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November 25, 2002

Marvin Nichols
Director
Office of Standards, Regulations and Variances
Mine Safety & Health Administration
U.S. Department of Labor
Room 2352
1100 Wilson Blvd.
Arlington, VA 22209-3939

VIA E-MAIL: comments@msha.gov

RE: Comments in Response to MSHA Advance
Notice of Proposed Rulemaking – Diesel
Particulate Matter Exposure of Underground
Metal/Nonmetal Miners

Dear Mr. Nichols:

On behalf of its 30,000 member safety, health and environmental (SH&E) professionals, the American Society of Safety Engineers (ASSE) offers the following comments in response to the September 25, 2002, Mine Safety and Health Administration (MSHA) Advance Notice of Proposed Rulemaking (ANPRM) concerning amendments to its existing health standard regulating diesel particulate matter (DPM) exposure in underground metal/nonmetal mines (67 Fed. Reg. 60199).

ASSE agrees that it is essential to address this occupational health risk by establishing concentration limits (CL) that are both protective of miners and technically and economically feasible. ASSE participated actively in the original DPM rulemaking process and appreciates the opportunity to provide further input on this critical issue through this ANPRM, which resulted from the settlement agreement reached in response to legal challenges to the January 19, 2001, final DPM rule for metal/nonmetal mines.

The Society believes that MSHA took the correct action in largely staying enforcement of the interim CL of 400 ug/m³ until July 2003 to allow mine operators time to implement control strategies and maintenance programs as

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well as to determine how much equipment, if any, must be replaced and whether more costly changes to mine ventilation systems will prove necessary. Now, MSHA is in the process of refining its sampling and analytical methods – as well as determining the appropriate surrogate for DPM “after the fact” – and the results of this research may not be clear for some time. Also, it is our understanding that some basic data on exposure levels in sample isolated zones may not be known until early next year. Therefore, ASSE urges the agency again to be deliberative and refrain from issuing a proposed rule until it has compiled and analyzed all necessary data and made the information public for review by the regulated community. Proper deliberation is possible since MSHA has taken a commendable step forward in developing compliance guides for DPM reduction that can be used during the time rulemaking is pending. ASSE knows MSHA will continue such assistance.

Although MSHA has posed many specific questions in the ANPRM, ASSE’s comments focus on the following key areas that must be addressed before MSHA proceeds with further regulation:

- whether there is a sound scientific basis for further reducing the CL to 160 ug/m³;
- whether it is technically and economically feasible for underground metal and nonmetal mines to attain this level in the near future;
- whether mine operators should be permitted to use personal protective equipment (PPE) and/or administrative controls to comply with the concentration limits; and
- whether it is appropriate to use elemental carbon (EC) as the surrogate for DPM, in lieu of total carbon (TC), which was established as the DPM substitute to be measured in the original final rule.

ASSE is concerned it may be premature to determine some of these issues in light of the ongoing research by the National Institute for Occupational Safety and Health (NIOSH), the paucity of real-world sampling data under the current 400 ug/m³ standard that would demonstrate whether that more liberal level is attainable given the control technology on the market and the various ventilation systems present in the affected mines, and the problems that the coal industry has encountered while using some of the filtration systems recommended by MSHA. Those problems include, but are not limited to, increased CO levels in mines using platinum filters to reduce DPM emissions, and paper filters that catch fire and pose a significant safety hazard in gassy mines.

Given this uncertainty, ASSE urges the agency to refrain from taking any further regulatory actions until these problems are addressed head-on and the agency can assure mine operators that control devices are available in the market that are both efficient and safe for use in the underground working environment. If more research is needed to reach such a conclusion, then MSHA and NIOSH should

dedicate the necessary resources to conduct such surveys and field tests before mandating a further lowering of the concentration limit while technology lags behind.

Economic Feasibility

With respect to economic feasibility, more experience under the 400 ug/m³ (TC) standard is needed before accurate cost projections can be quantified. Section 101(a)(6)(A) of the 1977 Mine Act requires MSHA to determine that its standards are feasible. At the present time, no one can accurately predict whether the covered mines can consistently meet the 400 ug/m³ level – much less whether they could ever reduce levels to 160 ug/m³.

In the ANPRM, MSHA stated, “(N)ew information on the technological and economic feasibility of current control technology was presented to MSHA [after the DPM rule was finalized].” ASSE urges the agency to take the time necessary to fully consider this new information, solicit additional data from mine operators who are now attempting to implement the interim CL, and perform a second regulatory impact analysis before issuing a second final rule governing diesel exposures in the mining workplace.

Since the original DPM rule was promulgated, President Bush signed Executive Order 13272 (August 13, 2002), “Proper Consideration of Small Entities in Agency Rulemaking.” MSHA must comply with that order when revising the DPM rule. Also, any scientific or economic data employed for this rule must pass muster under the agency’s new “Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility and Integrity of Information Disseminated by Federal Agencies.” See 67 Fed. Reg. 8452 (February 22, 2002).

