MSHA's Proposed Rule on Lowering Miners' Exposure to Respirable Coal Mine Dust, Including Continuous Personal Dust Monitors

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Background

- Chronic exposure to respirable coal mine dust causes lung diseases such as coal workers' pneumoconiosis (CWP), emphysema, and bronchitis. These diseases, collectively referred to as Black Lung, can lead to permanent disability and death. There are measures that can prevent this disease; however, new cases of disease continue to occur among coal miners.
- Based on recent data from National Institute for Occupational Safety and Health (NIOSH), cases of black lung are increasing among the nation's coal miners. Even younger miners are showing evidence of advanced and debilitating lung disease from excessive dust exposure. Over the past decade, more than 10,000 miners have died from black lung. Furthermore, the federal government has paid out over $44 billion in compensation for miners totally disabled by black lung since 1970, according to the department's Office of Workers' Compensation Programs.
- This proposed rule is an important element in MSHA's Comprehensive Black Lung Initiative to "End Black Lung – Act Now!" which also includes enhanced enforcement, collaborative outreach, and education and training.
- The proposal combines prior regulatory actions addressing Lowering Coal Mine Dust Exposure, Single Sample, Plan Verification, and the Continuous Personal Dust Monitor (CPDM).
- This proposal would implement recommendations contained in the 1995 *NIOSH Criteria Document on Occupational Exposure to Respirable Coal Mine Dust* and the 1996 *Secretary of Labor's Dust Advisory Committee Report on the Elimination of Pneumoconiosis Among Coal Mine Workers*.
- The proposal would significantly improve health protection for coal miners.

Requirements of the Proposed Rule

1. Lower the existing concentration limits for respirable coal mine dust.

- For underground and surface coal mines, from 2.0 milligrams of dust per cubic meter of air (mg/m^3) to 1.0 mg/m^3 over a 24-month phase-in period.
  - Of the 17,693 samples of miners' coal mine dust exposure submitted to MSHA by underground coal mine operators this year through August 31, 2010, the average concentration was 0.73 mg/m^3. For surface miners, the average concentration submitted by mine operators was 0.46 mg/m^3.
- For intake air at underground mines and for Part 90 miners (coal miners who have evidence of the development of pneumoconiosis) from 1.0 mg/m^3 to 0.5 mg/m^3 six months after the effective date of the final rule. Of the 2,804 MSHA samples of intake air collected this year through August 31, 2010, the average concentration was 0.14 mg/m^3.
- Establishes a weekly exposure limit when a continuous personal dust monitor (CPDM) is used for sampling occupations on the MMU and for Part 90 miners.

2. **Require the use of the continuous personal dust monitor (CPDM).**
   - Over a 12- to 18-month period, phase in the use of the CPDM – a new dust sampling technology developed with support of industry, labor and government – that provides a direct, real-time display of respirable coal mine dust concentrations, as opposed to the current sampling device that takes days or weeks to obtain results on miners' exposure.
   - Operators would use CPDMs to continuously monitor underground coal miners in occupations exposed to the highest dust concentrations and Part 90 miners. Current sampling of miners' dust exposure is infrequent.
   - CPDMs would be optional at surface coal mines and for non-production areas of underground coal mines (such as outby areas).
   - The CPDM would electronically store all respirable dust sampling data collected during the shift; this data would be sent electronically to MSHA.
3. **Provide for the use of a single, full-shift sample to determine compliance.**
   - Single, full-shift samples, collected by MSHA or the mine operator, would be used to determine noncompliance with respirable dust standards. Currently, multiple dust samples of different miners' exposures are averaged, with some samples indicating that miners are exposed to unhealthy dust levels far above the current 2.0 mg/m^3 standard. For example, under the existing standard, five measurements of: 3.4, 2.7, 2.6, .7, and .5 would result in an average of 1.98, which meets the 2.0 mg/m^3 standard, although 3 individual measurements exceed the standard.
4. **Address extended work shifts.**
   - Require respirable dust sampling for the full shift a miner works, rather than a maximum of 8 hours. Under the existing rules, the dust sampling device is shut off after 8 hours even if the miner works much longer shifts in the dust.
5. **Redefine normal production shifts.**
   - Change the existing definition of normal production shift to require sampling at a production rate that is more representative of normal mining operations. Currently, the production level required for a valid dust sample is 50 percent of the average production, which results in respirable dust during sampling at levels far lower than those miners are normally exposed to. The proposal would require sampling when production is at least the average production over the last 30 production shifts.
6. **Expand medical surveillance.**
   - Add spirometry testing, occupational history, and symptom assessment to the chest x-ray examinations already required for underground coal miners.
   - Extend medical surveillance to surface coal miners. (Extends transfer rights to surface coal miners, permitting the miner to elect to work in a lower dust atmosphere due to having the disease.)

Benefits and Costs of Proposed Rule

- Lowers miners' exposure to respirable coal mine dust, thus preventing Black Lung.
- Significant reductions in CWP, progressive massive fibrosis (the most severe stage of CWP), severe emphysema, and deaths from non-malignant respiratory disease.
- Estimated annualized benefits: $99.1 – 196.8 million.
- Estimated annualized costs: $40.4 – 44.5 million.