October 14, 2003

Dave D. Lauriski
Assistant Secretary of Labor
Mine Safety and Health Administration
U.S. Department of Labor
Fax #: 202-693-9441

Dear Assistant Secretary Lauriski:

We are writing in response to the notice of proposed rulemaking published by the Mine Safety and Health Administration (MSHA) on August 14, 2003 to revise the health standard to protect underground metal and nonmetal from diesel particulate matter (DPM). *(Federal Register, Vol. 68, No. 157, 48668-48721)* We respectfully submit these comments as individuals with decades of experience participating in and observing the U.S Department of Labor's efforts to protect the nation's workers from workplace hazards, and as advocates for effective and protective occupational safety and health standards.

MSHA's final rule to protect underground metal and nonmetal miners from diesel particulate matter, along with the companion rule for underground coal miners, was a significant event in MSHA's history—marking the Agency's first comprehensive health standard. MSHA's success at promulgating many protective safety standards is notable and should not be minimized. Nevertheless, the challenges involved in regulating health hazards are unique, and signaled MSHA's progress as a federal health and safety agency. The engineers, health scientists, statistician and other staff working on MSHA's DPM rules deserve recognition for their talent and credit for their diligence. They have developed a substantial rulemaking record with overwhelming evidence to support the 2001 final rule.

Regrettably, some in the mining industry are using substantial financial resources to challenge these scientifically- and legally-sound protections for workers, rather than investing now in equipment filters and other engineering controls to reduce miners' exposure to DPM. These individuals and firms have already successfully delayed important protections for diesel-exposed miners. We are disappointed that MSHA is engaged in another rulemaking on this matter; given this reality, however, we wish to provide the following comments.

Health Risks Associated with Exposure to Diesel Particulate Matter

The health effects of diesel exhaust have been studied extensively for decades. Some suggest that diesel exhaust falls just below tobacco smoke as one of the most studied substances.[1] The U.S. Environmental Protection Agency's (EPA) "Health Assessment Document for Diesel Exhaust" describes 34 human studies of exposure to diesel exhaust. Twenty of the 34 studies

[1] Mauderly JL. Diesel emissions: is more health research still needed? *Toxicological Sciences*. 2001; 62(6-9).

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involve cohorts of workers, in particular underground miners and railroad workers. Moreover, the evidence presented in MSHA's 2001 risk assessment is overwhelming.[2] The Agency relies on the findings from 47 epidemiological studies, including 41 studies showing some degree of association between occupational exposure to DPM and lung cancer. The estimates of excess lung cancer deaths are substantial ranging from 15 excess deaths per 1,000 workers, up to 830 excess lung cancer deaths per 1,000 workers.

The evidence linking exposure to particulate air pollution and/or diesel particulate matter with lung cancer, cardiovascular and cardiopulmonary and other adverse health effects continues to mount. As MSHA notes in its August 2003 notice of proposed rulemaking, additional studies and reports have been published which further support the need for a health standard to protect underground miners from diesel particulate matter. In addition, the biennial *Report on Carcinogens*, prepared by the National Toxicology Program, lists diesel particulate matter as a mixture that is "reasonably anticipated to be a human carcinogen"[3] and the International Agency for Research on Cancer (IARC) describes diesel engine exhaust as a "high priority" for a re-evaluation. IARC indicates that a re-evaluation is necessary because of new epidemiologic data that was not available in 1989 when the Group 2A designation was made.[4]

Some representatives of the mining industry insist that MSHA's rule is not supported by the scientific evidence. We urge MSHA to ignore these false claims. Throughout the history of rulemaking on other occupational health standards, similar allegations were made in an attempt to discredit or derail important protections for workers. In example after example, the scientific evidence used by Department of Labor scientists was prescient, and corroborated later by other scientific organizations. For example:

