

Chapter 21

MSHA’s Proposed Rules to Lower the Exposure of Coal Miners to Respirable Dust and “End Black Lung Now”

Edward M. Green¹
Crowell & Moring LLP
Washington, D.C.

Synopsis

§ 21.01. Introduction	758
[1] – Four Key Fundamental Legal Flaws	760
[a] — 1977 Mine Act § 202(a) – Joint Authority of the Secretary of Labor and the Secretary of Health and Human Services	760
[b] — 1977 Mine Act § 202(a) — Accuracy of Samples	761
[c] — 1977 Mine Act § 202(f) — Definition of “Average Concentration”	762
[d] — 1977 Mine Act § 101(a)(6)(A) — Best Available Evidence	764
§ 21.02. Background	765
[1] — The Federal Coal Mine Health and Safety Act of 1969	765
[2] — Mandatory Coal Mine Respirable Dust Standards	766
[3] — Prevalence of Coal Workers’ Pneumoconiosis	767
§ 21.03. The Critical Review	769
[1] — Objectives, Overview, and Summary	769
[2] — Eight Key Conclusions	772
[a] — Prevalence of Coal Workers’ Pneumoconiosis	772
[b] — Imprecise and Biased Estimates of Pre-1970 Coal Mine Dust Exposures	772
[c] — Sentinel Health Events	773
[d] — Background Prevalence	773
[f] — Chronic Obstructive Pulmonary Disease	774
[g] — Non-malignant Respirable Disease	775
[h] — Inadequate Evidence Supporting Revision of the Current Standard	775

¹ Edward M. Green is a senior counsel in Crowell & Moring’s mine safety and health practice.

[3] — The Critical Review and 1977 Mine Act
 § 101 (a)(6)(A).....776

§ 21.04. **Respirable Dust Limits Around the World**..... 777

§ 21.05. **MSHA’s Confusing and Inconsistent Requirements Regarding the Use of Airstream Helmets and Other Suitable Respirators as Supplemental Controls to Protect Miners from Respirable Coal Mine Dust**..... 778

§ 21.06. **Feasibility of the Proposed Rules**.....781

§ 21.07. **The UMWA-BCOA Memorandum of Understanding (MOU)** 785
 [1] — Key Elements of the UMWA/BCOA MOU786

§ 21.08. **The August 2012 Government Accountability Office (GAO) Report**..... 788
 [1] — Three Thematic Flaws789
 [a] — The GAO Report Is Not an “Evaluation” or “Analysis”789
 [b] — The GAO Report Ignores Other Key Features of MSHA’s Proposal 790
 [c] — GAO Ignores Other Findings and Methodological Reports in the MSHA Administrative Record..... 790

§ 21.09. **A Commitment to Modernization of the MSHA Rules**.....791

§ 21.10. **Conclusion** 792

§ 21.01. Introduction.

The Mine Safety and Health Administration (MSHA) published in the Federal Register on October 19, 2010, its proposed rule for “Lowering Miners’ Exposure to Respirable Coal Mine Dust, Including Continuous Personal Dust Monitors.”² The proposed rule would regulate miners’ exposure to respirable coal mine dust by revising the Agency’s existing standards. The proposal is complex and detailed, but its major provisions would (1) lower the existing exposure limits of miners to respirable coal mine dust from 2.0 milligrams per cubic meter (mg/m³) to 1.0 mg/m³; (2) provide for the use of a single full-shift sample to determine compliance under the mine operator’s and MSHA’s inspector sampling programs (rather than the current requirements for the average of a series of samples); and (3) mandate the use of a new technology,

² 75 Fed. Reg. 64,412-64,506.

the Continuous Personal Dust Monitor (CPDM) for exposure monitoring. MSHA held seven public hearings on the proposed rules around the coal mining regions of the country, including a marathon 13-hour hearing at the Agency's headquarters in Arlington, Virginia, on February 15, 2011.³ The comment period on the proposal closed on June 20, 2011.⁴

