

Mr. Joseph Main  
Assistant Secretary of Labor  
Mine Safety and Health Administration  
U.S. Department of Labor  
1100 Wilson Boulevard  
Arlington, Virginia 22209-3939

June 25, 2012

Dear Mr. Main:

We are writing as members of the public health, scientific and workers' rights community. Many of us are also members of the Occupational Health & Safety Section of the American Public Health Association (APHA), the largest public health organization in the world, and one that is marking its 98<sup>th</sup> year promoting policies to protect people from work-related hazards.

Earlier this year, the long-awaited epidemiological studies conducted by the National Cancer Institute and NIOSH to assess the mortality risk for workers exposed to diesel exhaust were published.<sup>1,2</sup> These robust mortality analyses of more than 12,000 deceased underground miners provide further evidence of the serious adverse health effects from exposure to diesel exhaust. Moreover, just this month the World Health Organization's International Agency for Research on Cancer (IARC) classified diesel engine exhaust as carcinogenic to humans.<sup>3</sup>

In 1999, APHA adopted the policy "Preventing Environmental and Occupational Health Effects of Diesel Exhaust" (Policy No. 9912), calling on OSHA and MSHA to adopt health-protective standards for workers exposed to this hazard. APHA supported MSHA's previous rulemaking efforts during the Clinton Administration to propose and finalize regulations to protect coal, metal and non-metal underground miners from diesel exhaust. We are calling on you now to revisit the agency's rules to determine, in light of this additional, compelling evidence of cancer risk for highly-exposed individuals, and in light of changes in technology and its cost-effectiveness, whether MSHA's rules are adequately protective. MSHA promulgated the agency's final rules on diesel particulate matter (DPM) in 2001 and 2006, basing them on the knowledge of risks and the technological and economic feasibility at that time. We believe that now is time for your agency to re-evaluate these rules.

#### **Protections for Metal & Non-metal Miners**

In connection with its review of protections for metal and nonmetal miners, we respectfully recommend that MSHA undertake the following actions:

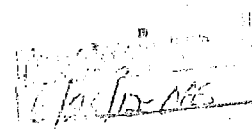
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<sup>1</sup> Silverman DT, et al. The Diesel Exhaust in Miners Study: a nested case-control study of lung cancer and diesel exhaust. *J Natl Cancer Inst.* 2012; 104: 1-14. (PMID: 22393209)

<sup>2</sup> Attfield MD, et al. The Diesel Exhaust in Miners Study: a cohort mortality study with emphasis on lung cancer. *J Natl Cancer Inst.* 2012; 104: 1-14. (PMID: 22393207)

<sup>3</sup> International Agency for Research on Cancer, World Health Organization. Diesel engine exhaust carcinogenic. June 12, 2012.

1219-AB86-COMM-21-2, June 25, 2012 letter from  
Borkowski et al. to Mr. Joseph Main

A handwritten signature, possibly "E. J. Borkowski", is written over a rectangular stamp. The stamp contains some illegible text and a date, likely "JUN 25 2012".

- a) Prepare and disseminate to the public a simple annual report that describes the results of inspector sampling for DPM (i.e., measures of total carbon (TC) and elemental carbon (EC)) at underground mines, and the current control measures used in the work area where the samples were collected. Making such information available to the public (e.g., miners, operators, other agencies and worker safety advocates) will help assess whether mine operators have implemented all feasible controls. It will also serve to remind the workers and the general public that the concentration of DPM permitted by MSHA's health standard is not a safe exposure level. The exposure limit was based on technological and economic feasibility at the time the rules were published. At the current 160  $\mu\text{g}/\text{m}^3$  DPM exposure limit (8-hour time-weighted average) allowed by MSHA, the agency's risk assessment estimated between 15 to 313 excess cases of lung cancer per 1,000 workers.<sup>4</sup> The risk estimates for cardiovascular, cardiopulmonary and other adverse health effects also warrant sustained attention.
- b) Conduct exposure monitoring at a representative sample of surface mining operations to assess miners' exposure to DPM, using methods already proven accurate in underground mines. Prepare a simple annual report that summarizes the exposure findings for the surface miners who are not covered by MSHA's DPM regulation.