> •OSHA promulgated a final regulation in 1974 on bis (chloromethyl) ether, beta-naphthylyamine, and benzidine, among other carcinogens, based on the best scientific evidence available at the time. Like DPM today, industry representatives argued that the scientific evidence was incomplete, or otherwise flawed. In 1980, the National Toxicology Program (NTP) listed bis (chloromethyl) ether, beta-naphthylyamine, and benzidine as "known human carcinogens" and in 1987 the International Agency for Research on Cancer (IARC) designated them as a Group 1 carcinogens. The scientific certainty required by the consensus-seeking organizations far exceeds OSHA's (and MSHA's) statutory requirements. Their ultimate determinations, however, validated the conclusions made earlier by OSHA.
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> •OSHA promulgated a final regulation in 1974 on vinyl chloride based on the best scientific evidence available at the time. Before the rule was completed, industry representatives insisted that the scientific evidence was weak, with one of them testifying that "…the state of scientific and medical knowledge available in this area is in its early stages…and insufficient for the purpose of basing an opinion as to the appropriate

[2] 66 *Federal Register*, January 19, 2001;5752-5855.
[3] *9th Report on Carcinogens* (May 2000) and *10th Report on Carcinogen* (December 2002)
[4] Diesel engine exhaust is currently listed as a Group 2A agent (i.e., "agent is probably carcinogenic to humans.") The next and final designation is Group 1 (i.e., "is carcinogenic to humans.")

> occupational exposure to vinyl chloride monomer…"[5] Despite these claims of scientific uncertainty, the U.S. Court of Appeals upheld OSHA's rule. Like the example of bis (chloromethyl) ether, beta-naphthalymine, and benzidine, it was several years later that the scientific consensus groups published their determination on the carcinogenicity of vinyl chloride. In 1980, the National Toxicology Program listed vinyl chloride as a "known human carcinogen" and in 1987 the International Agency for Research on Cancer (IARC) designated vinyl chloride as a Group 1 carcinogen.

History shows that industries that are the subject of occupational health rulemakings have routinely asserted that the scientific evidence underlying the regulation is weak. They predictably insist that DOL's risk assessments do not provide the scientific certainty necessary to support a protective health standard. We hope the following quote from Sir Bradford Hill will bolster MSHA's confidence in its analysis of the scientific evidence on DPM:

> All scientific work is incomplete—whether it be observational or experimental. All scientific work is liable to be upset or modified by advancing knowledge. That does not confer upon us a freedom to ignore the knowledge we already have, or to postpone the action that it appears to demand at a given time.[6]

"Feasibility" is Only One Consideration

The Federal Mine Safety and Health Act of 1977 (Mine Act) explicitly states that when the Secretary is promulgating a mandatory standard dealing with a toxic material, he/she must set a standard…

> …which most adequately assures on the basis of the best available evidence that no miner will suffer material impairment of health or functional capacity even if such miner has regular exposure to the hazards…for the period of his working life…. In addition to the attainment of the highest degree of health and safety protection for the miner, other considerations shall be the latest available scientific data in the field, the feasibility of the standards, and experience gained under this and other health and safety laws.[7]

In the legislative history of the Mine Act, the U.S. Congress specifically addressed the issue of feasibility of health standards, by quoting from the two significant court decisions involving OSHA rulemaking.[8] The U.S. Congress explicitly stated:

> While feasibility of the standard may be taken into consideration with respect to engineering controls, this factor should have a substantially less significant role.

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[5] T.C. Walker, President, Firestone Plastics Company, Public Hearing, June 1974.
[6] Hill B. The environment and disease: association or causation. Proc R Soc Med. 1965; 58:295-300.
[7] Public Law 95-164, Section 101(a)(6)(A).
[8] AFL-CIO v. Brennan, 530 F.2d 109 (1975); Society of the Plastics Industry v. OSHA, 509 F.2d 1301, cert. Denied, 427 U.S. 992 (1975).

> Thus, the Secretary may appropriately consider the state of engineering art in industry at the time the standard is promulgated. However, as the circuit courts of appeal have recognized, occupational safety and health statutes should be viewed as "technology-forcing" legislation, and a proposed health standard should not be rejected as infeasible when the necessary technology looms in today's horizon.

