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Lowering Miners' Exposure to Respirable Coal Mine Dust, Including Continuous Personal Dust Monitors

Comment On: MSHA-2010-0007-0001

Lowering Miners' Exposure to Respirable Coal Mine Dust, Including Continuous Personal Dust Monitors

Document: MSHA-2010-0007-0361

Comment from Joseph Zelanko, Rosebud Mining Company

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General Comment

The attached file contains comments on RIN 1219-AB64.

Thank you.

Attachments

RMC Dust Rule Comments

AB64 COMM-90



ROSEBUD MINING COMPANY

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June 17, 2011

Roslyn B. Fontaine, Acting Director
Mine Safety and Health Administration
Office of Standards, Regulations, and Variances
1100 Wilson Boulevard
Room 2350
Arlington, VA 22209-3939

Subject: Comments re RIN 1219-AB64 "Lowering Coal Miners' Exposure to Respirable Coal Mine Dust, Including Continuous Personal Dust Monitors"

Dear Ms. Fontaine,

Rosebud Mining Company produces steam and metallurgical grade coal from deposits in Pennsylvania and Ohio. More than 1400 people are employed in this pursuit at 21 underground and 16 surface coal mines, 8 preparation plants, administrative and engineering offices, maintenance and repair facilities, and a trucking garage. The health and safety of each of these employees is of utmost concern to Rosebud Mining Company's owner, our management officials, our miners, and our suppliers.

Whereas safety issues can be identified and addressed effectively at various levels within our company, we are, like most companies, reliant on outside sources to provide guidance on health issues that require extensive epidemiological studies (e.g., threshold limit values or permissible exposure limits). We trust that any such recommendations or regulations promulgated by the federal government will be based on proper scientific evaluation of sound data and will result in an overall benefit to our work force. However, our reading of RIN-AB64 "Lowering Coal Miners' Exposure to Respirable Coal Mine Dust, Including Continuous Personal Dust Monitors" and numerous related comments and reports indicates that many of the proposed changes are unjustified. Furthermore, the reliability of proposed technology (CPDM) for compliance sampling is unproven, several facets of the proposal would diminish the health and safety of miners, and the financial impact of the proposed regulations is understated. For these reasons, Rosebud Mining Company recommends that RIN-AB64 be withdrawn and encourages MSHA to work with industry stakeholders to develop a more effective proposal.

The Scientific Basis for the Proposed Rule is Suspect

MSHA appears to justify the need for the proposed rules with the statement that "Based on recent data from the National Institute for Occupational Safety and Health (NIOSH), the prevalence of black lung is increasing in our nation's coal miners; even younger miners are

showing evidence of advanced and seriously debilitating lung disease.” However, our review of available NIOSH publications and various critiques of those publications suggests that NIOSH data may not support the proposed rule.

NIOSH’s estimate of CWP prevalence is based on the results of a voluntary Xray surveillance program. It is widely accepted that reliance on volunteers introduces the potential for selection bias. Analysis of the entire miner population or at least a random sample of the population would provide reliable results. However, the potential, unknown influence of volunteer motivation (i.e., are miners who suspect they have CWP symptoms more likely to volunteer or less likely?) casts doubt on the reliability of the current data.

Low participation rates in the surveillance program further reduce confidence that the observed CWP prevalence rates are actually representative of the true population of coal miners. In 1996, the Secretary of Labor’s Advisory Committee on the Elimination of Pneumoconiosis Among Coal Mine Workers (SOL Advisory Committee) recommended that NIOSH achieve a volunteer participation rate of at least 85% level. However, figures available in NIOSH publications suggest that participation rates remain low.

We believe that mandatory participation of miners in a medical surveillance program (i.e., Xray and/or spirometry testing) would provide a true measure of miners’ health under the existing 2 mg/m³ standard. It would also provide individuals with early diagnoses and the opportunity to be proactive in stopping the progression of respiratory disease.

MSHA’s estimate of the effect of the proposed reduction in the allowable concentration of respirable coal mine dust on miner health is dependent on exposure-response models. However, it is not clear that the assumptions used in MSHA’s QRA are valid. In their review of the QRA, OSHA commented: *“Because of time constraints, the scope of our review only considers the information contained in the MSHA document and does not include evaluation of referenced study data relied upon in the QRA.”* We question whether OSHA would have endorsed the QRA if the underlying NIOSH data had been considered. This is a particular concern in light of the fact that major comments in NIOSH’s review of the QRA center on potential explanations for differences in observed versus expected prevalence.

