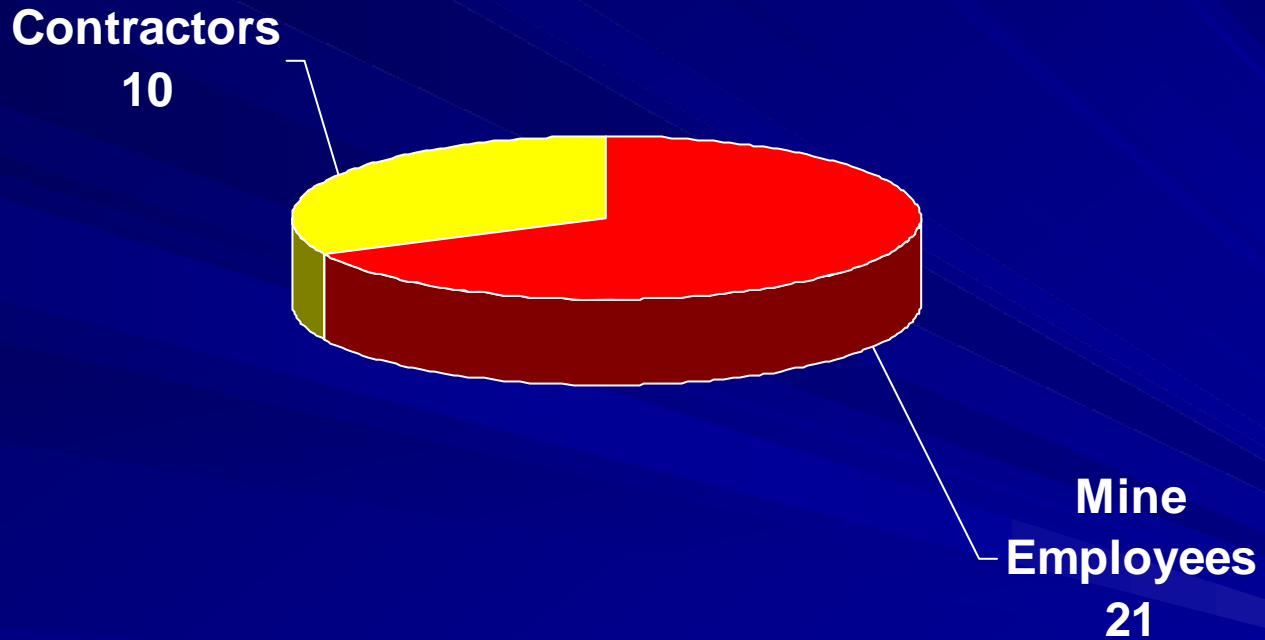