Moreover, landmark Court decisions have clarified (and settled) the meaning of feasibility. In 1981, the Supreme Court defined the term "feasible" as "capable of being done, executed or effected." (American Textile Manufacturers' Institute v. Donovan, 101 S.Ct. 2478 (1981) As MSHA noted in the preamble to the 2001 DPM final rule, the Agency:

> …need only base its prediction on reasonable inferences drawn from the existing facts;…show that a reasonable probability exists that the typical firm is an industry will be able to develop and install controls;…[and] if only the most technologically advanced companies in an industry are capable of meeting the standard, then that would be sufficient demonstration of feasibility.[9]

In the preamble to this NPRM, the data on current DPM exposures substantiate the conclusions of the 2001 final DPM rule. In fact, all of the data collected over the last year confirm MSHA's findings that the interim concentration limit is feasible. During the period August 2001 through January 2002, for example, MSHA reports that the mean concentration of DPM was 345_{TC} ug/m^3, substantially below the 400_{TC} ug/m^3 interim concentration limit. MSHA also notes that "…these samples results were obtained at a time that few mine operators had implemented controls to reduce DPM concentrations at the subject mines."[10] Furthermore, MSHA reports that of 31 mines sampled for DPM during this time period, "…five mines were already in compliance with the interim concentration limit, and another two mines were already in compliance with the final concentration limit [160_{TC} ug/m^3]."[10]

Representatives of the mining industry are oddly using these very same data to suggest that the rule is not feasible. At MSHA's public hearing in Salt Lake City on September 16, 2003, one representative reported "…that 30 percent of the mines tested in the agency's baseline sampling program were not in compliance with the 400 microgram standard."[11] Thus, MSHA's own sampling indicates that 70 percent of the mines sampled are *already* meeting the interim concentration limit. Moreover, these samples were collected <u>before</u> the rule was being enforced, that is, before mine operators faced any possible sanctions for failing to comply. It is a waste of MSHA's resources and the taxpayers' money to engage further in this dispute. <u>The interim concentration limit is feasible for the undergound metal and nonmetal mining industry</u>.

Looking back at the history of another DOL health standard, manufacturers of polyvinyl chloride (PVC) and vinyl chloride (VC) claimed during the rulemaking and again before the Court, that

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[9] 66 *Federal Register*, January 19, 2001;5885.
[10] 68 *Federal Register*, August 14, 2003; 48671.
[11] David Graham, General Chemical and the MARG Diesel Coalition, testifying on September 16, 2003 in Salt Lake City, Utah at MSHA's public hearing.

they would never be able to reduce exposures to this carcinogen through engineering controls. The U.S. Court of Appeals for the 2nd Circuit responded in this way:

> We cannot agree with the petitioners that the standard is so clearly impossible of attainment. It appears that they simply need more faith in their own technological potentialities, since the record reveals that, despite similar predictions of impossibility regarding the emergency 50 ppm standard, vast improvements were made in a matter of weeks, and a variety of useful engineering and work practice controls have yet to be instituted. In the area of safety, we wish to emphasize, the Secretary is not restricted by the status quo. He may raise standards which require improvements in existing technologies, and he is not limited to issuing standards based solely on devices already fully developed.[12]

Justice Clark's instruction that "… the Secretary is not restricted by the status quo" is an appropriate rejoinder to the mining industry's assertions about the rule's feasibility. MSHA's mining engineers, diesel equipment and ventilation experts have demonstrated in the field, at mine after mine, that miners' exposure to diesel particulate matter can be substantially reduced through practical and available technology. Some in the mining industry have simply refused to try.

Final Concentration Limit

In MSHA's August 14, 2003 notice of proposed rulemaking, the Agency indicates that it will propose a separate rulemaking to amend the final concentration limit of 160_{TC} ug/m^3. We will not be providing specific comments at this time on that issue, except to remark that the most recent exposure data collected by MSHA strongly suggests that a concentration limit lower than 160_{TC} ug/m^3 is feasible. Moreover, a lower concentration limit is absolutely warranted given the significance of the risk to miners' health.

