



# NIOSH Perspective on Health and Safety Management Systems in Mining

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# Overview

- Is a Health & Safety Management System a significant value-added approach to... ?
  - Thoughts on “lessons learned” over the past 5 years
  - Benefits of a health and safety systems approach
  - Findings from NIOSH MHRA case studies
- Can this approach be realized here in the U.S... ?
  - Considerations in moving forward



# Observations... Lessons

- Mining conditions & methods change...
- Regulations cannot anticipate all of the changing scenarios... and reactive responses to the the last problem is not the answer
- Expectation that compliance with regulations alone will result in “zero harm” is unrealistic
- Belief that MSHA or government is responsible for safety outcomes in the mine is unrealistic



# We need a different approach

- Mine operators must take full responsibility for the safety and health outcomes of their operations
- Prescriptive regulation should only serve as a minimum expectation when performance alternatives are impractical
- Operators should drive changes in industry health and safety through actions going above and beyond minimum expectations
- We need an adaptive, responsive model that builds on a systematic approach to assessing hazards and managing risks



# Health and Safety Management System

- Incorporates various safety tools, practices, and processes into a systems-based approach
- Provides roadmap to develop clear and executable plan
- Integrates the responsibility and accountability of working safe across all organizational levels
- Builds shared leadership and participation into decision making



# Core Component of HSMS

- Hazard Identification
- Risk Assessment
- Risk Management
  - By Elimination of the Hazard
    - Through design
  - By Mitigation of the Hazard
    - Engineering
    - Training
    - Administrative actions



# The need for a different approach is being acting upon

- National Mine Safety and Technology Commission (2006) emphasized the need to go beyond regulations to advance safety and health
- Australian mining industry crossed this bridge nearly two decades ago...
- U.S. mining companies have developed and are applying various forms of safety and health management systems...
  - Good examples (of which NIOSH is aware)
    - Underground and surface coal
    - Underground and surface metal
    - Underground and surface nonmetal
    - Underground and surface stone



# Scientific Research

- NIOSH researched the application of Major Hazard Risk Assessment (MHRA) technique for analysis of US mining conditions
- 10 field-based case studies with wide cross-section of U.S. mines and commodities
- Participants produced specific and adaptive prevention practices to reduce risks associated with major mining hazards



# Scientific Findings

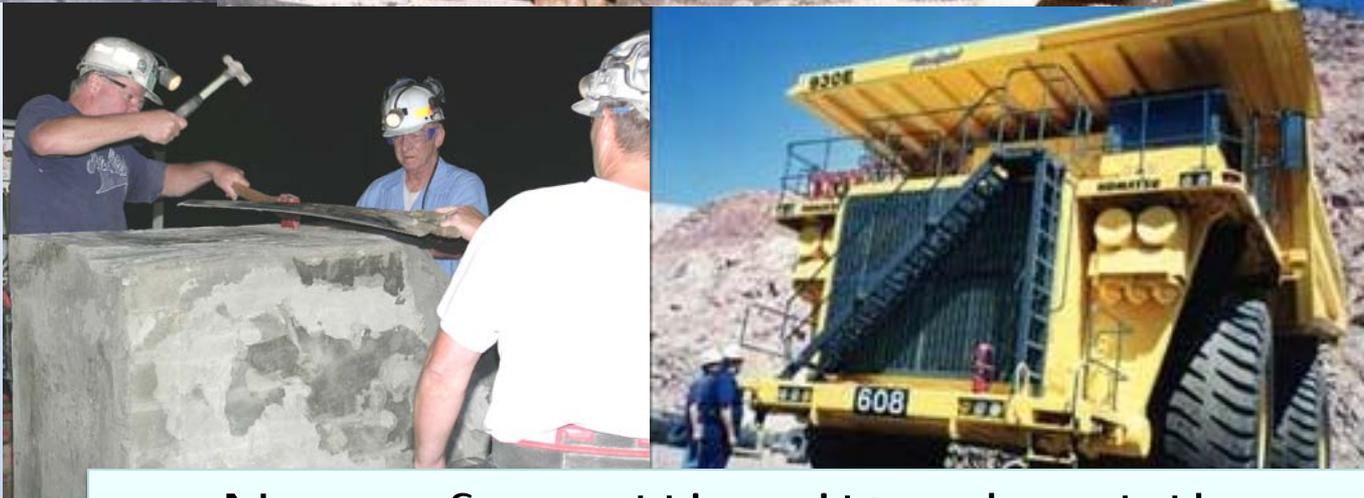
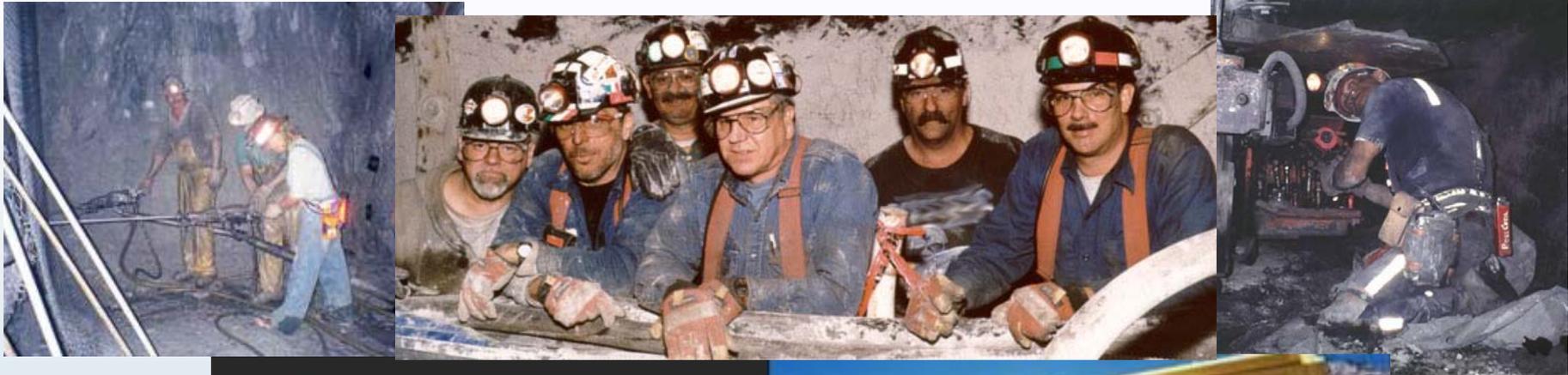
- Even the most prepared participants identified new ways to mitigate and prevent major hazard risks
- Other participants applied old thinking, specific to meet regulatory expectations, but not to lower the risks associated with major hazards
- A proactive approach by company leadership is *key* in building a comprehensive system for assessing and managing risks



# Moving Forward

- Learn from the successes and failures of those in the international community – international standards, Australian experience, multinational corporations, U.S. experience
- Support implementation across all mine sizes
- Address early the challenges that will arise from employing a proactive risk-based approach within a compliance-based regulatory framework
- Facilitate collaboration between management & labor
- Expect the cultural shift to be a lagging indicator of success
- Recognize that this will be a journey... of steady gains and challenges, lasting many years...

# Improving Mineworker Health & Safety Through Research & Prevention...



Never forgetting it's about the health & safety of the mineworker!