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November 25, 2002

Marvin W. Nichols, Director
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Mine Safety and Health Administration
1100 Wilson Blvd., Room 2313
Arlington, VA 22209-3939

by e-mail: Nichols-Marvin@MSHA.gov; comments@MSHA.gov
(regular mail to follow)

in re: ANPRM, Diesel Particulate Matter Exposure of Underground Metal and Nonmetal Miners
67 Fed Reg 60199 (September 25, 2002)

Dear Mr. Nichols:

I am enclosing comments of the International Union of the United Mine Workers of America on the above-captioned Advanced Notice of Proposed Rulemaking. We look forward to a speedy resolution of these problems and to increasing the protection for miners affected by this rule.

Sincerely,

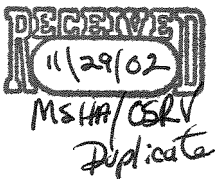
James L. Weeks, ScD, CIH
Senior Scientist
Consultant to the UMWA

c: Joe Main

Attachment

Comments of the International Union, United Mine Workers of America
on
Advanced Notice of Proposed Rulemaking
67 Fed. Reg. 60199-202, September 25,2002
Diesel Particulate Matter Exposure of
Underground Metal and NonMetal Miners

November 25,2002



First of all, we question the legality and propriety of MSHA suspending enforcement of a properly promulgated rule without notice and comment. The rule that established an exposure limit and other matters for diesel particulate matter in metal and non-metal underground mines was over ten years in the making, had gone through several rounds of notice and both written and oral comment, and the agency had conducted numerous workshops and educational meetings fully informing mine operators of its provisions and educating them about technological developments concerning the generation and control of diesel particulate matters. The agency responded fully to comments raised by the mining industry and even conducted experiments when mine operators offered no data to support its comments. The rule was duly promulgated on January 19,2001.

We recognize that it is within MSHA's authority to revise this or any fully promulgated rule. But under the Mine Act and the Administrative Procedures Act, it must issue proper notice and solicit comment on its intentions to do so. This is to guard against arbitrary and capricious rule changes and to protect the rule of law. However, the agency summarily issued notices on July 5,2001 (66 Fed Reg 35518) and July 18,2002 (67 Fed Reg 47296) suspending the effective date of the rule to ". . until completion of further rulemaking. . ,"an unacceptably indefinite future, which we consider unacceptable It is our view that this action was illegal, capricious, improper, frivolous, and dilatory. It was also not in miners' best interests because every day of delay subjects miners to unwarranted and unsafe levels of exposure.

This rule-making process is twelve years in the making and MSHA has thoroughly responded to each of mine operators' comments. The process for arriving at these exposure limits met each and every requirement in Sec. 101 (a)(6)(A) of the Mine Act. It is a perversion of due process to visit these issues once again in such an arbitrary fashion. Virtually all of the issues raised in the above Notices were raised *and addressed* in the original rule-making. The current Notice is redundant and serves no useful purpose but to delay with the apparent aim of defeating the original rule. This is a serious disservice to miners' health.

Furthermore, in view of (Sec. 101 (d)) of the Mine Act, which gives the Court of Appeals the exclusive right to consider or stay final rules, we question whether the Agency even had authority to suspend this promulgated rule. In any event, the UMWA believes any such delay is contrary to the interests of the affected miners.

AB29-Comm-6

Nevertheless, we are compelled to address the content of some of the issues the Secretary raised in its "Advance notice of proposed rulemaking" on September 25,2002 (67 Fed Reg 60199).

1. **Limit on concentration of diesel particulate matter (dpm). (57.5060(a))**

a) What are the appropriate interim and final limits of EC is the surrogate?

The limits in the final rule (66 Fed. Reg. 5706-910, January 19,2001) were well reasoned, were based on a thorough and thoroughly reviewed risk assessment and took account of problems of feasibility concerning whether the limits could be met and whether there was a reasonable method for evaluating exposure levels. Where there was uncertainty, the benefit of doubt was given to mine operators by giving them five years to come into compliance. During this rulemaking, mine operators have had ample time to learn how to control exposure voluntarily. Even so, the stipulated final exposure limits exceeds the Threshold Limit Value proposed by the American Conference of Governmental Industrial Hygienists (TLVs for 2002) and exceeds the effective limit adopted for underground coal mines. We recommend a lower limit.

b) What error factor should MSHA use for determining non-compliance on an EC standard?

The appropriate and fair error factor is the limit of detection of the sampling instrument. If the limit of detection based on a full shift sample is, for example, 5 $\mu g/m^3$, then non compliance would be determined at an exposure concentration at the exposure limit plus ***5*** $\mu g/m^3$.

The reasoning behind this recommendation, rather than the conventional 95% confidence limit associated with the analytical method, is twofold. First, the 95% limit is an inappropriate standard of proof. It is analogous to the standard of proof for criminal cases, i.e., "beyond a reasonable doubt." A citation for violation of an exposure limit is a civil contest, not a criminal contest, and thus the standard of proof, "preponderance of the evidence" should be used. This is the "more likely than not" test. The closest analogy to this standard of proof is any measure that is greater than the exposure limit, i.e., the exposure limit plus the limit of detection.