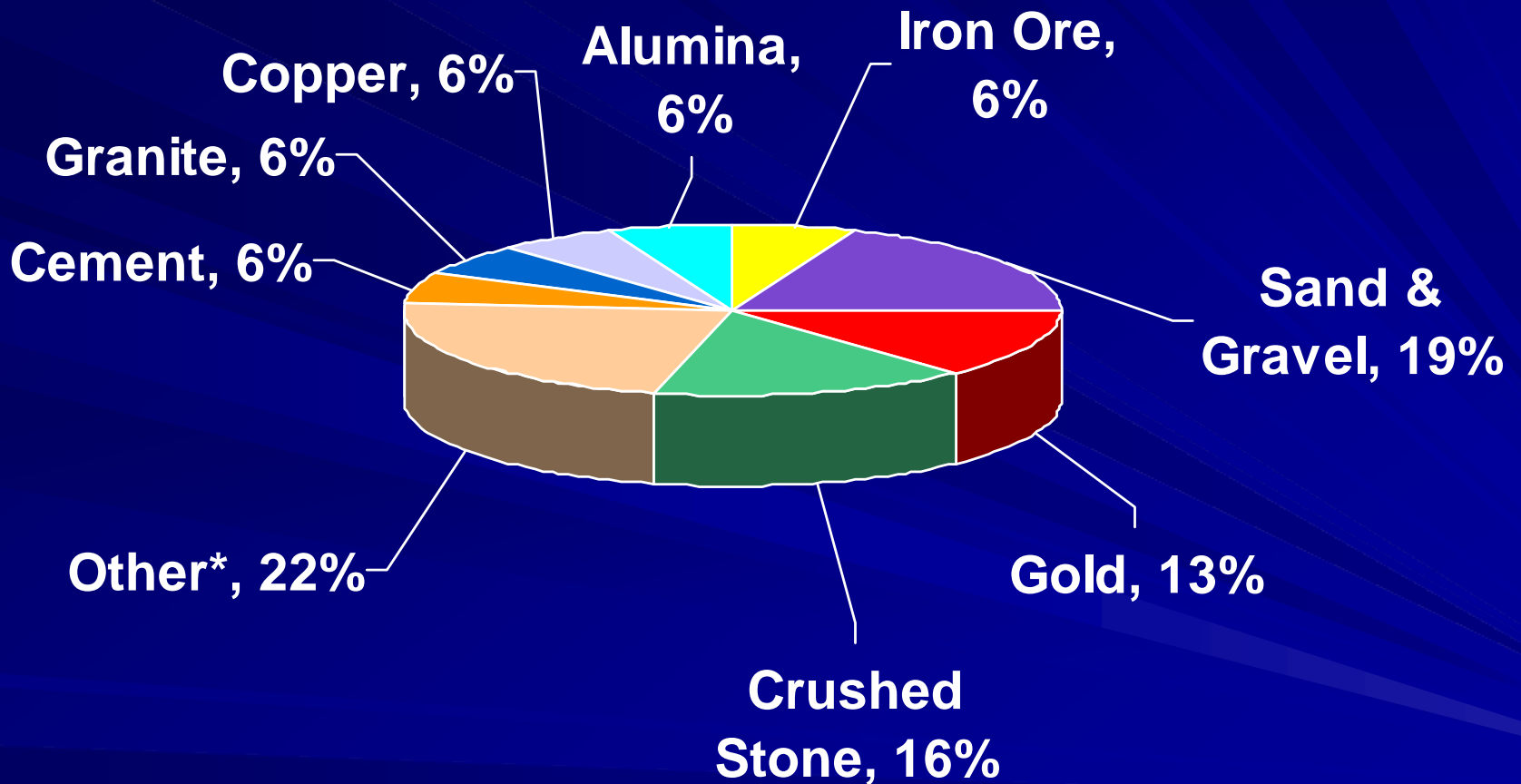