Importantly, a broad consensus exists among the coal mining industry, organized labor, and the involved federal agencies (MSHA and the National Institute for Occupational Safety and Health (NIOSH)) that MSHA's current rules designed to prevent coal workers' pneumoconiosis, while effective in their day, are badly in need of reform.⁵ This belief is grounded in experience gained from the implementation of the Federal Mine Safety and Health Act of 1977, as amended,⁶ and other health and safety laws. The proposal is aimed at carrying out these reforms. However, as the MSHA rulemaking docket demonstrates, the coal mining industry is bitterly opposed to this proposal and believes that it is not the answer to the problems that exist under current rules and regulations.⁷ Furthermore, the proposal would present consequences, likely unintended, that could impose enormous burdens on the industry as it struggles with the economic and technological feasibility of the proposal — this, at a time when the use of coal to generate electricity is under increasingly severe pressure from an abundance of inexpensive natural gas and ever more stringent environmental restrictions on the emissions of coal

³ The transcript of this hearing can be found at <http://www.msha.gov/REGS/Comments/2010-25249/Transcripts/20110215ArlingtonVA.pdf>.

⁴ 76 Fed. Reg. 30,878 (Fri., May 27, 2011).

⁵ The original rules are contained in 30 C.F.R. Part 70, for underground coal miners, Part 71, for surface coal miners, and Part 90, regarding procedures for transfer of miners with evidence of pneumoconiosis. Part 70 was originally promulgated on April 3, 1970. 35 Fed. Reg. 5,544. Part 71 was originally promulgated on March 28, 1972. 37 Fed. Reg. 6,368. Part 90 was originally promulgated on October 27, 1971. 36 Fed. Reg. 20,601. The proposed rule covers all coal mines — both underground and surface. This chapter, however, focuses on the proposed rules for underground coal mines.

⁶ The Federal Mine Safety and Health Act of 1977, as amended, 30 U.S.C. §§ 801, *et seq.*, (the "1977 Mine Act").

⁷ See generally MSHA eDocket, RIN 1219-AB at <http://www.mshagov/REGS/Comments/2010-25249/CoalMineDust>.

burned in electric power plants. The industry, therefore, has urged MSHA to withdraw the proposal entirely and start afresh.

[1] — Four Key Fundamental Legal Flaws.

From a legal perspective, the industry believes that the proposal is fundamentally flawed because MSHA has failed to satisfy both its procedural obligations and substantive duties under the 1977 Mine Act, other laws, and executive branch policies. With particular regard to the 1977 Mine Act, the industry's view is that the proposed rule is invalid as a direct result of MSHA's failures to comply with its non-discretionary duties under at least three statutory provisions.⁸ If MSHA cannot carry out its most basic, and statutorily required, obligations, then the rule should not be finalized. If it is finalized, then it is virtually certain that the rule will be litigated, and (in the view of the industry) it will not withstand judicial scrutiny. The key statutory flaws are briefly described below.

[a] — 1977 Mine Act § 202(a) — Joint Authority of the Secretary of Labor and the Secretary of Health and Human Services.⁹

Section 202 (a) of the 1977 Mine Act requires both the Secretary of Labor *and* the Secretary of Health and Human Services to prescribe in the Federal Register the methods, locations, intervals, and manner for taking accurate samples of respirable dust in the mine atmosphere to which each miner in the active workings of underground coal mines is exposed. The proposed rule prescribes the methods, locations, intervals, and manner for taking samples of respirable dust, but it is fatally defective because the Secretary of Health and Human Service's involvement in these prescriptions is nowhere to be found. Any rule that MSHA publishes in the Federal Register dealing

⁸ 1977 Mine Act §§ 202(a), 202(f), and 101(a)(6)(A). 30 U.S.C. §§ 842(a), 842(f), and 811(a)(6)(A).