We viewed MSHA's DPM standards as good first steps when they were published, but just that – a first step toward protecting this at-risk population. We believe it is unfortunate that, without opportunity for comment, MSHA subsequently dropped several requirements of those standards for underground metal and nonmetal mines that would have significantly contributed to protecting these miners. The two recommendations made above will help assemble the evidence for what additional regulation of this hazard is warranted and feasible to protect miners in this sector, including surface miners and contractors servicing surface mines.

### Protections for Coal Miners

MSHA's standards issued in 1996 and 2001 on diesel-powered equipment<sup>5,6</sup> were instrumental in moving the coal mining industry forward to recognize and address the health hazards of diesel exhaust for underground coal miners. We recognize your personal role during your tenure at the United Mine Workers International Union and that of your colleagues in keeping attention on this occupational health issue. More than 16 years, however, have passed since MSHA's initial regulation on diesel equipment, and key advances have been made in diesel engine and exhaust after-treatment technologies.

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<sup>4</sup> Mine Safety and Health Administration, U.S. Department of Labor. "Diesel Particulate Matter Exposure of Underground Metal and Nonmetal Miners, Final Rule." 66 *Federal Register* 5706, 5852 (January 19, 2001).

<sup>5</sup> Mine Safety and Health Administration, U.S. Department of Labor. "Approval, Exhaust Gas Monitoring, and Safety Requirements for the Use of Diesel-Powered Equipment in Underground Coal Mines, Final Rule" 61 *Federal Register* 55412 (October 25, 1996).

<sup>6</sup> Mine Safety and Health Administration, U.S. Department of Labor. "Diesel Particulate Matter Exposure of Underground Coal Miners, Final Rule." 66 *Federal Register* 5526 (January 19, 2001).

Today there are more than 5,000 diesel engines in underground coal mines. The 2001 DPM final rule addresses the contribution of DPM to miners' exposure from permissible, heavy-duty equipment, generators and compressors. Under 30 CFR 72.500 and 72.501, mine operators are required to install high efficiency DPM filters on these types of equipment to reduce DPM exposures. This equipment, however, only accounts for about 30 percent of the entire underground diesel-powered fleet. The remaining 70 percent of the underground fleet is considered light-duty equipment and is not covered under those sections. MSHA addressed the light-duty fleet in 72.502 by simply requiring mine operators to introduce cleaner burning engines into their fleets. We believe that the large number of the existing (i.e., grandfathered) light duty equipment must be further evaluated to determine its contribution to miners' exposure to DPM. Moreover, this evaluation should include assessing how MSHA's Part 72 standards should be improved based on currently available technology.

We understand that in 2001, the record was divided between commenters who thought that light-duty equipment operates like heavy-duty equipment and made significant contributions to miners' exposure to DPM and others who did not.<sup>7</sup> Since that time, however, the States of Pennsylvania, West Virginia and Ohio have finalized DPM standards that exceed (are more restrictive than) the federal standard for their light-duty equipment. These States require that ALL light-duty equipment have high-efficiency DPM filters installed. Under MSHA's 72.502 rule, in contrast, mine operators are allowed to introduce engines into their light-duty fleet that were considered "clean" a full 12 years ago. A more protective rule would require that older technology have a high-efficiency DPM filter installed. Much has changed in diesel-engine technology in the past 12 years, yet MSHA's rule has not kept up with those improvements. Without MSHA revising 72.502, mine operators have no incentives to introduce the most modern diesel engines and after-treatment technologies that are available for their light-duty equipment.