**Metal and Nonmetal  
Fatal Accident Review  
CY 2007**

# MNM Fatalities

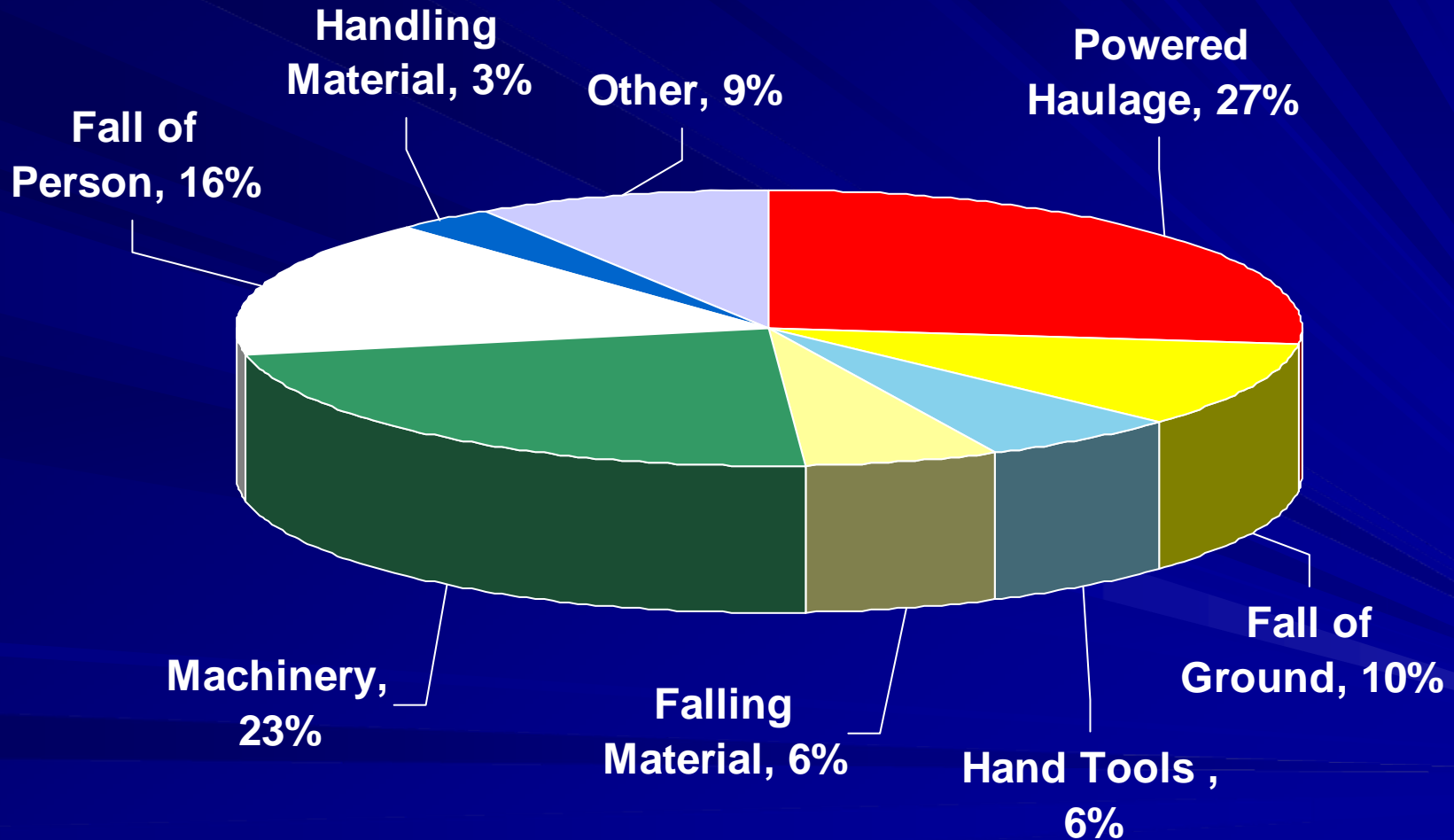


# MNM Fatalities by Commodity

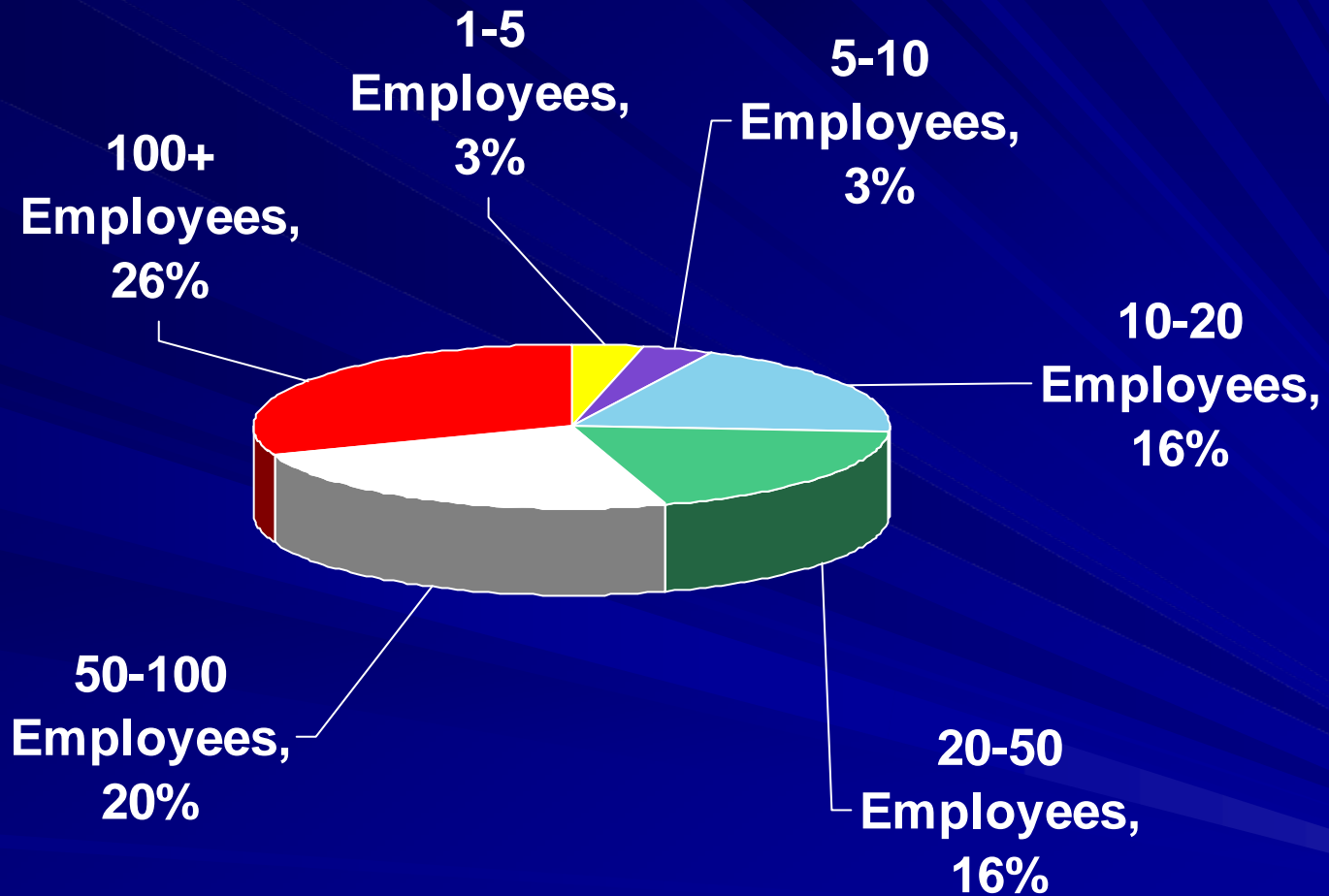


\* Lead/Zinc, Industrial Sand, Trona, Lime

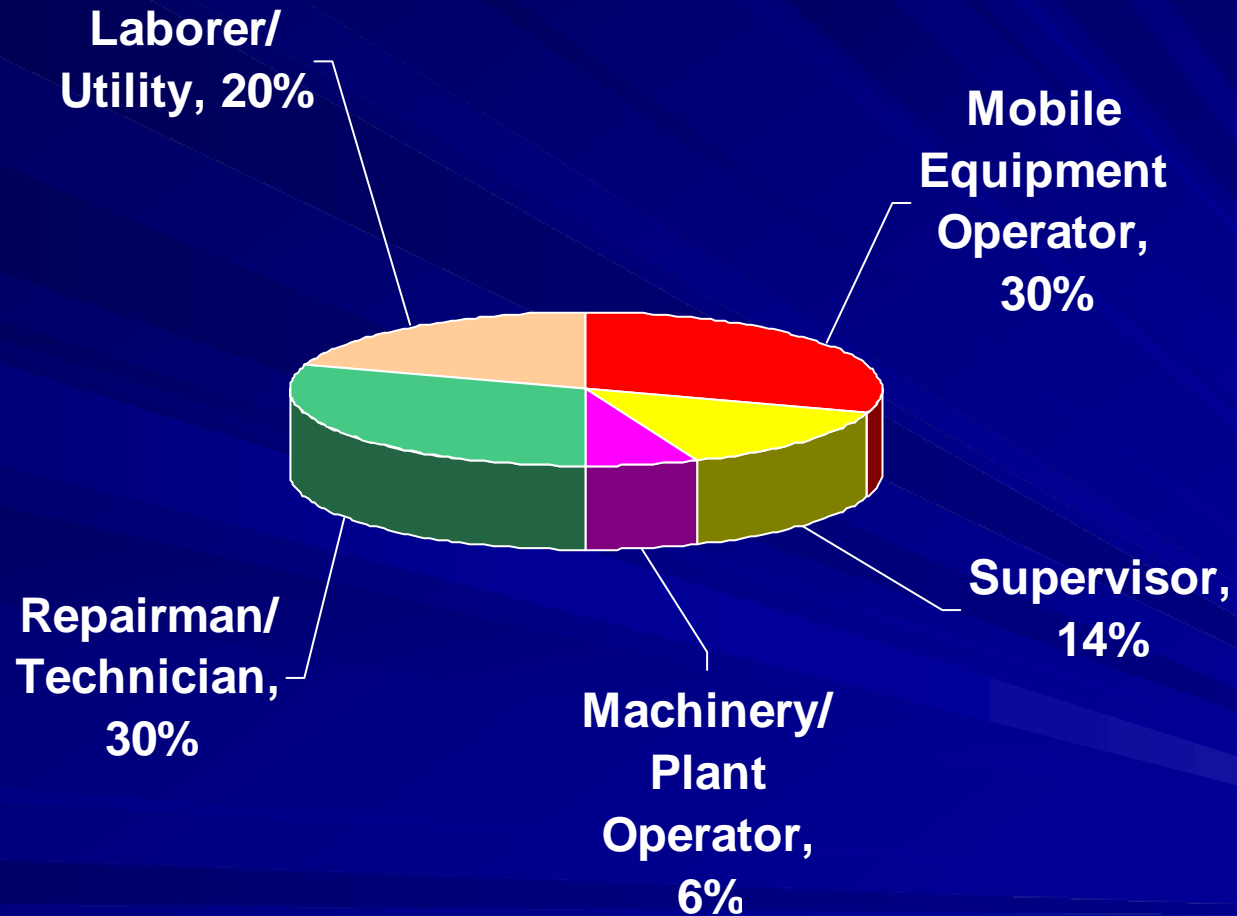
# MNM Fatalities by Classification



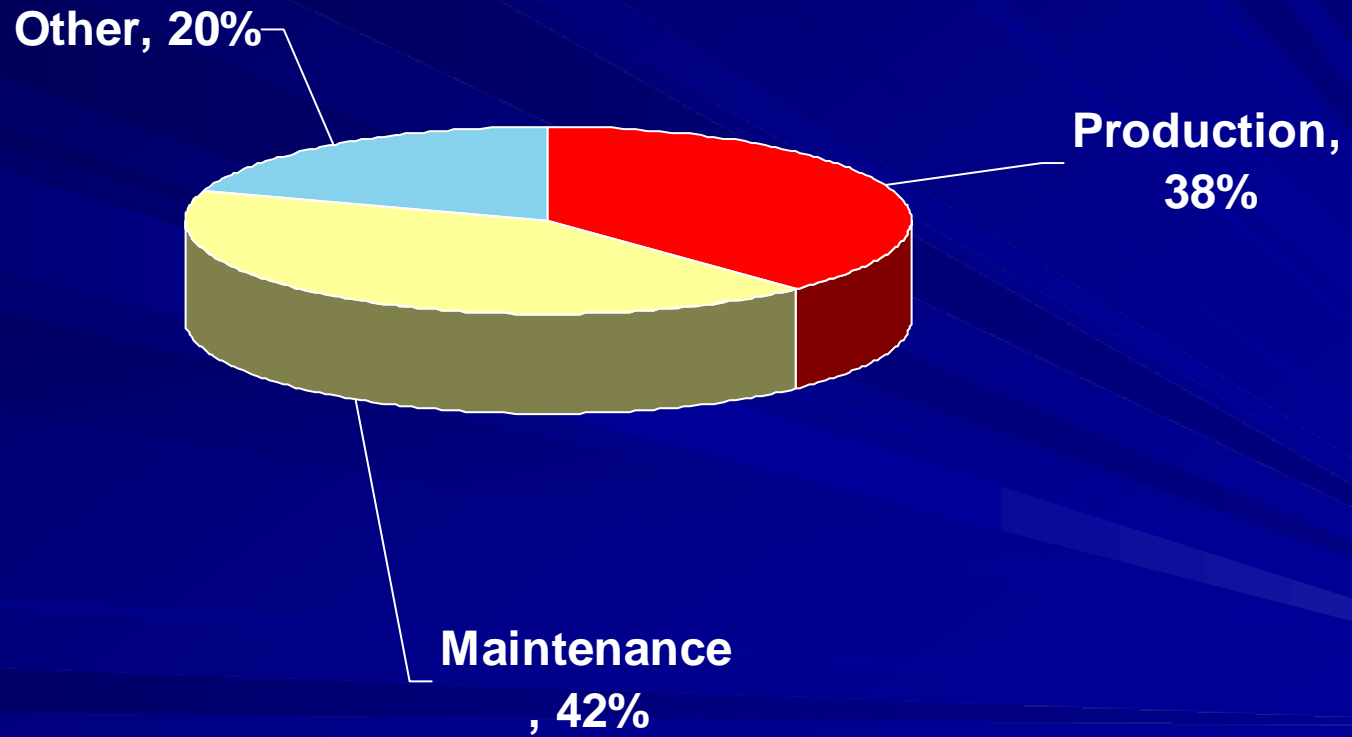