Special Extension for the Interim Concentration Limit

Section 57.5060(c)(1) of the proposed rule, which would allow mine operators to get an extension to comply with the interim concentration limit, should be deleted. The 2001 Final Rule required all mine operators to comply with the interim concentration limit by July 2002. This compliance date was a full 18 months after the rule took affect, giving mine operators a generous amount of time to reduce DPM exposures. MSHA subsequently gave mine operators an additional one-year period to meet the interim concentration level. As others have pointed out, it was unlawful for MSHA to delay the effective date for an additional year, [13] yet Agency

[12] The Society of the Plastics Industry, Inc. v. Occupational Safety and Health Administration, 509 F.2d 1301 (2d Cir. 1975).
[13] Letter to Senators Edward M. Kennedy and Joseph Lieberman from the Center for Progressive Regulation, August 26, 2003.

officials did it anyway, giving mine operators this additional "grace period" to comply, at the expense of miners' health.

MSHA is now proposing to give mine operators an unlimited amount of time to meet the interim concentration limit. There is no credible evidence to justify this change to the 2001 Final Rule. Instead, the opposite is true: the evidence in the rulemaking record and the data presented in the August 2003 NPRM document that the interim concentration limit is feasible. As the United Steelworkers of America noted in their comments on MSHA's ANPRM, "…this issue was properly decided in the original rulemaking, and no change is required."[14]

Moreover, this change would significantly diminish the protections granted to miners in the 2001 Final Rule. The Mine Act explicitly states that:

> No mandatory health or safety standard promulgated under this title shall reduce the protection afforded miners by an existing mandatory health or safety standard.

MSHA's assertions that this change will not adversely affect miners' health have no basis in reality and are an affront to miners in America. A rule requiring that the concentration of DPM in a miner's work environment be maintained at or below 400_{TC} ug/m^3 (or 308_{EC} ug/m^3) is substantially more protective than forcing miners to wear respiratory protection and work in much higher concentrations of DPM. As MSHA noted in its 2001 Final Rule:

> …The hierarchy of controls paradigm regards administrative controls and the use personal protective equipment to be inherently inferior methods of controlling contaminant exposures in the workplace. Support for this position is virtually universal in the field of industrial hygiene.
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> …Since MSHA determined that compliance with the interim and final DPM concentration limits was feasible for the underground metal and nonmetal mining industry as a whole using exclusively engineering and work practice controls, the Agency logically chose to prohibit personal protective equipment as a compliance option…[15]

Control Plans

Section 57.5062 of the proposed rule should be deleted and the current language of 57.5062 should be retained. The concept of a written DPM control plan, triggered after a violation of the DPM concentration limit, is a central component of the DPM health standard. As MSHA noted in the preamble to the 2001 Final Rule, the purpose of the DPM control plan "…is to ensure that the mine has instituted practices that will demonstrably control DPM levels…" The United Steelworkers of America described the value of a written DPM control plan:

[14] Letter to Marvin Nichols from the United Steelworkers of America, November 25, 2002.
[15] 66 *Federal Register*, January 19, 2001;5862.

> Nothing would do more damage to the effectiveness of the standard than deleting the need to prepare and follow a detailed control plan. …No mine owner would operate without a business plan, a financial plan, a marketing plan, or a plan of operations. We find it troubling that…MSHA would consider attempting to reduce DPM exposures without [requiring operators to have] a plan for doing so. Control plans are highly cost-effective in that they force mine operators to think about how to control DPM efficiently, instead of simply slapping on another layer of controls.[16]

MSHA provides no evidence to justify eliminating this protective provision, and MSHA provides no evidence demonstrating that a DPM control plan requirement is infeasible, redundant, or unnecessary. Eliminating this provision of the 2001 Final Rule decreases health protections for miners, is contrary to the Mine Act, and is inconsistent with the Agency's mandate given the significant risk of material impairment of miners' health created by exposure to DPM.

Respiratory Protection

We are opposed to MSHA's proposed changes that would allow the use of respiratory protection as a means of complying with the interim concentration limit. The Agency aptly demonstrated in its documentation for both the 2001 Final Rule and this NPRM that feasible engineering controls exist to control DPM to the interim concentration limit.