In a recent analysis (Suarthana et al., 2011), NIOSH derived predicted risk of CWP using published exposure-response models. NIOSH concluded that *“in the northern Appalachian region and the mid-west and western coal fields the observed prevalences are generally below those predicted in all age groups. However, in the southern WV, eastern and central KY, Tennessee and VA MSHA regions the observed prevalences are 2-4 times greater than predicted from cumulative coal mine dust exposure and age. Clearly, some factor or factors must be acting differently across the regions to cause this regional pattern.”* It appears that further study is needed to determine if regional variances are associated with higher silica exposure or simply noncompliance with existing standards. Given the uncertainty associated with the cause of observed increased prevalence of CWP, it seems premature for MSHA to use these occurrences as a basis for justifying a nationwide reduction in the allowable respirable coal mine dust concentration.

The Proposed Rule Addresses the Wrong Issues

NIOSH has done a substantial amount of research to investigate what that agency regarded as a sentinel health event in central Appalachia. This activity is consistent with the SOL Advisory Committee's 1996 recommendation that NIOSH's primary focus needed to be ongoing analysis of medical surveillance data for "hot spots" in order to direct primary prevention efforts where they are most likely to be of direct and immediate benefit to miners.

Research since 1995 indicates that the pattern of CWP occurrence is not uniform; hot spots are concentrated in the central Appalachian region of southern West Virginia, eastern Kentucky, and western Virginia. Possible explanations given for the observed resurgence of CWP in this area are increases in dust levels and duration of exposure and increases in silica exposure. Several extensive reviews of CWP information related to the proposed standard (e.g., Gamble, Reger, and Glenn, 2011) suggest that silica exposure is an important factor in the occurrence. Recent NIOSH field work (Pollock et al., 2010) also supports the association of CWP occurrence in the southern Appalachian region (SAR) with high levels of silica. The authors note that a majority of mines in that region are faced with difficult mining conditions (i.e., cutting layers of quartz-bearing rock).

Despite NIOSH's finding that the CWP occurrence is occurring in a specific region and may be associated with increased exposure to crystalline silica, MSHA's proposed rule incorporates a nationwide reduction in the permissible coal dust exposure level. We believe that the proposed rule should be abandoned in favor of a focused strategy to address silica exposure with an emphasis on the SAR.

The Proposed Use of the Continuous Personal Dust Monitor (CPDM) is Inappropriate

The CPDM appears to be a good engineering and training tool. The near real time availability of data should be beneficial in assessing actual dust conditions and in gauging the effect of any mitigating actions (e.g., operator relocation or modification of ventilation controls). However, the proposed rule mandates the use of continuous personal dust monitors (after a phase-in period) to sample production areas of underground coal mines for compliance purposes. Experience to date suggests that the device is not suited for use as a compliance tool. Furthermore, MSHA's proposed use of CPDM to for occupation monitoring undermines the anticipated "personal" monitoring benefit of the device.

RMC has not yet tested Thermo-Fisher Scientific CPDM's. However, several parties who have tested these devices in the field provided similar comments at public hearings. On-site voiding (instantaneous errors) of samples appears to be a persistent problem. The units appear to be unreliable (35 to 80% returned for service) and repair times were lengthy. This experience suggests to us that the device may not be "mine ready." We are particularly concerned that device failures could occur much more frequently in the low seam conditions that we operate in. For example, the CPDM is too bulky for seats in low seam equipment compartments and it appears to be likely that the units could be damaged and sampling faults could occur frequently due to pinched hoses. One commenter raised concerns about the introduction of water into the CPDM inlet; these are valid concerns in low, wet mines.

Several years ago, RMC began implementing changes that are intended specifically to reduce the weight our miners must carry on their belts. For example, we have replaced CSE SR-100 SCSR's with Ocenco M20 belt wearable SCSR's at about half of our mines. Initially, we replaced lead acid battery cap lights with lithium ion battery lights to reduce weight. We are now in the process of replacing those cap lights with cordless lithium battery lights to further reduce weight and eliminate light cords. We believe that these changes have reduced and will continue to reduce the likelihood of back, neck, and hip ailments that develop over time. Additionally, SCSR size reduction and elimination of the light cord have reduced the likelihood of accidental injury. In the cramped conditions of low seams and low seam equipment, these changes also reduce the likelihood of sprains/strains or slips/falls caused when belt-worn items or cords catch on equipment.

Clearly, elements of the proposed rule that require the use of CPDM's for compliance sampling are a step in the wrong direction. The current version of the CPDM is larger and heavier than the SCSR's we are replacing and the cord appears to be more cumbersome than the traditional light cord we are eliminating. In these regards, we believe the proposed rule would actually diminish the health and safety of miners.

