

Received 04/05/04
MSHA/OSRV

April 5, 2004

Marvin W. Nichols, Jr.
Director, Office of Standards, Regulations and Variances
Mine Safety and Health Administration
1100 Wilson Blvd.
Room 2350
Arlington, VA 22209-3939

**RE: RIN 1219-AB29
30 CFR Part 57
Diesel Particulate Matter Exposure of Underground Metal and Nonmetal
Miners
Limited Reopening of the Comment Period, 69 FR 7881, February 20, 2004**

Submitted via e-mail to comments@msha.gov

Dear Mr. Nichols:

These comments are submitted on behalf of The United Steelworkers of America, a labor union representing approximately 600,000 workers in the United States and Canada, including the majority of organized metal and nonmetal miners in both countries.

On February 20, MSHA reopened the DPM rulemaking record in order to obtain public comments on January 5, 2004 NIOSH report to the Metal/Nonmetal Diesel Partnership, "The Effectiveness of Selected Technologies in Controlling Diesel Emissions in an Underground Mine – Isolated Zone Study at Stillwater Mining Company's Nye Mine." At the same time, MSHA also requested comments on two additional documents: the September 2003 NIOSH survey "Respirator Usage in Private Sector Firms, 2001," and an undated document by Gerald Chase, "Characterizations of Lung Cancer in Cohort Studies and a NIOSH Study on Health Effects of Diesel Exhaust in Miners."

My comments will address all three documents. However, it is important to note that the reopening of the record was based only on the Stillwater study. As the February 20 *Federal Register* notice makes clear, the other two documents were added as an afterthought, since the record was being opened anyway. That is appropriate, since neither the NIOSH respirator survey nor the Chase analysis form a sufficient basis for a reopening on their own. The NIOSH respirator survey was available before the previous comment period closed, and adds little to the issues that are the subject of this rulemaking. The Chase analysis is worthless for the purpose of rulemaking, and does not meet the most minimal requirements for data quality. Had the Chase analysis been the basis for reopening the record, it would have set an unfortunate precedent for reopening a rulemaking record any time one of the participants gins up a few new tables based on incomplete data, no what the quality of the underlying analysis.

AB29-COMM-54

1. The Stillwater Study

The record of this lengthy rulemaking contains extensive evidence on the feasibility of the interim level for DPM exposure of 400 ug/m³ expressed as total carbon or 308 ug/m³ expressed as elemental carbon. That evidence is summarized in the preamble to the existing DPM rule (66 FR 5706), and in the preamble to the proposed rule under consideration (68 FR 48668). The Stillwater study adds additional support to MSHA's conclusion that interim level is feasible. In fact, the study also helps demonstrate the feasibility of the final DPM level of 160 ug/m³ total carbon, but since that level is not the subject of this rulemaking, I will not discuss it further in these comments.

NIOSH and Stillwater Mining are to be commended for the time and resources that went into the Stillwater study. The study used a 1750 foot section of a ramp in the company's Nye, Montana mine as a sort of underground laboratory, isolated from diesel equipment in other parts of the mine, and ventilated directly from a mine portal 492 feet away. Various combinations of engines, filters, and fuel were tested over a twelve-day period in May 2003. Important results are listed in Tables 7 and 8 on pages 50-51. Two haulage trucks, powered by Deutz engines and equipped with Englehard DPX and CleanAir Systems filter systems, achieved reductions in elemental carbon of 95-96% (Englehard) and 99% (CleanAir). A LHD vehicle with a Caterpillar engine and a DCL Mine X filter system achieved an 87-88% reduction. The use of biodiesel fuel achieved some reductions in EC – up to 48% for B50 fuel. All three of the effective filters caused increases in NO₂; none exceeded the ACGIH TWA of 3 ppm; the maximum value recorded for the DCL Mine X filter system of 5.7 ppm exceeded the ACGIH STEL of 5 ppm (Table 11, Page 61).