We agree that there may be a few limited circumstances when miners are engaged in inspection, maintenance or repair activities[17] and may be exposed to concentrations of DPM that exceed the concentration limit. Such situations and relevant precautions for them were appropriately addressed in 57.5060(d)(1)-(d)(4) of the 2001 Final Rule, including the provision for advance approval. These provisions should be maintained as currently written. In addition, however, MSHA must require mine operators affected by this section to establish and follow a written respiratory protection program. The written program should be modeled substantially on OSHA's respiratory protection program[18] that was issued in January 1998. MSHA's program should include, at a minimum, provisions for medical examinations by a physician or other licensed health care professional[19] to ensure individual miners are medically able to wear a respirator; mandatory rest breaks in clean-air stations for miners required to wear a respirator for

[16] Letter to Marvin Nichols from the United Steelworkers of America, November 25, 2002.
[17] Section 57.5060(d)(1)-(d)(4) as it appeared in 66 *Federal Register*, January 19, 2001;5907.
[18] OSHA 1910.134 in Federal Register 1998.
[19] 29 CFR 1910.134 (b) defines a physician or other licensed health care professional as "an individual whose legally permitted scope of practice (i.e., license, registration, or certification) allows him or her to independently provide, or be delegated the responsibility to provide, some or all of the health care services required by paragraph (e) [Medical Evaluation] of this section.

more than one hour; and medical removal protection to non-respirator required areas at no loss of pay (i.e., full earnings protection.)[20]

Personal sampling

We agree with the comments submitted to MSHA in November 2002 by the United Mine Workers of America concerning the use of personal, area and occupational samples. MSHA should retain the language contained in 57.5061(c) which gives the Secretary the flexibility to determine the appropriate sampling strategy, using a combination of personal, occupational and/or area sampling. As the U.S. Court of Appeals for the Tenth Circuit held, the Secretary's decision to employ area sampling for respirable dust compliance determinations was a reasonable exercise of the Agency's discretion and authority. The Court stated further:

> The area sampling program has several advantages over a personal sampling program. The most important advantage is that area sampling not only measures the concentration of respirable dust, it allows identification and thus control of dust generation sources. Control of dust at the source will obviously contribute to reducing the level of personal exposure. By contrast, the results of personal samples do not allow identification of dust sources due to the movement of miners through various areas of the mine during the course of a working shift. Thus, while a personal sampling system makes possible the identification of discrete individuals who have been overexposed, it does nothing to ensure reduction of dust generation because the source of the dust cannot be determined. Therefore, it clearly appears that area sampling can rationally be found to be superior to personal sampling as a means of enforcing (as opposed to merely measuring) compliance…[21]

MSHA's interim standard for DPM was established as a concentration limit, not a personal exposure limit, giving further justification for the use of area, occupational and personal sampling. Given the significance of the risk, and considering the most conservative estimate presented in MSHA's risk assessment of lifetime excess lung cancer deaths for workers with a lifetime exposure to 200_{TC} ug/m^3,[22] the value of a flexible sampling strategy is justified and necessary.

In conclusion, we are very concerned with the course of this lengthy rulemaking, during which time miners continue to be exposed to the highest levels of diesel engine

[20] The precedent for medical removal protection was established by OSHA's cotton dust standard (1910.1043). Section (f)(2) on respiratory protection it reads: "Whenever a physician determines that an employee who works in an area in which the cotton dust concentration exceeds the PEL is unable to use a respirator, the employee must be given the opportunity to transfer to an available position, or to a position that becomes available later, that has a cotton dust concentration at or below the PEL. The employer must ensure that such employees retain their current wage rate or other benefits as a result of the transfer."

[21] American Mining Congress v. Marshall, 671 F.2d 1251 (1982).

[22] MSHA's estimate of "Lifetime Excess Risk of Lung Cancer Mortality" at 200_{TC} ug/m^3 range from 15 excess deaths per 1,000 exposed workers to 513 excess deaths per 1,000 exposed workers.

exhaust and particulate matter in the country. The State of California has taken action to reduce levels of ambient air exposure to diesel particulate matter at levels 20-30 times lower than the levels some miners are breathing every day. Other individuals and organizations with whom we have contacted have similar concerns. Worker health and safety is a longstanding issue for each of us. Please provide a fair rulemaking for workers which protects their health at work. That is the mandate of your agency.

Sincerely,

SIGNATURES ARE ON ORIGINAL BEING MAILED AND ARE ALSO ON FAX SENT TO MSHA ON 10/14/03

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Andrea Hricko, M.P.H.
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