Second, using the 95% error factor in the conventional way, i.e., by requiring the measured value to be greater than the exposure limit by an amount derived from uncertainty in the sampling and analytical method, gives the benefit of doubt to the mine operator at the expense of the miner. Both by conventional public health reasoning and legal precedence, whenever health is at stake, the benefit of doubt should go to protecting health. This is true in general and it is true in this particular instance, given the deference already given to feasibility in deriving this exposure limit. At 200 $\mu g/m^3$ as the final limit, this is the highest permitted

exposure among all workers exposed to diesel particulate matter. At such a high level, the benefit of doubt should be given to miners' health and citations should be issued at the level we indicate above.

Furthermore, compliance could not be assured as a matter of fact until the measured exposure level is limited to the exposure by the same 95% confidence limit. That is, one could not guarantee that exposure was limited to the exposure limit for any measure above the level equal to the exposure limit ***minus*** the 95% confidence limit. If one is going to employ the reasoning embodied in hypothesis testing in making legal distinctions, it is just as reasonable to apply it to the other tail of the error distribution and raise the question, "Is exposure limited to the exposure limit?' This is the legal duty that the mine operator has under the Mine Act. If you cannot say, "yes" with 95% confidence, the employer is not in compliance.

This is the reasoning behind the action level, used in regulating occupational exposure to noise and, under OSHA, regulating occupational exposure to lead. If a measured value is above the action level but below the exposure limit, it is likely ($p > 0.50$) that the true exposure exceeds the exposure limit. One could use this reasoning to issue a citation for non-compliance or one could use the action level as a threshold that, once past, the operator or MSHA would have to do something. One reasonable action would be to take more samples and obtain a better estimate of true exposure.

Our recommendation, therefore, is that MSHA should adopt an action level that is the exposure limit minus the 95% confidence limit for the sampling and analytical method and that if concentration reaches the action level, MSHA would be required, for example, to take additional air samples, and, depending on the outcome, the employer would be issued a citation for non-compliance depending on the outcome.

Second, we recommend that the threshold for non-compliance should rest upon the preponderance of the evidence and the agency should not have to show that over-exposure existed beyond a reasonable doubt as a condition for determining non-compliance. In practice, non-compliance would be determined if the measure value was at or above the exposure limit plus the limit of detection for the sampling and analytical method.

Both of these policies would be fair and would take account of errors inherent in the sampling and analytical method, would allocate the burden of uncertainty equally, and would rest upon **a** standard of proof appropriate for civil actions, which is what a citation for non-compliance is. There are provisions in the Mine Act for criminal actions during which a higher standard of proof is appropriate. But citations for violating occupational exposure limits are civil, not criminal actions, and should not have to rise to that higher standard of proof as a matter of due process.

c) Are there any interferences in the environment of an underground metal and non-metal mine that would preclude personal sampling with the impactor when EC is used as the surrogate for dpm?

Interferences were thoroughly discussed in the preamble to the final rule and reasonable practices were stipulated in the rule itself. We fail to see why this problem should be visited again.

d) Is a field blank required if EC is used as the surrogate?

Likewise, this problem was thoroughly and adequately discussed in the preamble to the final rule and dealt with accordingly in the rule itself.

2. Application and approval requirements for an extension of time in which to reduce the concentration of dpm to the final limit. (57.5060(c))

a) What circumstances would necessitate an extension of time to come into compliance?

The circumstances that would necessitate an extension are described in the rule and are, in our opinion, generous. We see no need to change them. Furthermore, the rule allows until 2006, another four years from now (five years from its promulgation), for mine operators to come into compliance. Surely this is sufficient time. There should be no extension.

b) What should be the duration of the extension?

c) Should MSHA allow more than one extension?

d) What actions should mine operators be required to take to minimize dprn exposures if they are operating under an extension?

3. Exceptions to the concentration limit. (57.5060(d))

a) Would this provision be necessary if MSHA includes in the final rule its current hierarchy of controls for its other exposure-based health standards for metal and nonmetal mines?

b) What would be the impact of removing this provision?

This provision should be removed. In epidemiological studies of railroad workers exposed to diesel particulate matter, it was the maintenance workers who had the higher exposures and who also were more likely to die from lung cancer. We see no need to repeat this experience as this provision seems to do. There should be no provision that

would allow mine operators to "permit" miners to work in concentrations of dpm above the exposure limit.

4. Prohibitions on personal protective equipment and administrative controls. (57.5060(e)(f).

a) If MSHA includes requirements for some form of respiratory protection, what type of respirators would be protective of miners? What are their specifications?

