



Real Mining. Real People. Real Difference.

Safety Management Aligned With Chapters 10 & 11 of the MHSA

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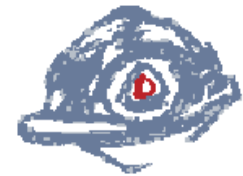
**AMRE Safety Seminar – Kloof Country Club
19 July 2011**



Introduction

- Importance of safety in mining industry
- How do we achieve zero harm?
 - Safety Initiatives:
 - Safety management systems
 - Safety consultants
- Safety = \$
 - Spending millions to get someone to fix safety performance
 - Neglecting legislative requirements
- Solution:
 - Implement sections 10 & 11 of MHSA

We put
safety first



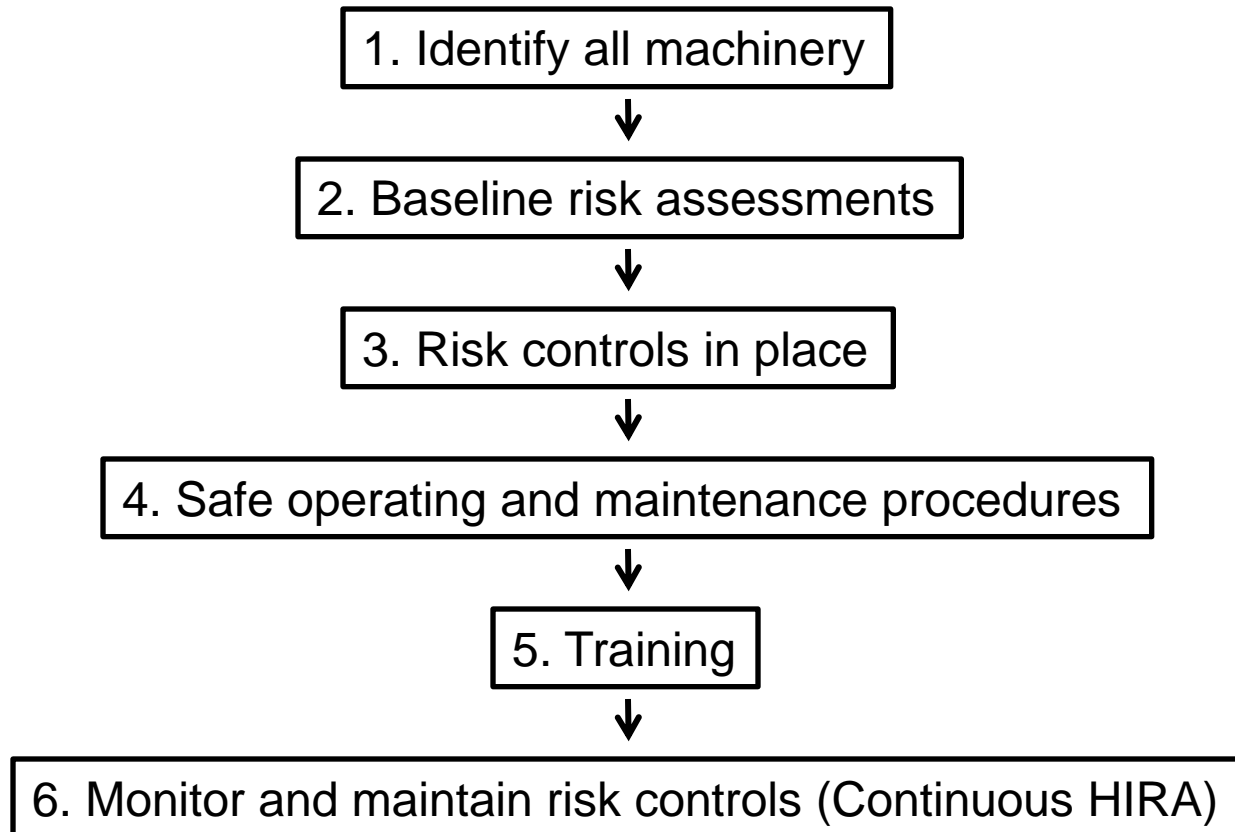
MHSA Section 10 - Training

- Employees must receive sufficient training to ensure:
 - They can perform their work safely
 - They are familiar with work-related hazards and risks
 - They are familiar with measures that must be taken to eliminate, control or minimize those hazards and risks
 - They are familiar with work-related procedures
 - They are familiar with relevant emergency procedures
- Remember to keep record of all training provided