The results reported in Table 7 were adjusted to the EC concentrations that would obtain at the engine-appropriate MSHA nameplate ventilation rate. (The results in Table 8 were normalized to a CO₂ background concentration of 402 ppm, which gave nearly identical results.) It should be remembered that the MSHA nameplate ventilation rates were not designed to reflect the MSHA DPM standard. Thus, the study shows what can be achieved without any change to permitted ventilation practices. Even greater reductions would be possible at higher ventilation rates. Additional ventilation is certainly a feasible control for DPM, and for any increased NO₂ concentrations that might be caused by DPM filter systems.

Finally, it is important to note what the study did not include. It is unlikely that non-catalyzed filters and filter regeneration systems would cause any increased emissions of NO₂. It is unfortunate that they were not tested. (I regret that as a member of the Partnership, I did not spot this omission earlier.) The DCL Blue Sky system was not tested because it requires downtime for regeneration and an electric power supply. Donaldson filters were considered "impractical" by Stillwater mining because of a "short" lifespan (100 hours). The ECS CT 28 Catrap system was rejected due to the cost of the unit (\$8300 initially, plus \$6000 for replacement sections). However, should these systems prove effective, none of the stated objections would make them infeasible. It is

certainly feasible to install a regeneration station, replace a filter after 100 hours, or spend a few thousand dollars per engine to protect miners from cancer.

2. The NIOSH Respirator Survey

It is not clear what this report adds to the record. It certainly demonstrates that some existing metal and non-metal mines currently use respirators – 16% in metal; 1% nonmetallic minerals (*Table 20, page 63*). A majority of those (64%) assess the medical fitness of their employees to wear respirators. Unfortunately, the survey did not differentiate between surface and underground mines. Specific data on underground mines would have been especially useful, since underground mines are the subject of this rulemaking. In addition, respirators present special hazards underground, due to poor visibility and moving equipment in tight quarters.

While the report may provide some background on current respirator use in mining and other sectors, it does not change any of the USWA's position on respirators, as stated in my October 7, 2003 testimony in Arlington. First, routine use of respirators for any normal production job or activity should only be allowed under a special extension, or for a limited period while controls are being implemented. Second, the standard should include requirements for an effective respirator program, especially including medical evaluation and transfer provisions. Third, medical evaluation and transfer are required, not only for sound medical reasons, but also by the plain language of the Mine Act.

3. The Chase Analysis

For several years, NIOSH and the National Cancer Institute have been working on a large cohort mortality study of lung cancer and diesel exhaust among non-metal miners. That study will provide additional evidence on the risk of diesel emissions. However, the record already contains ample evidence of the carcinogenicity of DPM; the NIOSH/NCI study will not shake those findings, even if it should prove to be inconclusive.

The researchers hold occasional public meetings to discuss the progress of the study. One such meeting was held in Arlington on November 20, 2003. In his unpublished, undated, and non-peer-reviewed paper, Dr. Gerald Chase takes preliminary data from a NIOSH/NCI Powerpoint chart, presumably one presented at that November briefing. That chart shows the number of lung cancer deaths found to date at each of the study mines. He compares them with various national, state and county rates for lung cancer in various years. It is not clear why he chose each set of rates. He then throws in a comparison with studies of lung cancer in coal miners and mixes the elements to produce a carefully worded conclusion that implies – but never quite says – that the NIOSH/NCI study is unlikely to find any excess in lung cancer among the miners in the cohort.

It would be wonderful if Dr. Chase's methodology could actually produce valid results. We could then avoid all the time and expense of real cohort mortality studies. Just count the death certificates, look up whatever state or county rates support your conclusions, and proceed directly to publication.

Unfortunately, real epidemiological research requires much more, as any standard epidemiology textbook will quickly illustrate. For example, it takes complete follow-up of all members of the cohort, the selection and application of appropriate age-specific rates, and the control of confounding variables. That is why it will take several more years for NIOSH and the NCI to complete the study. Until then, it is not possible to draw any conclusions, from the preliminary data – except the conclusion that the NIOSH and NCI researchers are skilled in their task, and should be allowed to complete it without further interference or second-guessing.

In the meantime, we urge MSHA to complete this rulemaking as expeditiously as possible, and to vigorously enforce the current standard until the new one is in place.

Respectfully submitted,

Michael J. Wright
Director of Health, Safety and Environment
United Steelworkers of America
5 Gateway Center
Pittsburgh, PA 15222
mwright@uswa.org

USWADPMApril152004