February 17, 2006

Ms. Rebecca Smith
Acting Director of the Office of Standards,
Regulations and Variances
Mine Safety and Health Administration
1100 Wilson Boulevard
Arlington, VA 22209-3939

Re: RIN: 1219—AB29, September 7, 2005 Notice of Proposed Rulemaking to Amend MSHA's Rules for Diesel Particulate Matter Exposure of Underground Metal and Nonmetal Miners

Dear Ms. Smith:

These comments are submitted on behalf of the members of the National Mining Association ("NMA") in response to MSHA's proposal of September 7, 2005 to utilize staggered effective dates for implementation of the Agency's final limit for exposure of underground metal and nonmetal miners to diesel particulate matter ("DPM") 70 Fed. Reg. 53280. This Notice of Proposed Rulemaking ("NPR") would amend MSHA's mandatory health standards for Diesel Particulate Matter Exposure of Underground Metal and Nonmetal Miners originally published on January 19, 2001 (66 Fed. Reg. 5706), and amended several times since, most recently on June 6, 2005 (70 Fed. Reg. 32868) (collectively the "DPM Rules").

NMA has filed comments on behalf of its members in every phase of DPM Rules-related rulemakings. From their very inception, NMA has always raised fundamental objections regarding the lack of any sound scientific basis for the health effects judgments used by MSHA as a justification for the exposure limits contained in the DPM Rules. In addition, NMA has consistently told MSHA that we do not believe that it is technologically or economically feasible to achieve the final exposure limit imposed by the DPM Rules, even if the Rules were otherwise lawfully promulgated.[1] Indeed, NMA was so concerned by MSHA's rush to promulgate the DPM Rules on the very last day of the Clinton Administration, despite their demonstrable lack of justification, that NMA had no choice other than to file a petition for judicial review of the DPM Rules in the United States Court of Appeals for the District of Columbia in early 2001. For the same reasons, NMA has also

[1] Thus, NMA strongly believes that MSHA has neither met its legal obligation to show a relationship between miners' exposure to DPM in underground metal and nonmetal mines and "material impairment of health or functional capacity," nor its obligation to show the feasibility of these standards. *See* section 101(a)(6)(A) of the Federal Mine Safety and Health Act of 1977, 30 U.S.C. §§ 801, 811(a)(6)(A) (the "Mine Act").

challenged the June 6, 2005 amendments to the DPM Rules. Numerous other industry petitioners have also sought judicial review of the DPM Rules.

As a result of these lawsuits, some of NMA's concerns have been addressed by settlement. Nevertheless, a number of key problems remain. Central to these is the validity of the final DPM limit, currently set at 160 micrograms of total carbon per cubic meter of air (160_{TC} µg/m^3). NMA urges MSHA to rescind this unjustifiable and infeasible final limit and to adopt as the final limit the exposure level of 308 micrograms of elemental carbon per cubic meter of air (308_{EC} µg/m^3) currently in place. However, even this EC-based limit is not scientifically justifiable, and many operators are still finding that it is not always feasible to comply with it.

Having said this, NMA believes that the experience of both MSHA and the industry under the DPM Rules demonstrates an evolving learning process regarding diesel exhaust. It is in this context that NMA is pleased that MSHA has proposed a staggered effective date schedule for implementation of the Agency's final DPM limit. We have studied this proposal carefully, and NMA supports the concept of a staggered effective date schedule. However, we believe a more practical approach to that schedule should be promulgated; and we must have assurances that realistic and transparent procedures can be developed to fairly and effectively implement the special extension provisions of 30 C.F.R. § 57.5060(c) (*See* 70 Fed. Reg. 32966) for the many mines that will likely be unable to meet the lower DPM limits, even if staggered in their effective dates over a five-year period as proposed. Additionally, MSHA must develop an accurate, scientifically supportable conversion factor to change the current TC-based final limit to an EC-based limit. In short, NMA recommends that a more practical staggered schedule, accompanied by a realistic and transparent special extension procedure, along with an accurate TC to EC conversion factor must be developed.

