Improving Health and Safety for US Miners

Gregory R. Wagner, M.D.
Deputy Assistant Secretary
Mine Safety and Health Administration
U.S. Department of Labor
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From the conference agenda:

“Mining fatalities in the United States significantly increased in 2010, in both underground and surface mining operations. Explore safety issues related to the mining industry.”
Historical perspective
MSHA mission & mandates
Who is responsible for safety and health?
The MINER Act at age 5
Current efforts to improve health and safety
Looking ahead
Federal Metal and Nonmetallic Mine Safety Act of 1966

- Annual inspections and assessment of civil penalties
- First federal statute directly regulating non-coal mines.
- Provides for inspections, investigations, and the promulgation of standards.
Disaster Strikes in Farmington!

On the morning of November 28, 1968, an explosion occurred at Consol #9 Mine in Farmington, WV...

...78 miners lost their lives

Photo courtesy of the Charleston Gazette
BLACK LUNG KILLS
BLACK LUNG KILLS
BLACK LUNG KILLS
BLACK LUNG LAW NOW
Federal Coal Mine Health and Safety Act of 1969

- Increased enforcement powers in coal mines.
- Required two annual inspections of surface coal mines and four at underground coal mines.
- Required penalties for all violations and establishes criminal penalties for knowing and willful violations.
- Safety standards for coal mines are strengthened and health standards are adopted.
- Provided compensation for miners disabled by black lung disease.
Scotia Mine Disaster
1976
Federal Mine Safety and Health Act of 1977

- Established MSHA.
- Consolidated the 1966 and 1969 mine acts into a single mine safety and health act.
- Strengthened and expanded the rights of miners.
MSHA’s Mission:

The purpose of the Mine Safety and Health Administration is to prevent death, disease, and injury from mining and to promote safe and healthful workplaces for the Nation's miners.
Mine Safety and Health Act of 1977

- The first priority and concern of all in the coal or other mining industry must be the health and safety of its most precious resource—the miner
- There is an urgent need to provide more effective means and measures...to prevent death and serious physical harm, and in order to prevent occupational diseases originating in such mines
Mine Safety and Health Act of 1977

• The existence of unsafe and unhealthful conditions and practices...cannot be tolerated

• The operators of such mines with the assistance of the miners have the primary responsibility ...
Coal Fatalities 1900 - 2009

- Bureau of Mines 1910
- Federal Coal Mine Safety and Health Act of 1952
- Coal Mine Safety and Health Act of 1969
- Federal Mine Safety and Health Act of 1977
- Lowest CY Fatalities on Record (2009)
Mine Improvement and New Emergency Response Act of 2006

- Requires emergency response plans.
- Criminal penalties up to $250,000 for 1st offense and $500,000 for 2nd.
- $220,000 max civil penalty for flagrant violations.
- Requires wireless two-way communications and electronic tracking system.
MINER Act Implementation - SCSRs
MINER Act Implementation:

- Improved Mine Rescue
- Improved sealing of abandoned areas
- Improved notification of entrapments, deaths, and life-threatening accidents
- Improved access to trained emergency responders
- Improved training of responders
MINER Act Implementation

• Establish Family Liaisons
  – 58 liaisons as of 2/2011; regular training sessions
Brookwood-Sago Mine Safety Grants

...fund education and training programs to better identify, avoid, and prevent unsafe working conditions in and around mines.

– $973,000 to grantees in PA
– $330,000 to grantees in CO
– $166,000 to grantees in AL
– $139,000 to grantees in VA
– $111,000 to grantees in WV
– $55,000 to grantees in KY
– $54,000 to grantees in UT
– $52,000 to grantees in FL
– $50,000 to grantees in IL, RI, and IN
MINER Act Implementation: Civil Penalty Increases

• Minimum penalty for unwarrantable failure violations - $2,000 and $4,000 for 104(d)(1) and 104(d)(2) issuances, respectively;

• Minimum penalty of $5,000 dollars for failure to notify MSHA within 15 minutes of a death, entrapment, or life-threatening accident

• Established category of “flagrant violation” with $220,000 maximum civil penalty.
Percent of miners with Coal Workers’ Pneumoconiosis (CWP) by tenure in mining, 1970-2006

Source: NIOSH Coal Workers’ X-ray Surveillance Program (CWXSP) as cited in NIOSH 2007 World Report, Figure 2-4.