⁹ Mine Act § 202 actually uses the term "Secretary of Health, Education, and Welfare," unchanged from the same provision in the Federal Coal Mine Health and Safety Act of 1969 (Pub. Law 91-173; 83 Stat. 742) (hereinafter the "1969 Coal Mine Act"), the predecessor statute to the 1977 Mine Act.

with these issues *must be both proposed and promulgated jointly* by the Secretary of Labor (through her delegate MSHA, if she so chooses) *and* the Secretary of Health and Human Services (through her delegate NIOSH, if she so chooses). MSHA simply does not have the statutory authority, under 1977 Mine Act Section 202(a) or elsewhere, to *unilaterally* publish proposed or final rules dealing with the above-specified issues. Indeed, even if NIOSH were to approve of the provisions in any final rule, NIOSH's approval would not correct the fundamental problem of MSHA's failure to follow 1977 Mine Act Section 202(a)'s specific statutory requirement of *joint* publication in the Federal Register *throughout the rulemaking process*, from initial proposal to final promulgation.

[b] — 1977 Mine Act § 202(a) — Accuracy of Samples.

Not only is the proposal fatally flawed procedurally — due to MSHA's failure to include the Secretary of Health and Human Services in its development and publication — but MSHA also runs afoul of the substantive mandate of 1977 Mine Act Section 202(a) with regard to the accuracy of the samples proposed to be taken. Thus, as the testimony of the National Mining Association witnesses at the MSHA February 15, 2011 public hearing effectively demonstrated, the new continuous personal dust monitor (CPDM) needs additional development and improvement to provide accurate and consistent results.¹⁰ Under the proposed rule however, the CPDM would, after a short period of time, be the mandatory sampling device for respirable dust.¹¹ In further support of this crucial point, the MSHA docket also contains an expert report from Michael Cooper, M.P.H., C.I.H., and Sheila McCarthy, M.P.H., C.I.H. on “Laboratory Testing of Continuous Personal Dust Monitor (CPDM),” prepared for Murray Energy Corporation, Alliance Coal, LLC, Arch Coal, the Illinois Coal Association, and the

10 See e.g., Testimony of Heath Lovell, Alliance Coal, and Craig Yanak, Safety Y, on behalf of the National Mining Association at MSHA's public hearing on the proposed rule held on February 15, 2011 in Arlington, VA at 50-70. <http://www.msha.gov/REGS/Comments/2010-25249/Transcripts/2011025ArlingtonVA.pdf>.

11 See proposed § 70.201 at 75 Fed. Reg. 64,486.

Indiana Coal Council.¹² In light of the above noted testimony and expert report, it is the view of the industry that, while in due course it is possible that the CPDM may be sufficiently perfected to take accurate samples, that time has not yet arrived. Rather, for the time being, the CPDM should only be used as a non-compliance administrative control to allow mine operators to monitor the relative exposures of their miners to respirable dust. Pending the successful completion of rigorous field trials of the CPDM, pursuant to a protocol developed by all stakeholders, the CPDM should not be used in its present stage of development as a device to determine compliance with any respirable dust standard. The industry is committed to development of a protocol and participation in such field trials and believes that it will lead, in a reasonable period of time, to a conclusion that the CPDM is ready for “prime time” as a compliance tool.

**[c] — 1977 Mine Act § 202(f) — Definition
of “Average Concentration.”**

Section 202(f) of the 1977 Mine Act specifies that for the purpose of the Act’s title II, Interim Mandatory Health Standards, the term “average concentration” is defined as a determination which accurately represents the atmospheric conditions with regard to respirable dust to which each miner in the active workings of a mine is exposed (1) as measured, during the 18-month period following the date of enactment of this Act,¹³ over a number of continuous production shifts *to be determined by the Secretary and the Secretary of Health and Human Services*, and (2) *as measured thereafter, over a single shift only, unless the Secretary and the Secretary of Health and Human Services find*, in accordance with the provisions of Section 101 of the 1977 Mine Act, that such single shift measurement will not, after applying

¹² See comments at MSHA eDocket RIN 1219-AB64-COMM-92-4 and AB64-COMM-92-4.1. The designation M.P.H. refers to Master’s Degree in Public Health and C.I.H. refers to Certified Industrial Hygienist.