We now turn to more specific comments on the NPR. MSHA has posed a long series of questions in the NPR's preamble, and although we are unable to answer all of them, our comments are organized so as to generally respond to the major categories of these questions.[2] Thus, we will discuss:

- technological feasibility;
- the complexity of developing an appropriate conversion factor for the final concentration limit;
- medical evaluation and transfer of miners; and
- compliance of the NPR with section 101(a)(9) of the Mine Act.

[2] NMA notes, with some dismay, that the litany of questions raised in this preamble are not dissimilar to those posed in MSHA's Advance Notice of Proposed Rulemaking published in the Federal Register for September 25, 2002. 67 Fed. Reg. 60199, 60201-60202. We cannot help but wonder whether MSHA "intends to torture the data until it surrenders."

We then conclude with a more detailed discussion of our views as to a more practical approach to a staggered effective date schedule than that which MSHA has proposed and our recommendations for a realistic and transparent process for special extensions.

Technological Feasibility

Other than the validity of MSHA's analysis of the health effects of miners' exposure to DPM, the core issue on which industry and MSHA have disagreed is the question of whether there are technologically feasible engineering and administrative controls available to allow mine operators, on a consistent basis, to comply with the DPM limits. This fundamental disagreement was originally focused on DPM filters and ventilation, but it has been expanded to currently include alternative fuels, fully enclosed environmental cabs and new, cleaner engines. We speak to each of these issues below.

DPM Filters

For years, MSHA insisted that the application of commercially available "off-the-shelf" DPM filters and enhanced ventilation would allow operators to comply with the DPM limits. Indeed that was the fundamental basis from the outset (to the extent there was one) for the feasibility determination underlying the DPM Rules. This, in spite of the fact that hardly any data existed on the application of these filters in the rugged working conditions of underground metal and nonmetal mining. In spite of industry's consistent view that time and experience were necessary to develop "practical mine worthy filter technology," MSHA developed a mathematical computer model called the "Estimator," which supposedly "calculate[d] the effect of any combination of engineering and ventilation controls on existing DPM concentrations in a given production area of a mine." 70 Fed. Reg. 53282. In the preamble to this NPR, MSHA now diplomatically acknowledges that the "Estimator" became "less significant from [MSHA's] perspective in demonstrating feasibility since the [administrative] record included more extensive evidence on the ability of the mining industry to meet the interim limit." *Id*. NMA supports MSHA's recognition that it cannot rely on the Estimator because we always viewed it as a deeply flawed computer model to which MSHA clung for too long. Following its observation about the Estimator, MSHA then goes on in the preamble to cite a long list of evidence showing, the Agency says, the current ability of the mining industry to meet the interim limit. NMA is very familiar with this evidence, and we vigorously disagree with MSHA that this evidence categorically shows such an ability to comply. However, even MSHA must admit that this evidence certainly does not demonstrate that mine operators are able to comply with the final limit.[3]

[3] NMA is very familiar with all of the evidence cited by MSHA. This evidence includes: (1) MSHA's final report on the Joint MSHA/Industry 31-Mine Study; (2) NIOSH's peer review of the Joint Study; (3) results from MSHA's baseline sampling at mines covered by the DPM Rules; (4) the results of MSHA's comprehensive compliance assistance work at mining operations with implementation issues affecting feasibility; (5) NIOSH's conclusions on the performance of the SKC sampler and the availability of technology for control of DPM; (6) NIOSH's Diesel Emissions Workshops in 2003 in Cincinnati and Salt

Indeed, the telling statement of the Agency about the technological feasibility problems of DPM filters, as articulated in the preamble, is worth repeating because it goes to the very heart of the ability of NMA members to comply with the final limit and is the Agency's primary justification for a staggered implementation schedule. Thus, MSHA states:

> The industry . . . is encountering economic and technological feasibility issues with DPM controls as they [sic] strive to reduce levels below the interim limit. When we established the [160_{TC} μ/m^3] final limit, we were expecting some mine operators to encounter difficulties implementing control technology because the rule was technology forcing. We projected that by this time, practical and effective filter technology would be available that could be retrofitted onto most underground diesel powered equipment. However, . . . we have become aware that this assumption may not be valid. *The applications, engineering and related technological implementation issues that we believed would have been easily solved by now are more complex and extensive than previously thought*.

Id. 53283 (emphasis added).

