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July 3, 2003

Mr. Marvin W. Nichols, Jr.
Director
Office of Standards
Mine Safety and Health Administration
U.S. Department of Labor
1100 Wilson Blvd.
Arlington, VA 22209-3939

VIA FAX: 202-693-9401

RE: Comments Concerning MSHA Proposed
Rule "Determination of Concentration of
Respirable Coal Mine Dust," 68 Fed. Reg.
10940 (March 6, 2003)

Dear Mr. Nichols:

The American Society of Safety Engineers (ASSE), on behalf of its 30,000 members in the safety, health and environment community, respectfully offers the following comments concerning the Mine Safety and Health Administration's Proposed Rule/Reopening of Record addressing "Determination of Concentration of Respirable Coal Mine Dust" [68 Fed. Reg. 10940 (March 6, 2003)]. ASSE is a professional society consisting of 13 practice specialties, including mining and industrial hygiene, whose active members are dedicated to workplace safety. Founded in 1911, the Society is the largest and oldest professional safety organization.

ASSE's members view the proposed rule as critical in protecting the safety and health of underground miners in the coal industry, but we have a number of concerns about the proposal, which are explained below. In short, the proposed rule, as written, may result in the elimination of some protections miners currently have and thus be contrary to the Congressional mandate inherent in Section 101(9) of the Federal Mine Safety and Health Act of 1977, which states that, "No mandatory health or safety standard promulgated under this title

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AB18-COMM-150

shall reduce the protection afforded miners by an existing mandatory health or safety standard.”

Background

The proposed rule, “Determination of Concentration of Respirable Coal Mine Dust”, is referred to as “the single full-shift sample” rule based on MSHA’s belief, supported by the National Institute for Occupational Safety and Health (NIOSH), that a single, full-shift sample would accurately represent, after appropriate statistical techniques are applied, the atmospheric conditions to which a miner may be exposed. MSHA intends for this proposed rule to replace the 1972 Joint Notice of Findings by the Secretaries of Labor and Health and Human Services, which maintained that “Single Shift Measurements of Respirable Dust ‘Will Not Accurately Represent Atmospheric Conditions During Such Shift.’”

In 1975, MSHA adopted a coal dust sampling methodology that involved taking one full-shift sample from miners assigned to specific occupations within the same mechanized mine unit (MMU). The utilization of this sampling strategy was later the subject of litigation in *Sec. of Labor v. Excel Mining*, 23 FMSHRC 600 (Commission 2001). In that case, MSHA alleged that a mine operator was in violation of the coal mine dust standard when the average of up to five (5) measurements (full-shift samples) within the same MMU during the same shift exceeded the permissible exposure limit. Excel maintained that MSHA’s coal dust sampling policy contravened the 1972 Joint Notice of Finding and consequently, it was improperly cited. The FMSHRC agreed with Excel and affirmed the ALJ’s decision vacating the citations. In support of its decision, the FMSHRC relied upon the determination of the Secretaries’ Joint Findings “that any sample from a single shift was not statistically reliable. Furthermore, the FMSHRC relied upon the Secretaries’ findings that “[T]he process of averaging [several samples taken during a single shift] dilutes a high measurements made at one location with lower measurements made elsewhere.”

As a result of this decision and pending its appeal, MSHA changed its citation policy by requiring coal dust overexposures to be based on the average of multi-shift samples. In large part, this proposed rule is being promulgated as a result of the outcome of this case.

Basis for the “Single Sample Rule”

MSHA maintains that approximately 57% of mechanized mine units it has sampled exhibit a recurring pattern of overexposures to coal dust. MSHA puts forth further evidence that, based on more than 20,905 coal dust samples taken at these mines, 19.3% of the samples exceed the applicable standard. In the proposed rule, MSHA has taken this data and extrapolated it to apply to all

production shifts within the 716 mines sampled, including all shifts that were not sampled. Further, MSHA's statistical analysis revealed that, at a 99% confidence limit, the percentage of production shifts with designated occupation miners' (DO's) exposures exceeding the coal dust standard is between 18.6% and 20.0%.

More importantly, MSHA has determined that where one DO's exposure exceeded the coal dust standard, at least one other miner's exposure (referred to as a "Non-designated occupation miner" or NDO) within the same MMU during the same shift also exceeded the coal dust standard. Applying this data analysis in its "Quantitative Risk Assessment," MSHA calculated an expected number of coal dust overexposures that will be prevented through implementation of "the single full-shift sample" rule. However, it did not base its adoption of "the single full-shift sample" rule on sound industrial hygiene or thorough statistical analysis.

Against Adoption of the "Single Full-Shift Sample" Rule

The "single full-shift sample" rule violates the Coal Mine Safety and Health Act of 1969, which provides, in Section 202(b) that,

Each operator shall continuously maintain the average concentration of respirable dust in the mine atmosphere during each shift in which each miner in the active working is exposed at or below 2.0 milligrams of respirable dust per cubic meter of air,

Further, Section 202(f)(2) of the same law defines the "average concentration" as the

atmospheric conditions with regard to respirable dust to which each miner in the active workings of a mine is exposed... as measured... over a single shift only, unless the Secretary [of Labor]... find... that such single shift measurement will not, after applying statistical techniques to such measurement, accurately represent such atmospheric conditions during such shift.