# MNM Fatalities by Mine Size



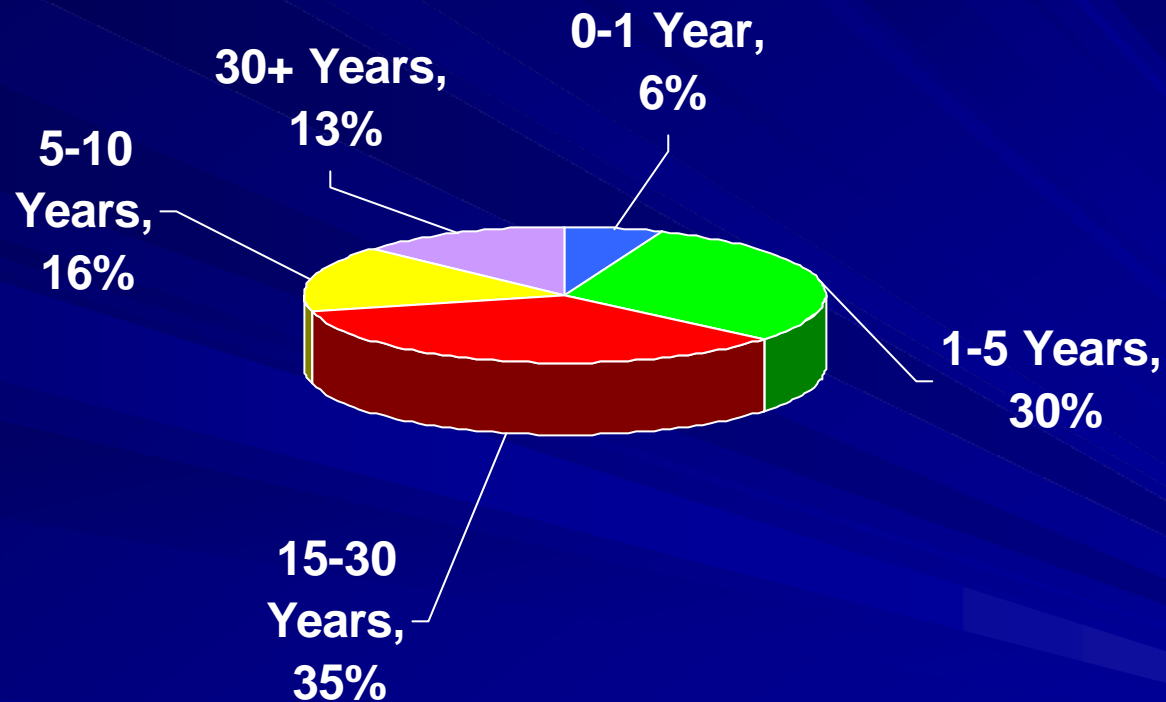
# MNM Fatalities by Occupation



# MNM Fatalities by Activity

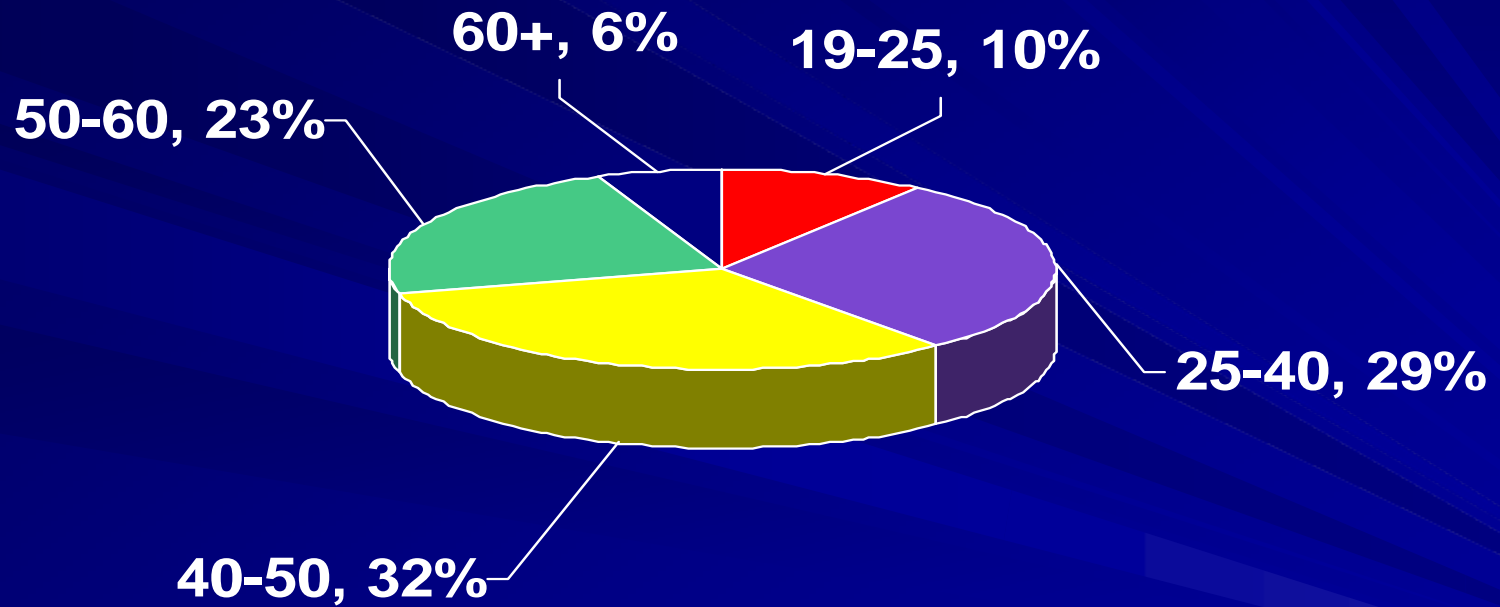


# MNM Fatalities by Mining Experience





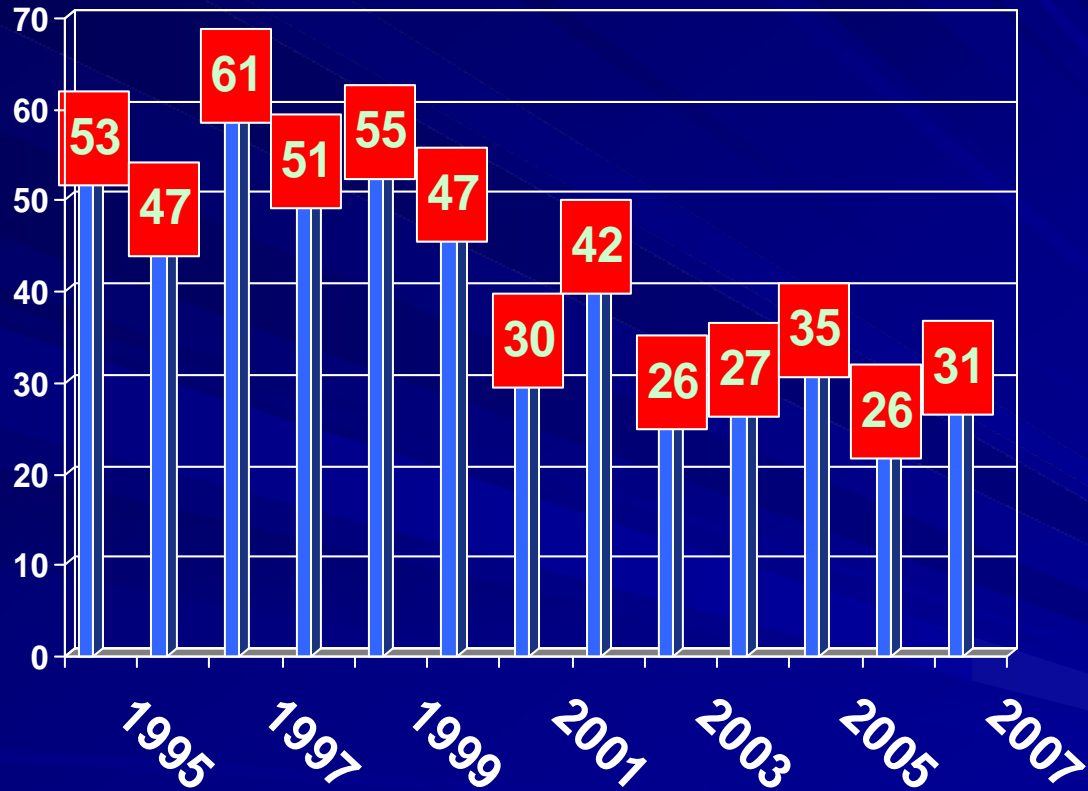
# MNM Fatalities by Age



# 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 – 1995-2007



# Electrical

Year	'02	'03	'04	'05	'06	'07