NMA wholly agrees with MSHA's statement. NMA companies have invested considerable time and monetary resources in efforts to use DPM filters on their underground diesel powered fleets. Much of this investment was inefficient and ineffective, however, since it was on a trial and error basis because of the paucity of applied knowledge on filter usage. This bears repeating – no one at MSHA, NIOSH, the mining industry, or in the filter manufacturing community had any substantial practical field experience in the application of "off-the-shelf" DPM filters to real-world underground mine usage.

Both DPM filter vendors and mine operators are now gaining experience in the application of DPM filters underground. Some progress is being made. For example, the application of passive regeneration filter technology is becoming effective on larger horse power production units. However, NMA agrees with MSHA's observation in the preamble of the NPR that "[r]elying on [filters] to be installed on older, higher DPM emitting engines may also introduce additional implementation issues since [filter] manufacturers normally do not recommend

---

Lake City; (7) the Filter Selection Guide posted on the MSHA and NIOSH websites; (8) MSHA's final report on DPM filter efficiency; (9) NIOSH's report titled "Review of Technology Available to the Underground Mining Industry for Control of Diesel Emissions"; and (10) the NIOSH Phase I Isozone Study titled "The Effectiveness of Selected Technologies in Controlling Diesel Emissions in an Underground Mine – Isolated Zone Study at Stillwater Mining Company's Nye Mine." NMA must also note, with some frustration, that had these baseline studies been carried out prior to the promulgation of the DPM Rules in January 2001, then, perhaps, many of the problems that NMA members are experiencing today with implementation of these Rules would not have arisen.

adding [filters] to older engines." *Id*. 53284. Furthermore, the application of DPM filters to equipment with medium-to low-duty cycle engines remains problematic.

In addition, the application of active filter regeneration, especially the need for fixed locations for filter regeneration stations, poses significant logistical problems due to the spread-out nature of many of the mines operated by NMA members. The problem of effective active filter regeneration use is also compounded by the fact that many medium-to low-duty cycle engines have insufficient exhaust temperatures to regenerate accumulated carbon. This problem was recognized by MSHA in the preamble to the June 6, amendments to the DPM rules. *See* 70 Fed. Reg. 32925.

Enhanced Ventilation

Although MSHA has not addressed this issue in the preamble, nevertheless, NMA must remind the Agency that most underground metal mines constructed prior to the promulgation of the DPM rules have narrow openings and workings because they were built to follow their meandering ore bodies. Consequently, the volume of ventilating air that can be circulated throughout these mines to sweep away DPM is physically restricted. In light of these constraints, while a number of these mines have implemented ventilation enhancements, they must also rely on improved maintenance of their ventilation systems to maximize the ventilating air current underground.

NMA notes, with approval, that NIOSH had scheduled a meeting of the NIOSH-Industry-Labor Diesel Partnership for January 19. Among the agenda items was to have been a discussion by NIOSH researchers on their view that there is a need for improved ventilation in parts of the metal nonmetal industry. That meeting was cancelled in light of the recent mine accidents in West Virginia. NMA welcomes this discussion when the Partnership meeting is rescheduled.[4]

Alternative Fuels

MSHA has posed several questions on the availability and use of alternative fuels such as biodiesel. *Id.* 53286-53287. NMA members are examining this issue and analyzing the feasibility of using alternative fuels such as biodiesel and water emulsion fuels. Availability of biodiesel fuel is a major impediment to its use. As can be easily seen from the attached map taken from the website of the National Biodiesel Board (www.biodiesel.org) the vast majority of biodiesel distributors nationwide are crowded into the Midwestern part of the United States because the Midwest is the area of the country in which the raw materials for biodiesel fuels are produced. There are relatively few biodiesel distributors in the East or in the Far West. It is in these areas of the United States, however, where almost all of the affected mines of NMA members are located. In addition, and especially in the

[4] Another agenda item scheduled for this meeting is the experience of NIOSH researchers indicating that servicing and maintaining engines to minimize DPM emissions is different from and more complex than simply maintaining an engine in running condition. NMA also welcomes this discussion.

Western United States, the problems of utilizing biodiesel fuels at high altitudes and in often cold climates will pose impediments to their use.