¹³ The date of enactment referred to is that of the 1969 Coal Mine Act, which is December 31, 1969.

valid statistical techniques to such measurement, accurately represent such atmospheric conditions during such shift.¹⁴

This is a complicated definition. Its essence, however, is that the term “average concentration” is defined as a determination accurately representing the atmospheric exposure to respirable dust for each miner in the mine’s active workings. Section 202 (f) of the 1977 Mine Act then goes on to provide that an “average concentration” may only be determined in two ways. First, during the eighteen months following the enactment of the 1969 Coal Mine Act, “average concentration” was to be measured over a number of continuous production shifts, as determined by the Secretary of Labor and the Secretary of Health and Human Services. Following the eighteen-month period, “average concentration” was required to be measured over a single shift, *unless* the Secretary of Labor and the Secretary of Health and Human Services found, in accordance with the rulemaking provisions of 1977 Mine Act Section 101, that such single shift measurement will not, “after applying valid statistical techniques, accurately represent such atmospheric conditions during such shift.” The preamble to the current proposed rule acknowledges that the two Secretaries found in 1972 (and so published their finding in the Federal Register) that single shift measurement of respirable dust would *not*, after applying valid statistical techniques, accurately represent such atmospheric conditions during such shift.¹⁵ That joint Secretarial finding remains in effect today. MSHA attempts in the current proposal to “rescind the 1972 joint notice of finding.”¹⁶ However, *MSHA lacks any authority to rescind the 1972 joint finding unilaterally*. Knowing the limitations of its authority, MSHA falls back on some regulatory legerdemain, claiming that a *July 2000* joint MSHA-NIOSH proposal to rescind the 1972 finding is still subject to public comment.¹⁷ The use of a 12-year-old proposed joint rescission of the 1972 finding cannot possibly be used as a fundamental basis

¹⁴ 1977 Mine Act § 101 (30 U.S.C. § 811) is the rulemaking provision of the statute.

¹⁵ See 75 Fed. Reg. 64,413 referencing a joint finding by the Secretaries of the Interior and Health, Education, and Welfare under section 202(f) of the 1969 Coal Mine Act, published on February 23, 1972, at 37 Fed. Reg. 3,833.

¹⁶ *Id.* at 64,449.

¹⁷ *Id.* at 64,415.

for the validity of the current proposed rule. So much has changed since July 2000, including the substantive components of this proposal. Simply put, the 1972 joint Secretarial finding cannot be rescinded without a *new proposed rescission published by both MSHA and NIOSH for comment, followed by a joint final rescission*. In the current rulemaking, no such role for NIOSH or the Secretary of Health and Human Services can be found, and the proposed rule is, thus, in the view of the industry, fatally flawed on that count, too.¹⁸

[d] — 1977 Mine Act § 101(a)(6)(A) — Best Available Evidence.

Finally, as comments of the industry in the MSHA docket powerfully show, especially the “Critical Review of the Scientific Basis for MSHA’s Proposal for Lowering the Coal Mine Dust Standard” (“Critical Review”), discussed below,¹⁹ MSHA has not successfully fulfilled its burden, under 1977 Mine Act Section 101(a)(6)(A), to demonstrate the need for revisions to the respirable dust standards based on the *best available evidence*. For that reason too, this proposal is fatally flawed. Among the reasons why the industry rejects the proposal, and central to the view that MSHA has not demonstrated that the proposal is based on the best available evidence, is that the industry vehemently disagrees with MSHA that the prevalence of coal workers’ pneumoconiosis is increasing in the nation’s coal miner population. To test the validity of what first hand, yet anecdotal, information seemed to support regarding no increase in prevalence, six leading coal producers²⁰ commissioned preparation of the Critical Review, written

¹⁸ On April 28, 2011, NIOSH actually filed “comments” on the proposed rule, sending a letter to the MSHA docket enclosing its current Intelligence Bulletin 64, “Coal Mine Dust Exposures and Associated Health Outcomes, A Review of Information Published Since 1995.” See, letter from Paul A. Schulte, PhD, Director of NIOSH’s Education and Information Division (MSHA eDocket at AB64-COMM-41). It would appear that NIOSH itself has forgotten its statutory role under 1977 Mine Act §§ 202(a) and (f).