*Includes x-ray results submitted to NIOSH for working underground coal miners, one x-ray per miner per period, and evaluated through 9/30/2010.

### Underground Coal Miners

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>AL</td>
<td>1.1%</td>
<td>3.4%</td>
</tr>
<tr>
<td>CO</td>
<td>1.7%</td>
<td>2.2%</td>
</tr>
<tr>
<td>IL</td>
<td>1.3%</td>
<td>0.8%</td>
</tr>
<tr>
<td>IN</td>
<td>0.6%</td>
<td>0.6%</td>
</tr>
<tr>
<td>KY</td>
<td>3.6%</td>
<td>5.6%</td>
</tr>
<tr>
<td>MD</td>
<td>9.5%</td>
<td>3.5%</td>
</tr>
<tr>
<td>OH</td>
<td>1.7%</td>
<td>1.9%</td>
</tr>
<tr>
<td>PA</td>
<td>2.2%</td>
<td>3.4%</td>
</tr>
<tr>
<td>TN</td>
<td>6.4%</td>
<td>4.4%</td>
</tr>
<tr>
<td>UT</td>
<td>0.6%</td>
<td>0.8%</td>
</tr>
<tr>
<td>VA</td>
<td>8.9%</td>
<td>14.6%</td>
</tr>
<tr>
<td>WV</td>
<td>7.7%</td>
<td>9.4%</td>
</tr>
<tr>
<td>Other States+</td>
<td>0.5%</td>
<td>0.7%</td>
</tr>
<tr>
<td>NATION</td>
<td>3.4%</td>
<td>3.8%</td>
</tr>
</tbody>
</table>

+ Other States – AR, MT, NM, OK, WY or Unknown

- CY’03 –’10 % CWP exceeds national average
Improving Mine Safety and Health

- Comprehensive program to eliminate black lung
  - proposed rule to reduce exposure to respirable coal dust
  - increased education and technical support for miners and mine operators to limit dust exposure
  - enhanced enforcement of dust exposure standards
Improving Mine Safety and Health

Implemented “Rules to Live By” fatality reduction program focusing education and special enforcement to prevent safety violations frequently cited in fatal accident investigations.
Improving Safety and Health Through Technologic Advances

- Roof Control
- Ground Wire Monitoring Devices
- Atmospheric Monitoring Systems
- Coal Bed Degasification
- Information Technology
- Panic Bars
- CDEM
- Longwall Mining Systems
- Multi-Gas Detectors
- Communications and Tracking Systems
- Self-Contained Self-Rescuers (SCSRs)
- Continuous Personal Dust Monitors
Upper Big Branch Mine

Performance Coal Company
Upper Big Branch Mine-South
April 5, 2010
Improving Mine Safety and Health through Alliances, Cooperation

• Working with state governments
  – MSHA-Interstate Mining Compact Commission (IMCC) MOU signed May 2011

• Trade associations and unions
  – NSSGA
    • MSHA PowerPoint on Guarding
    • Safety Pro in a Box webpage for aggregates
  – 5002 campaign
  – IMA-NA: collaborative education
  – BCOA-UMWA
Improving Mine Safety and Health through Enforcement

• Conducting 100% of Mandated Inspections x 3 years

• Consistency:
  – supervisor training,
  – internal audits

• Impact inspections
  – More strategic, less predictable, more effective

• Pre-assessment conferencing

• Pattern of Violations & Injunction
Improving Mine Safety and Health through Regulation

- Reducing explosion potential of coal mines
- Pre-shift examinations
- Pattern of Violations
- Coal mine dust exposure—End Black Lung
- On the agenda
  - Civil Penalties
  - Proximity Detection
  - Silica Exposure
Victim was using a broom to clean the top of the maintenance access covers.
MNM MINES
(based on mines reporting hours for the CY)
Looking ahead

• Mine act of 1977—a critical foundation
• MINER act of 2006—an important step forward
• More work to be done
Give a damn.