NMA also notes that MSHA discussed water emulsion fuels such as PuriNOx in the preamble of the NPR. *Id.* at 53286. NMA members have experimented with water emulsion fuels. Such fuels have not performed satisfactorily, reducing the efficiency of the engines in which they were being used. Indeed NMA understands The Lubrizol Corporation, as of the end of January, decided to close down its U.S. PuriNOx business by the end of this year.

NMA agrees that biodiesel fuel and other alternative fuels may show future potential for reducing DPM concentrations. However, it is wholly premature to conclude that biodiesel and other alternative fuels will be a major factor in allowing NMA members to achieve the final DPM limit by 2011. Indeed, NMA is gravely concerned that just as MSHA earlier viewed DPM filters as the central solution to achieving compliance with the DPM rules, the Agency now appears to be thinking that biodiesel and other alternative fuels are the illusive Holy Grail for compliance. NMA submits they are not, and the industry should not be forced to incur huge costs in experimenting with another well-intentioned but untested technological solution.

Fully Enclosed Environmental Cabs

NMA agrees with MSHA that "[e]nvironmental cabs are a proven means to reduce worker exposure to DPM." *Id.* 53287. Simply put, fully enclosed environmental cabs provide superb protection to equipment operators from exposure to DPM. However, they provide no protection to miners working alongside such equipment. Furthermore, installation of fully enclosed environmental cabs can only be accomplished where the resulting larger profile of the equipment fits properly within the heading size in the mine where such equipment is operated. NMA expects that as existing fleet units are replaced by NMA members, additional fully enclosed environmental cabs will be deployed. Nevertheless, such cabs will not ensure compliance for all miners to either the interim or the final DPM limits.

New, Cleaner Engines

Surprisingly (and as was the case with enhanced ventilation), MSHA also did not address the issue of new, cleaner engines in the preamble of the NPR. From NMA's perspective, however, as our members replace their old engines with new cleaner engines, that effort will reduce the DPM exposures of miners. For example, one NMA member related to us that replacement of old engines with new cleaner engines, where practicable, has become a primary focus of its efforts to control DPM. Another NMA member reported that it has a proactive campaign underway to replace higher DPM emitting engines with newer EPA Tier I and Tier II rated engines. This same NMA member has also begun testing of the newly available Tier III engines.

NMA also recognizes that even the newest cleanest engines must be serviced and maintained to minimize DPM emissions. As previously noted, NMA welcomes the interest of NIOSH researchers on this subject, and we anticipate that a useful dialogue on this issue will be initiated when the previously cancelled meeting of the NIOSH-Industry-Labor Diesel Partnership is rescheduled.

The Complexity of Developing an Appropriate Conversion Factor for the Final Concentration Limit

NMA is quite mindful that the 1.3 conversion factor used to convert the interim exposure limit from TC to EC will not be appropriate to apply to the final phased-in TC limits because the variety of DPM controls utilized by a mine operator result in so many variables. We agree with MSHA's statement in the preamble of the NPR that "[t]he actual TC to EC ratio could vary from mine to mine, and even from one section [of the mine] to another, based on the mix of controls at a mine." *Id.* NMA also understands and supports the need for MSHA to "initiate a separate rulemaking to determine what the correct TC to EC conversion factor will be for the phased-final limits." *Id.* NMA will cooperate with MSHA and NIOSH in the development of such a conversion factor. In that respect, we have received NIOSH's draft paper entitled "The Relationship Between Elemental Carbon, Total Carbon, and Diesel Particulate Matter in Several Underground Metal/Nonmetal Mines." We understand that this draft will be discussed at the next meeting of the NIOSH-Industry-Labor Diesel Partnership when it is rescheduled. NMA must insist that, at the end of the day, the final outcome of the rulemaking to be conducted by MSHA on a TC to EC conversion factor will result in an accurate, scientifically supportable conversion factor. Such an outcome, as previously mentioned, is essential to NMA's willingness to support any reduction in the DPM limit below the interim limit, on any staggered effective date schedule for implementation.