¹⁹ See MSHA eDocket at AB64-COMM-73-7.

²⁰ Alliance Coal LLC, Alpha Natural Resources, Arch Coal, BHP Billiton New Mexico Coal, Murray Energy Corporation, and Peabody Energy. This chapter is based on comments in the MSHA Docket prepared by the author for these six coal producers. See MSHA eDocket at AB64-COMM-73.

by three internationally recognized experts in the field of coal workers' pneumoconiosis and other occupationally related lung diseases. These three experts (all of whom have long experience as senior NIOSH officials in the early formative years of that Agency's coal workers' pneumoconiosis program) are John F. Gamble, Ph.D., Robert B. Reger, Ph.D., and Robert E. Glenn, M.P.H., C.I.H. The curriculum vitae of these three experts can be found in the MSHA docket.²¹

The 169-page Critical Review is very detailed and comprehensive. This chapter contains excerpts from the Executive Summary, the Introduction, and the Overall Summary and Conclusions of the Critical Review.²²

In addition to this Critical Review, a very important new peer-reviewed study was published online by NIOSH scientists on May 19, 2011 (during the public comment period), entitled "Coal Workers' Pneumoconiosis in the United States: Regional Differences 40 Years After Implementation of the 1969 Coal Mine Health and Safety Act."²³ This new study is quite consistent with and supportive of the Critical Review. Mr. Glenn prepared a critical review of this new peer-reviewed study, which is part of the comments filed by the aforementioned six leading coal producers.²⁴

§ 21.02. Background.

[1] — The Federal Coal Mine Health and Safety Act of 1969.

Prior to 1969, detailed research regarding coal miners' health in the United States was meager and dispersed. In 1968, a coal mine explosion in Farmington, WV took the lives of 78 miners and was a major impetus for action by Federal and State governments. At the federal level, the Farmington explosion not only led to a massive revamping of the nation's coal mine *safety* laws, but a grassroots national "Black Lung Movement"²⁵ also resulted in

21 MSHA eDocket at AB-COMM-73-1, AB-COMM-73-2, and AB-COMM-73-3.

22 *Infra* at § 21.03.

23 Suarathana E., Laney AS, Storey E., *et al.*, *Occup. Environ. Med.*, published online, May 19, 2011. MSHA eDocket at AB64-COMM 73-5. The study has since been published in *Occup. Environ. Med.* 2011 Dec; 68(12):908-13.

24 See MSHA eDocket at AB64-COMM-73-5.

25 "Black lung" is a lay term for coal workers' pneumoconiosis, although "black lung" can include a number of other respiratory diseases.

a revolutionary federal program to *prevent occupational diseases* in US coal miners, especially coal workers' pneumoconiosis. This new national, bipartisan consensus to protect the safety and health of the nation's coal miners led to Congressional passage of the Federal Coal Mine Health and Safety Act of 1969, signed into law, by President Richard Nixon on December 31, 1969.²⁶ Coal workers' pneumoconiosis was defined in the House of Representatives report on the 1969 Coal Mine Act as a "chronic chest disease, caused by the accumulation of fine coal dust particles in the human lung. In its advance[d] forms, it leads to severe disability and premature death."²⁷ The House report further described the problem as follows: "[C]ountless thousands have suffered and died or presently suffer from the ravages of coal workers' pneumoconiosis."²⁸ Further, the House report added: "Approximately 100,000 active and retired miners are presently afflicted with coal workers' pneumoconiosis, and about half that number are disabled from the ailment."²⁹ The 1969 Coal Mine Act was further strengthened by enactment, in response to other mine disasters, of the Federal Mine Safety and Health Act of 1977 (the "1977 Mine Act").³⁰ Title II of the 1969 Coal Mine Act was carried over virtually intact into the 1977 Mine Act.³¹

[2] — Mandatory Coal Mine Respirable Dust Standards.