Currently, there is only one approved CPDM. In the absence of competition, mandated use of these devices will guarantee sales regardless of price, performance, or quality of service. There will be little incentive for the manufacturer to address issues limited to a small segment of customers (e.g., those related to low seam mines) or to make improvements. We believe the best approach is for industry to use the current version of the CPDM as an engineering and training tool and to work toward the development of a second generation device that is lighter, easier to use, and more dependable.

MSHA's PREA Grossly Underestimates the Cost of the Proposed Rule

MSHA's estimated annualized compliance cost for underground coal mine operators (\$35.6 to \$39.7 million) grossly underestimates the actual cost associated with the proposed rule. Although the PREA gives the appearance that the analysis was detailed (e.g., estimating the cost of adjusting a regulator), it actually overlooks several factors that will incur the largest costs.

For example, the analysis fails to address the need for additional personnel to administer the proposed CPDM monitoring program. We anticipate that required maintenance, calibration, data download/transfer, and recordkeeping associated with the use of CPDM's (as proposed for compliance purposes) will require us to hire at least one dust technician per shift at each mine. We estimate that this requirement alone will cost our company nearly \$3 million dollars each year. However, the largest cost will be associated with lost production.

The proposed rule reduces the allowable concentration of respirable coal mine dust from 2 mg/m³ to 1 mg/m³, implements single shift sampling for compliance purposes, and bases non-compliance on equivalent concentrations (adjusted for shift length) and weekly accumulated exposures. The combined effect of these changes is dramatic, particularly given the variability observed in both CPDM and CMDPSU sample results. NIOSH has indicated that *"there is a 95% confidence that the individual PDM measurements were within ±25% of reference*

measurements.” This level of uncertainty or variability in the measurements indicates to us that target levels necessary to ensure single shift compliance may be unachievable with engineering controls.

We believe that the estimates of noncompliance offered by Mark Watson at the Arlington public hearing are reasonable. In 2010, the average concentration of coal mine dust for all samples taken at RMC mines was under 1 mg/m³ (MSHA samples actually showed a 20% lower level than RMC samples). On a single shift basis using a 1.26 mg/m³ (ECV) standard, we would have been out of compliance 220 times. With the increased sampling required in the proposed rule, it is likely that this number would increase more than tenfold. Given that the proposed rules do not allow administrative controls and or personal protective equipment to maintain compliance, an operator will have no choice but to cease production before the scheduled end of at least 25% of productions shifts.

The PREA does not adequately address costs associated with citations or lost production because MSHA claims that overexposures are unlikely under the proposed rule: *“the CPDM would provide mine operators with information about the actual exposures of the DO’s on a real-time basis and allow mine management to be proactive in taking corrective action during the shift to prevent possible overexposures. MSHA believes that after the mining community adjusts to the use of the CPDM no miner should ever be overexposed except due to the failure to pay attention to the CPDM display or due to some “emergency situation.”* This statement may be correct but the cost analysis should consider that the corrective action may be to cease production. It is unrealistic to assume that engineering controls will be immediately available or that operator positioning alone will alleviate overexposure in all cases.

The PREA is correct in identifying a variety of measures that mine operators currently use to control dust levels in underground coal mines. However, it overlooks the fact that these measures are already being used. It is unrealistic to presume that operators will be able to comply with the proposed standards simply by adjusting a few regulators or changing nozzles. Many of these parameters have already been optimized to achieve the status quo. It is also unrealistic to assume that major ventilation changes could be implemented quickly enough to prevent extended periods of non-compliance; for example, in our experience, it could easily take up to three years to locate, permit, and construct a shaft.

Finally, we are concerned that the use of CPDM for compliance purposes will place too much focus on operator positioning with regard to dust exposure. The industry has worked diligently over the years to resolve safety issues related to CM operator positioning (e.g., establishing a work position at least two rows of bolts outby unsupported roof). We believe that an operator’s focus should be on safety issues first (i.e., roof/rib falls or moving equipment) and health issues second (i.e., dust or noise). As a training tool, the CPDM could provide valuable insight for positioning but as a compliance tool it could place an undue emphasis on dust and prove to be a distraction to immediate hazards.

Recommendations

Rosebud Mining Company recommends that RIN-AB64 be withdrawn. We do not believe the burdensome regulations that comprise the proposed standard are warranted nor do we believe they are technically or financially feasible. We believe that MSHA should act to address health concerns raised specifically in the southern Appalachian region. This condition has been known to exist for some time and has been attributed to either lack of compliance with existing standards or to increases in silica exposure.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Clifford Forrest", with a long horizontal flourish extending to the right.

J. Clifford Forrest

President

Rosebud Mining Company