Medical Evaluation and Transfer of Miners

In response to MSHA's request for comments on the appropriateness of amending the existing respiratory protection requirements of 30 C.F.R. § 57.5060(d) by adding new provisions for medical evaluation of miners required to wear respiratory protection, and transfer of miners who have been determined by a medical professional to be unable to wear a respirator (*id*. 53289), NMA suggests that it is premature to adopt such a requirement. NMA members are uncertain as to the number of miners who will be required to wear respiratory protection pursuant to the proposed staggered effective date schedule or the more practical approach to that schedule which we suggest below. Furthermore, as MSHA well knows, while it has the authority to require medical evaluation and transfer of miners "where appropriate," the Agency is not mandated to do so. *See* Mine Act § 101(a)(7), 30 U.S.C. § 811(a)(7).

NMA, therefore, recommends that MSHA defer adoption of the medical evaluation and transfer of miners provision contained in the preamble of the NPR until the Agency is able to establish an accurate database about the number of miners who may be affected. Again, NMA is prepared to cooperate with MSHA on

this issue. In that regard, we have carefully reviewed the suggested language, and should it be necessary to adopt such a provision in the future, that language is acceptable.

Compliance of the NPR with Section 101(a)(9) of the Mine Act

With respect to the Agency's request (70 Fed. Reg. 53288) for "comments on whether a five-year phase-in period for lowering the final concentration limit to $160_{TC}\mu g/m^3$ complies with Section 101(a)(9) of the Mine Act," NMA does not believe that there should be any doubt that it would comply, unless (as explained below) the rulemaking is not timely completed.

The statutory requirement is unambiguous. It provides that "[n]o mandatory health or safety standard promulgated under this subchapter shall reduce the protection afforded miners by an existing mandatory health or safety standard." 30 U.S.C. § 811(a)(9). Because the protection "afforded miners" by the existing standards is – until May 20, 2006 – the protection of not being exposed to more than $308_{EC}\mu g/m^3$, that standard is what cannot be reduced without violating § 109(a)(9). In other words, the Mine Act would prohibit increasing the limit to 310_{EC} (unless this were done as part of a broader change to the DPM Rules which had the "net effect" of not reducing the level of protection from what the 308_{EC} standard provides in accordance with *Int'l Union, UMWA v. FMSHRC*, 407 F.3d 1250, 1256-57 (D.C. Cir. 2005)).

Not only is this what the literal language of § 101(a)(9) provides when it talks about "the protection *afforded* miners" but, if Congress intended not to permit any reduction in what the standard provided for future protection of miners, then Congress would have said so. Thus, Congress could have said that no standard "shall reduce the protection *to be* afforded miners" in the future, but it chose only to prohibit reducing protections below *existing* levels of protection that miners are actually afforded. Although this precise question has never been addressed by the courts (presumably because, as explained above, the Mine Act is not ambiguous on this point), the D.C. Circuit's description of what § 101(a)(9) provides is consistent with this analysis:

> The statute expressly mandates that *no reductions in the level of safety below existing levels be permitted* . . . .

UMWA v. Dole, 870 F.2d 662, 666 (D.C. Cir. 1989) (emphasis added). *See also id.* at 674 (describing "the intent of Congress in § 101(a)(9) to *maintain*, if not improve *the safety of underground mining*") (emphasis added).

If, however, the Secretary were to fail to adopt the proposed phase-in or to stay the effective date of the $160_{TC}\ \mu g/m^3$standard so that it was allowed to take effect, then § 101(a)(9) would prohibit any subsequent reduction or phase-in. But, so long as the Secretary acts by May 19 to prevent the 160_{TC} standard from taking effect, § 101(a)9) poses no legal impediment.

This interpretation of § 101(a)(9) is particularly necessary because the Agency, at times, as in the case of the DPM Rules, believes that miner safety and health is best served by engaging in "technology-forcing" regulation. When engaging in technology-forcing regulation, MSHA necessarily is grounding the viability of its regulatory scheme on its informed (albeit poorly informed on occasion) prediction that, as a result of its promulgating the standard, it will spur the technological improvements necessary to enable mine operators to comply by the time the standard's future requirements take effect. Thus, where the Agency's prediction is flawed, or the predicate technological developments do not materialize in time for that objective to be met, as here with the 160_{TC} DPM limit, MSHA can rescind, revise or postpone the effective date planned for its new requirements, based on subsequent developments and experience, as here. Otherwise, if safety or health standards intended to take effect in the future could never be revised or postponed once the standards were promulgated regardless of subsequent experience, then the Agency would be prohibited from employing technology-forcing strategies in rulemaking. That construction of § 101(a)(9) would impede achievement of the Mine Act's safety and health purposes, and should be rejected for that reason, *inter alia*.

