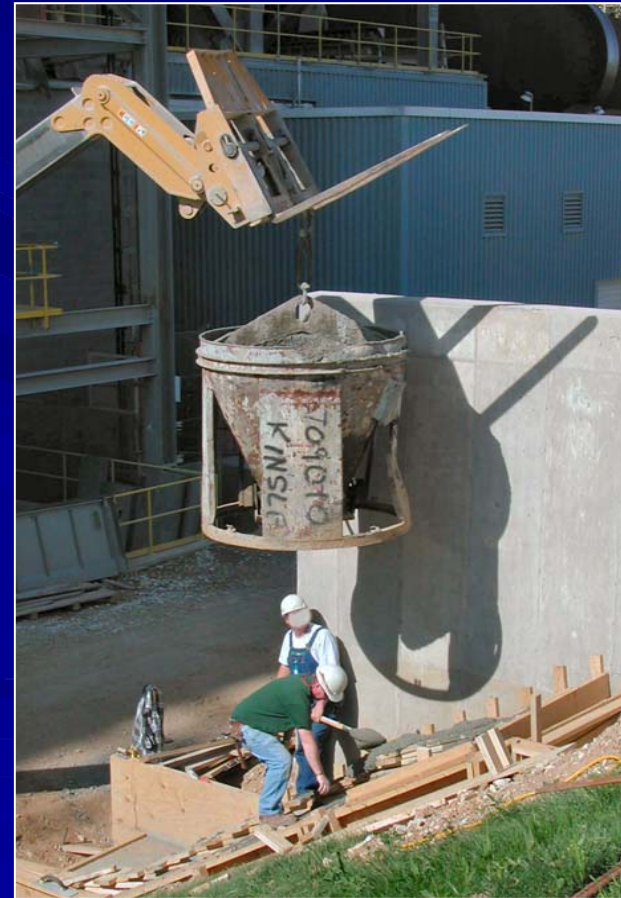
- MCC fires / explosions
- Contractors
 - Manage contractors!!
- Power line clearance



Fall of Material or Highwall

Year	'02	'03	'04	'05	'06	'07	'08
Fatalities	3	3	3	3	7	3	3

- Cover or secure openings
- Barricade area below work
- Avoid suspended loads



Fall of Roof or Back

Year	'02	'03	'04	'05	'06	'07	'08
Fatalities	0	0	0	0	0	3	3

- Two years of setbacks year after 5 years of outstanding performance
- Examine and support ground in adverse conditions

Slip / Fall of Person

Year	'02	'03	'04	'05	'06	'07	'08
Fatalities	2	3	6	3	3	6	4

- Many serious fall injuries
- Assess and control risks
 - Inadequate walkways and scaffolds
 - Fall protection not used
 - Persons not anchored
 - Holes not covered or protected

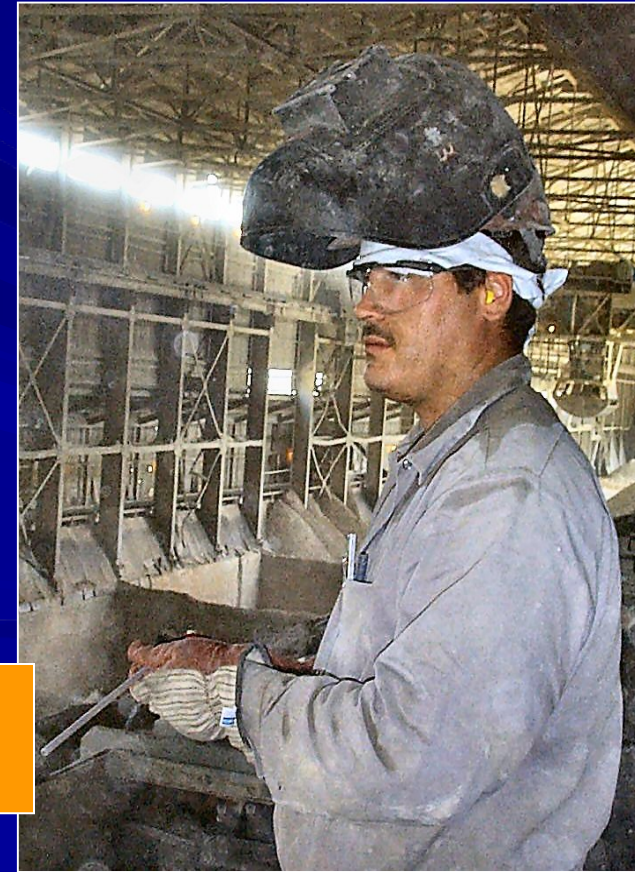


Human Element

Safe Work Practices not Established or Enforced –

- They did not assess the risks
- They did not attach fall protection
- They did not wear a life jacket
- They did not wear a seat belt
- They did not barricade below
- They worked near an open hole
- They did not cover openings
- They circumvented a guard

Take Two...
SLAM Risks





The majority of fatal accidents have these common root causes

- Failure to identify hazards
- Failure to manage risks

SLAM Risks the SMART Way!

Miners:

- Stop** Think through the task
- Look** Identify the hazards for each job step
- Analyze** Determine if you have the proper knowledge, training, and tools
- Manage** Remove or control hazards and use proper equipment

Mine Operators:

- Stop** Isolate each step in a task and identify past and potential accidents, injuries, and violations.
- Measure** Evaluate the risks associated with the task and barriers that have allowed hazards to cause injuries
- Act** Implement controls to minimize or eliminate any hazards that make the risk unacceptable
- Review** Conduct frequent work site visits to observe work practices and audit accidents, injuries, and violations to identify root causes
- Train** Develop a human factor-based action plan and then involve and train the miners
- Make the RIGHT Decision!**



U.S. Department of Labor

**Make the
RIGHT Decision**

Mine Safety and Health Administration