The Proposed Rule does not specify how the "the single full-shift sample" is to be implemented to meet the requirements of these provisions. Presumably, MSHA would take the average of five full-shift samples over a single shift and use the result to determine compliance with the Coal Act, as was its practice prior to the *Sec. of Labor v. Excel Mining* case. But, this sampling method is flawed because it has the potential to underestimate the coal mine dust exposure to the DO by diluting the DO's coal dust exposure with the exposure levels of NDOs

Further, NIOSH has stated in its "Criteria for a Recommended Standard, Occupational Exposure to Respirable Coal Dust" [DHHS (NIOSH) Publication No 95-106, p. 85] that,

although a single, full-shift sample will accurately measure the average airborne concentration [coal dust] during that shift, single exposure measurement has little predictive value for demonstrating that a work environment is (and is likely to remain) acceptable.

ASSE agrees with NIOSH's opinion that the number of full-shift samples should be sufficiently reliable to detect mine environments where miner overexposures to coal dust routinely exceeds the permissible exposure limit. Although NIOSH recommends the use of single, full-shift samples to compare miner exposures to coal dust with the acceptable exposure limit, it does not endorse MSHA's application of the five-sample average to determine the overall airborne coal dust exposure level for a single shift, nor does it recommend that only one shift within a MMU be sampled to determine whether the mine is in compliance with the coal dust standard.

NIOSH recommends that a sampling strategy be developed to account for a number of factors that may vary from mine to mine and shift to shift within a particular mine, including the following:

- o Those miners whose exposures have the greatest potential to exceed the coal dust *standard* limit should be sampled.
- o Periodic monitoring of all other employees (NDOs) should be undertaken to ensure that the primary targeted sampling groups include all miners with the potential for exposures above the coal dust standard. This recommendation is extremely important in light of MSHA's finding that, where one DO's exposure exceeded the coal dust standard, at least one other miner's exposure within the same MMU during the same shift also exceeded the coal dust standard.
- o Since the level of production significantly affects the concentration of airborne respirable mine coal dust, a production level threshold should be established to ensure that exposure conditions are comparable between sampled and unsampled shifts in general, and sampled and unsampled mine personnel in particular. NIOSH recommends, consistent with standard industrial hygiene practice that requires exposures assessments to be performed during a typical work-shift, that, for a work-shift's production to be deemed "typical", "it must produce at least 80% of the average production over the last 30 production shifts." Inclusive with standard industrial practice, the engineering controls employed within the

MMU such as general and local exhaust ventilation and dust suppression devices must also be typical of a normal production shift.

- o Area samples should not be used to predict personal exposure levels to airborne coal dust. NIOSH has identified a number of studies that have demonstrated that personal exposure levels to airborne coal dust have exceeded corresponding area samples by as much as 38%. Because of this high degree of variability between personal and area samples, "fixed point gravimetric samples were unreliable for estimating workers exposures over a work shift."
- o The placement of personal *air* sampling devices on miners must be carefully documented to ensure valid comparisons between exposure levels for miners not only within a single MMU over the same shift, but between miners having the same job category over different shifts, either during the same production day or multiple production days. NIOSH reports that placement of personal air sampling devices on a single worker can be so large that in some instances, a personal sampler on one lapel or collar may yield a concentration of respirable coal dust two times the concentration of respirable coal dust on the other lapel or collar.

ASSE believes that, by applying these recommendations by NIOSH, concerns for miner safety can be met,

Enhancing Intended Goals

Training is a key element in ensuring that the proposals made in this rulemaking are ultimately successful in decreasing illnesses and saving lives. The American National Standards Institute Z490.1 Standard entitled "Criteria for Accepted Practices in Safety, Health, and Environmental Training," for which ASSE is the Secretariat, sets accepted practices for safety and health training that gives employers guidance on *how* to select quality training materials, instructors and other program components. Z490.1 is also used to audit, monitor, evaluate and analyze the programs of training providers

Federal agencies were encouraged to utilize consensus standards by both Congress in Public Law 104-113, "The National Technology Transfer and Advancement Act of 1995," and the Office of Management and Budget in its Circular A-119, "Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities." This rulemaking provides MSHA an opportunity to reference Z490.1 and, thereby, help ensure that in any future rulemaking on this issue succeeds.

Conclusion

Thank you for your consideration of ASSE's comments. ASSE and its

members, as always, stand ready to assist MSHA in finding the best means to meet its goal of making sure every U.S. miner works in an environment made safe from injury, illness and death. We look forward to actively participating in any future rulemaking actions, public hearings, or stakeholder meetings on this critical mining health issue.

Respectfully submitted,

Skipper Kendrick

James "Skipper" Kendrick, CSP
President