A More Practical Approach to a Staggered Effective Date Schedule

NMA has carefully considered the proposed staggered schedule and the questions about the proposal posed by MSHA in the NPR's preamble. *Id.* 53288. As mentioned at the outset, NMA believes that a more practical approach to the proposed staggered effective date schedule should be developed and implemented. We say this for three reasons. First, for all the reasons discussed above in connection with the infeasibility of the final DPM limit, we do not believe a 50 microgram reduction each year is feasible. Second, NMA members are not making (and are not likely to make) DPM Rules-related purchasing decisions based on a year-to-year artificial 50 microgram reduction during a staggered effective date schedule. Our members' purchasing decisions are designed to drive toward the goal of achieving compliance with the final limit. And third, the proposed year-to-year staggered effective date schedule will require most NMA members to apply for a special extension pursuant to 30 C.F.R. § 57.5060(c) every year. NMA anticipates that an enormous amount of time and effort on the part of both MSHA management and industry personnel will have to be devoted to special extensions lasting only for one year. Thus, we recommend a two-step staggered effective date schedule ending on January 20, 2011. Accepting this interim limit would be reduced to the elemental carbon equivalent of 250 micrograms TC on January 20, 2009 with a final elemental carbon equivalent of 160 micrograms TC on January 20, 2011. Such a schedule would more realistically take into account the purchasing decisions by NMA members to buy new equipment and engineering controls designed to ultimately achieve compliance with the final limit. In addition, this approach would conform to the more realistic, efficient, and transparent procedures we conceptually discuss below to fairly and effectively implement the special extension provisions of 30 C.F.R. § 57.5060(c).

NMA's Recommendations for a Realistic and Transparent Process for Special Extensions

Although NMA supports MSHA's promulgation of a special extension provision in the June 6, 2005 amendments to the DPM Rules, NMA has serious reservations about their practical application. Fundamentally, NMA is concerned that the current provisions of 30 C.F.R. § 57.5060(c) are neither transparent, reliable, nor efficient. More specifically, these provisions are so opaque and open-ended in their requirements that massive inefficiencies may result, with both MSHA management and industry personnel spending enormous amounts of time and resources, with no assurance that extensions will finally be processed in a timely fashion.

NMA recommends a more simple, straightforward approach incorporating the concepts set forth below.

- The term of a special extension would be for the length of the two phase-in steps ending in January 2011. That sort of phase-in would allow a greater and more productive focus on identifying and implementing feasible technologies underground, with less administrative process for all concerned, contrary to the case in dealing with the six step-down stages proposed in the NPR.

- As a condition of receiving an approved special extension, the operator would commit to work with MSHA and the representative of miners at the mine, if any, to identify and implement technology that may be feasible at the mine during the term of the special extension.

- This commitment would include the operator's agreement to make good faith efforts to come into compliance with the applicable DPM limit before the end of the extension period if that is feasible. Such good faith efforts would include consideration of engineering controls or compliance strategies that become available during the term of the special extension, and a commitment to work with MSHA and the representative of miners, if any, to develop appropriate timeframes (within the period of the special extension) to implement such engineering controls and compliance strategies when feasible, including the testing of promising engineering controls at the mine when they are reasonably available, and deployment of such controls if they are feasible.

- An operator will be allowed to stop using an administrative or engineering control during the period of the special extension if such control turns out not to be effective in its application.

Again, NMA believes that adoption of transparent, efficient, and reliable special extension procedures are critical to a successful outcome of this NPR. To accomplish that result, NMA urges MSHA to propose revisions to 30 C.F.R. § 57.5060(c) consistent with the concepts specified above.

Conclusion

NMA appreciates the opportunity to provide MSHA with these comments. As always, we stand ready to work with the Agency to seek workable solutions to the ongoing problems posed by the inability of most affected operators to meet the final DPM limit.

Sincerely yours,

Bruce Watzman