MSHA should remain open to the idea of extending the stay on enforcement of the 400 ug/m³ concentration limit for those mine operators who are acting in good faith to reduce DPM exposures – particularly since the technical feasibility of this interim level has not been proven and MSHA’s own “baseline sampling” activities will not be completed until July 2003. In addition, the Engine Manufacturers Association has noted that the filters specified in MSHA’s Diesel Toolbox “are simply not add-on devices and cannot be unconditionally applied to all existing engines.” EMA Letter to MSHA (May 22, 2002).

ASSE recognizes that costs associated with compliance include review and modification of equipment and ventilation system; utilization of control methodology (including filters and after-treatment devices); shifts to low sulfur fuels; more frequent equipment maintenance; and additional training of mechanics. However, it is impossible to quantify these costs with the data available. The coal industry’s experience suggests that MSHA underestimated costs of replacing filters and other control devices by several levels of magnitude. MSHA should review that data before making a determination on the economic

feasibility of the current metal/nonmetal rule and any modifications to it.

Use of PPE

ASSE's historical position is that exposures to potentially hazardous chemicals in the workplace should be reduced through engineering controls. Where that is not possible, administrative controls should be applied and then, as a last resort, PPE should be employed to protect workers satisfactorily. The current available information suggests that engineering controls may not be adequate in managing DPM exposures.

Therefore, at least during the first few years of enforcement, mine operators should be able to combine various control methodologies as they attempt to lower DPM levels and gradually phase in newer, cleaner-burning heavy equipment. ASSE does not presently make a recommendation on the length of this phase-in period. Once MSHA and mine operators have more sampling data available, it will be more apparent whether certain categories of mines will require additional time and/or greater flexibility in attaining the interim concentration limit.

Use of EC as a Marker

ASSE agrees with MSHA's apparent intent to shift from using TC to using EC as a marker for DPM. This makes sense, as the specified NIOSH Method 5040 was developed to analyze EC, and it has not been proven accurate at measuring TC instead. If MSHA is going to subject mine operators to monetary penalties based on a single sample, it must ensure that such samples are accurately obtained and analyzed. Therefore, utilization of EC as the surrogate for DPM should improve the validity of samples obtained by both MSHA and mine operators in calculating the levels to which miners are exposed.

MSHA must still recognize that there may be confounding factors in the underground mine environment (e.g., cigarette smoke, oil mist, and naturally occurring carbonic ores) that can mimic DPM and could skew results and make it appear that miners are exposed to higher levels that are actually present in the work environment. In addition, ASSE agrees that MSHA should use only personal samples for enforcement purposes, rather than using area samples which may not be reflective of occupational exposures because they could be taken near equipment tailpipes or in remote areas where miners rarely travel or work.

Moreover, the 160 $\mu\text{g}/\text{m}^3$ "final" concentration level that was designated in the January 2001 rule appears to have been arbitrarily selected without a basis in any epidemiological study or risk assessment (a point raised by ASSE in its original comments). Because MSHA must adhere to the new guidelines on the integrity of scientific data in promulgating a final rule, it should withdraw the 160 $\mu\text{g}/\text{m}^3$ final concentration limit and reopen the record for a complete review of the current state of science to determine whether, in fact, any lower level is warranted.

Opportunity for Full Partnership

ASSE understands that NIOSH and the metal/nonmetal mining industry and related unions are developing a partnership that would further investigate diesel health issues, exposure monitoring, and economically feasible DPM control technologies. As you know, ASSE has a Mining Practice Specialty, and we offer our assistance to work with the partnership on this important project. It is our hope that this tripartite project can yield important information about current exposure levels and answer the critical questions concerning the efficacy of control methodologies. Involving the organizations representing the SH&E professionals who will be responsible for their implementation can only help inform this process.

Conclusion

Thank you for your consideration of these comments. ASSE looks forward to participating actively in any future rulemaking actions, public hearings, or stakeholder meetings on this critical health issue impacting our nation's miners.

Sincerely,

A handwritten signature in black ink that reads "Mark D. Hansen". The signature is written in a cursive, flowing style.

Mark D. Hansen, PE, CSP
President

From: dheidorn@asse.org
Sent: Monday, November 25, 2002 2:20 PM
To: comments@msha.gov
Subject: Comment on Diesel Particulate Matter Exposure



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Please find attached the comments of the American Society of Safety Engineers concerning MSHA's September 25, 2002, Advance Notice of Proposed Rulemaking concerning Diesel Particulate Matter Exposure of Underground Metal/Nonmetal Miners. If there are any problems with transmission, please contact Dave Heidorn at dheidorn@asse.org or 847/768-3406. Thank you for your assistance.

(See attached file: msha112502dieselrule.doc)