In connection with its review of the adequacy of protections for coal miners, MSHA should:

- a) Conduct a survey of the contribution of light-duty equipment to DPM emissions in underground mines. The States of Pennsylvania, West Virginia, and Ohio require mine operators to keep written maintenance records, based on operating hours, for all their equipment. This information can be a starting point for assessing the contribution of DPM by light-duty equipment.
- b) Update Table 72.502-1 to reflect requirements already in place under U.S. EPA regulations on diesel engine and after-treatment technologies. When written, Section 72.502 was intended to only allow mine operators to introduce light-duty equipment with "cleaner" engines, but Table 72.502-1 is outdated given all the advances in clean-engine technology.

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<sup>7</sup> Mine Safety and Health Administration, U.S. Department of Labor. "Diesel Particulate Matter Exposure of Underground Coal Miners, Final Rule." 66 *Federal Register* 5526, at 5677, 5681 (January 19, 2001).

- c) Reevaluate the remaining types of light-duty equipment currently operating in the underground fleet to determine if additional equipment should be included under 72.501. For example in the 2001 rule, MSHA required generators and compressors that were considered light-duty equipment to meet the same DPM emission limits in 72.501 as heavy-duty equipment. MSHA made that determination based on the contribution of generators and compressors to miners' exposure to DPM. Now, more than a decade later, it is time to update their contribution and prepare a report for the same kind of assessment for other light-duty equipment.
- d) Adopt an emission-based maintenance program that includes all types of diesel-powered equipment. Emission-based maintenance programs have become commonplace since MSHA's rule was issued in 1996, and the States of Pennsylvania, West Virginia- and Ohio already require all of their diesel-powered equipment to be emission checked to determine the "tune" of the engine. Based on recommendations contained in MSHA's *Diesel Toolbox*,<sup>8</sup> MSHA staff assisted many metal and nonmetal mine operators in setting up emission-based maintenance programs for all diesel-powered equipment in their fleets. All light-duty equipment used in underground coal mines should be covered by the requirements of 75.1914(g) to ensure they are "in tune."
- e) Follow through to update the agency's Part 7, Subpart E approval requirements for non-permissible diesel engines as promised in the preamble to the 2001 rule. The current approval process was issued in 1996, but was largely based on a system dating back to the 1960s. When MSHA promulgated its rule in 2001, it committed to updating the approval process for engines to be used in outby areas of underground coal mines. The agency indicated it would adopt a more streamlined approach and rely heavily on the U.S. EPA's approval program for engines used in off-road applications. Moreover, the agency wrote it would establish a program under which the engine-emission tests conducted for an EPA approval would satisfy the Part 7 testing requirements.<sup>9</sup> We believe this streamlined approach will greatly improve and expedite the engine approval process and will meet an important goal for coal miners' health: the introduction of the most advanced diesel engine and after-treatment technologies.

We hope you and your staff will seriously consider all of the recommendations we offer in this letter. If you or your staff has questions about the ideas we offer, please do not hesitate to contact Celeste Monforton, DrPH, MPH at 512-938-3312 or [cmmonfort@gwu.edu](mailto:cmmonfort@gwu.edu).

Sincerely,

*[Affiliations listed for individuals are for identification purposes only]*

<sup>8</sup> Mine Safety and Health Administration, U.S. Department of Labor. *Practical Ways to Reduce Exposure to Diesel Exhaust in Mining: A Toolbox*. (1997)

<sup>9</sup> Mine Safety and Health Administration, U.S. Department of Labor. "Diesel Particulate Matter Exposure of Underground Coal Miners, Final Rule." 66 *Federal Register* 5526, at 5679, 5684 (January 19, 2001).

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The Honorable George Miller, U.S. House of Representatives  
The Honorable Tom Harkin, U.S. Senate  
The Honorable Johnny Isakson, U.S. Senate  
The Honorable Mike Enzi, U.S. Senate  
The Honorable Patty Murray, U.S. Senate  
Mr. Dennis O'Dell, United Mine Workers  
Mr. Mike Wright, United Steelworkers