MHSA Section 11 - HIRA

- The employer must:
 - Identify and assess all hazards and their associated risks
(Hazard: Source of or exposure to danger)
 - Keep record of all these hazards and risks
 - Implement risk control measures in this order (Hierarchy of controls)
 1. Eliminate
 2. Control at source (Controls at hazard)
 3. Minimize
 4. Provide PPE & monitor exposure to remaining risk
 - Periodically review risk assessment

System Overview



Where to start?

- Engineer is responsible for ALL machinery
- Look at trends of machinery related incidents
- Identify problem areas

1. Identify All Machinery

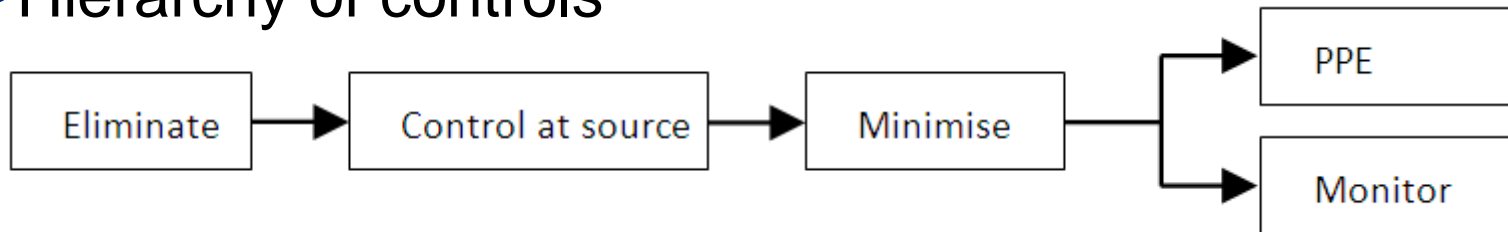
- If you don't know about it, you're not maintaining it!
- Keep record of all machinery
 - Planned maintenance system

2. Baseline Risk Assessments

- Is baseline risk assessment in place, available & adequate?
 - HIRA covering all hazards and related risks
- When performing HIRA, consider hazards associated with:
 - Maintenance
 - Operation
 - Design
 - Installation
 - Critical task list
- Baseline updated with findings from issue based HIRA
 - Issue based HIRA for specific concern
 - E.g. Incident, new machinery, plant change/modification
- Safety officers can assist in risk assessment

3. Risk Controls

- Risk controls for each identified risk
- Hierarchy of controls



–Controls should be as high up the hierarchy as possible

- Hierarchy of effectiveness
 1. Eliminate
 2. Control by design without human intervention
 3. Control by design with human intervention
 4. Control by procedure (Pure human intervention)
 5. Control by PPE

4. Procedures

- Administrative risk controls
- Safe operating and maintenance procedures
 - Incorporate OEM manuals
- New equipment
 - Relevant design and installation standards
- Appointments and authorizations
 - In terms of legislation and own procedures

5. Training

- MSHA section 10
- Adequate training to ensure:
 - They can perform their work safely
 - They are familiar with:
 - Work-related and emergency procedures
 - Work-related hazards and risks and their control measures
- Engineer responsible for content of training
 - Ensure content is relevant

6. Maintain System

- Monitor and maintain controls
- Continuous risk assessment
 - Planned task observations
 - Audits
 - Inspections
 - Operator pre-work checklist
 - Pre-work risk assessments
- Formal system for continuous risk assessment
 - Monitor effectiveness of controls that are in place
 - Analyze feedback and put remedial actions in place for deviations
- Assist in managing behavioral issues

Conclusion

- Spending a lot of money unnecessarily
- Engineers focus on applying sections 10 & 11 of MHSA
- Can achieve Zero Harm

**THANK
YOU**