MSHA should state and enforce its preference that engineering controls are preferred to the use of personal protective equipment. This is standard industrial hygiene practice. Engineering controls refers to the full array of methods for reducing the generation and dispersion of diesel particulate matter. This includes purchasing inherently clean burning engines, proper maintenance, de-rating the engines, use of low and ultra-low sulfur fuel, use of clean fuel, emission controls, mine ventilation, and management of the use and allocation of diesel powered vehicles or equipment.

b) Should MSHA propose to require mine operators to implement a written respiratory protection program when miners must wear respiratory protection?

c) Should MSHA require mine operators to apply to the Secretary for approval to use respiratory protection? Should the application be in writing? What conditions should MSHA require mine operators to meet before approval is granted to use respirators?

d) Should MSHA propose to require mine operators to implement a written administrative control plan when they use administrative controls to reduce miners' exposures to the required limit?

The rule, as promulgated, should remain as it is.

5. MSHA proposes to change the dpm surrogate from total carbon (TC) to elemental carbon (EC) and therefore to delete the reference to analyzing samples for the amount of "total carbon" included in paragraph 57.5061(b) and insert in its place, "elemental carbon."

MSHA should retain the reference to total carbon for several reasons. First of all, most of the epidemiologic studies that have been performed on other workers exposed to diesel exhaust, and which form part of the basis for this exposure limit, measured total carbon. An exposure limit has to be based in reality and the reality is that total carbon is the ingredient most often measured.

Second, total carbon is equal to organic carbon plus elemental carbon (TC = EC + OC). The mix of EC and OC is highly variable and depends on the age, condition, and size of the engine.

6. MSHA proposes to conduct personal sampling only for compliance determination. 57.5061(c)

a) What would be the cost implications for mine operators to conduct personal sampling of miners' dpm exposure if EC is the surrogate?

The cost implications of exclusively personal sampling are secondary to the issue of whether it is reasonable to adopt this policy at all. (See comments under (c) below.)

b) What experience to mine operators have with dpm sampling and analysis?

c) Is there experience with dpm sampling in other industries and other countries?

The experience that coal miners have had with sampling for respirable coal mine dust is that exclusive reliance on personal sampling is an invitation to abuse. There is a thirty year record of mine operators exploiting personal sampling in order to obtain exposure levels that create the appearance of compliance. The typical ploy is to send miners out of areas of high concentration during sampling. It is indeed also possible for mine operators to manipulate either area or occupational sampling to achieve the same end. In light of this and for other reasons, MSHA should not restrict itself to only one method for determining whether the mine environment is in compliance. It is folly to use practices that are known to be abused. If MSHA adopts personal sampling and does nothing to curb abuse, the data will lack all credibility.

7. Diesel particulate control plan. 57.5062

a) How should the control plan be changed?

We see no reason to change the control plan.

b) What is an appropriate duration for a control plan?

The control plan seems like good industrial hygiene practice and it should be the standard of practice for the industry, with or without violations.

c) Should a single violation trigger implementation of a control plan? If not, what is an appropriate trigger?

d) What roles should respiratory protection and administrative controls have under a control plan?

e) Are there regulatory alternatives to the existing control plan requirement that are at least as protective of miners, such as requiring a written administrative control plan and/or a written respiratory protection plan?

The only regulatory alternative to the control plan in 57.5062 would be a plan with more specific requirements, such as required maintenance, vehicle inspection, emission controls, fuel quality, etc.

f) Since MSHA is proposing to include its long-standing hierarchy of controls for compliance with the revised standard, is there any benefit from retaining the control plan?

g) Should MSHA delete the control plan requirements -- why or why not?

No. The control plan requires mine operators to develop an organized written approach to controlling exposure. It does not preclude developing a policy on the hierarchy of controls.

8. Technological and economic feasibility.

"Feasibility" was defined by the U S. Supreme Court (ATMI v. Donovan 452 US 490, June 17, 1981) in deciding the feasibility of OSHA's exposure limit on cotton dust. This word appears in the OSHAct in Sec. 6 (b)(5) using essentially identical language to the standards-setting paragraph in the Mine Act (Sec. 101 (a)(6)(A)). Consequently, this decision of the Court is applicable to the meaning of feasibility in the Mine Act. The Court said,

"According to Webster's Third New International Dictionary of the English Language 831 (1976), "feasible" means "capable of being done, executed, or effected." Accord, the Oxford English Dictionary ("Capable of being done, accomplished or carried out"); Funk & Wagnalls New "Standard" Dictionary of the English Language ("That may be done, performed or effected")."

The Court also said,

"When Congress passed the Occupational Safety and Health Act in 1970, it chose to place pre-eminent value on assuring employees a safe and healthful working environment, limited only by the feasibility of achieving such an environment." This pre-eminence is stronger in the Mine Act. The first sentence of the Mine Act says, "Congress declares that 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."(emphasis added). Miners' health takes precedence over feasibility.

Thus, if it can be done, it is feasible and MSHA has clearly demonstrated that it is feasible to reduce underground miners' exposure to diesel particulate matter. Economic considerations are obviously important, but they are secondary to the aim of protecting worker's health. The purpose of the Mine Act is to protect miners' health, not to accommodate the status quo.