Fatalities	2	2	1	2	5	0

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



# Fall of Material or Highwall

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

- One (1) fatality each:
  - Falling parts
  - Inadequate blocking
  - Trench / excavation collapse
- Barricade area below work
- Avoid suspended loads
- Shore excavations



# Fall of Roof or Back

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

- 2007 is a setback year after 5 years of outstanding performance
- Examine and support ground in adverse conditions

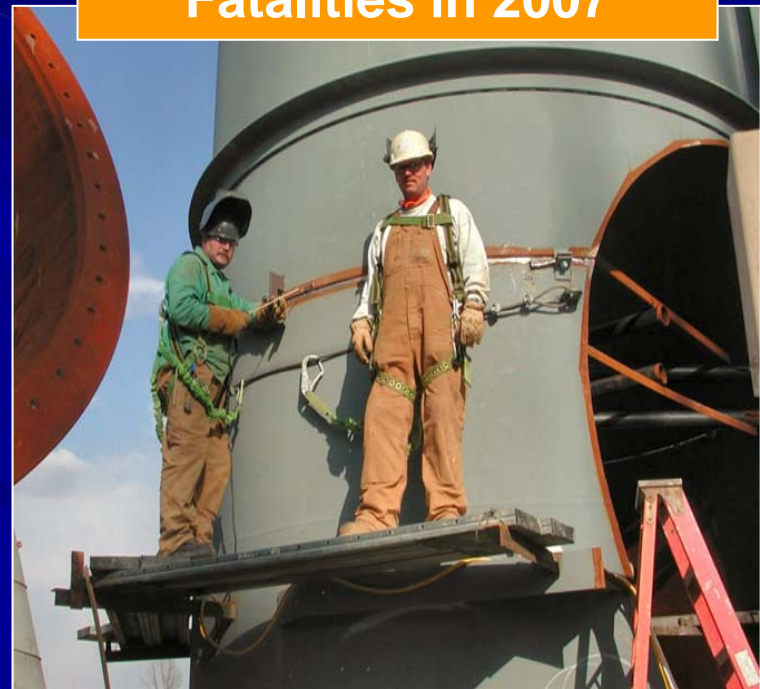


# Slip / Fall of Person

Year	'02	'03	'04	'05	'06	'07
Fatalities	2	3	6	3	3	5

- Many serious fall injuries
- Assess and control risks
  - Inadequate walkways and scaffolds
  - Not using fall protection equipment
  - Persons not anchored

4 Contractor Fall Fatalities in 2007



# Human Element

## Victims -

- Did not deploy outriggers
- Did not attach fall protection
- Did not wear life jacket
- Did not wear seat belt
- Did not barricade below
- Worked near open hole
- Entered unshored trench
- Circumvented guard



Take Two...  
SLAM Risks



# Outrigger Use – 4 Fatalities in 2007

- Deploy
- Distribute load
- Inspect / maintain





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!**

When Miners & Mine Management are  
**Risk SLAMMERS**

*together they*

Make the RIGHT Decision and...







U.S. Department of Labor

**Make the  
RIGHT Decision**

Mine Safety and Health Administration