A centerpiece of the coal miner health provisions of the 1969 Coal Mine Act was the establishment of legislatively mandated coal mine respirable dust standards in the nation's coal mines. Effective in 1970, under Section 202 (b) of the 1969 Coal Mine Act, the average concentration of coal mine dust in underground coal mines was to be maintained at or below 3.0 mg/m³ through 1972, after which the coal mine dust standard was reduced to 2.0 mg/m³. The latter standard remains in effect today.

26 Pub. Law 91-173; 83 Stat. 742.

27 H.R. Rep. No. 91-563, at 15 (1969).

28 *Id.* at 1.

29 *Id.* at 17.

30 30 U.S.C. §§ 801, *et seq.*

31 30 U.S.C. §§ 841-846.

These mandatory dust standards did not simply spring into being. Rather they were based on what the US Congress called “an enormous amount of impressive medical evidence relative to the problem [compiled in Great Britain], which also is applicable to conditions in the United States.”³² Based on this extensive database, the British concluded that *a miner exposed to 2.0 mg/m³ over a working lifetime of 35 years would have zero risk of developing Category 2 simple coal workers’ pneumoconiosis*, as defined by the International Labor Office (ILO) Guidelines for the Classification of Radiographs of Pneumoconiosis.³³

[3] — Prevalence of Coal Workers’ Pneumoconiosis.

Since the passage of the 1969 Coal Mine Act, measured dust exposures in US coal mines have been reduced to a considerable degree, with a large majority of coal mines, according to MSHA sampling data, being in compliance with the 2.0 mg/m³ dust standard.³⁴

Likewise, the reported prevalence of coal workers’ pneumoconiosis in the nation’s coal mines has decreased from around 30 percent to about three percent. The source for determining the prevalence of coal workers’ pneumoconiosis in US coal miners has been the Coal Workers’ X-ray Surveillance Program (CWXSP). The CWXSP is administered by NIOSH and participation (with some exception) has been low. Participation rates (by half decades) were 81 percent, 77 percent, 38 percent, 20 percent, 22 percent, 29 percent, and 48 percent.³⁵ Thus, the participants in this program form a relatively selective group from which inferences to the entire mining population remain questionable, at best.

In addition to the CWXSP, NIOSH carries out epidemiological studies under the National Study of Coal Workers’ Pneumoconiosis (NSCWP) program established in 1970. Among other things, this program relates to

³² H.R. Rep. No.91-563 at 18 (1969).

³³ *Id.*

³⁴ 75 Fed. Reg. 64,419.

³⁵ Critical Review at 8. See *Occupational Respiratory Disease Surveillance: NIOSH/DRDS/CWSHSSP Celebrates the 35th Anniversary of the Federal Coal Mine Health and Safety Act*; CDC 24/7.

exposure-response estimates based on health data from US coal miners and environmental measurements taken in US coal mines. Thirty-one mines were originally selected for study based on criteria including an expected mine-life of 10 years, work force of 100 or more miners, geographical and geological spread, and accessibility. Rounds 1-3 were conducted at nearly the same mines but with steadily declining participation rates of 90 percent, 75 percent and 52 percent respectively. In addition to periodic examinations, Round 4 included follow-up of participants from the previous three rounds and had 70 percent participation.³⁶

Thus, according to MSHA's sampling data and NIOSH's surveillance and epidemiological data, for the first time in the nation's history enormous strides were being taken under the mandate of federal law toward the reduction, if not downright elimination, of a debilitating and deadly occupational disease. However, a patch of rough sailing lay ahead which called this progress into question.

To begin, on April 4, 1991, the "abnormal white center" controversy rocked the industry when then-Labor Secretary Lynn Martin held a press conference in which she accused coal operators of being an "industry addicted to cheating" by falsifying samples of respirable coal mine dust.³⁷ Although industry was ultimately vindicated in court,³⁸ the operators' sampling program lost credibility throughout the coal mining community. This loss of credibility led to proposals in both the Administrations of Presidents Bill Clinton and George W. Bush for major revamping of the rules.³⁹ For a variety of reasons, both the Clinton and Bush Administration's proposals were opposed by not only the coal mining industry, but also by the United Mineworkers' of America. At the end of the day, both proposals failed to be promulgated.

³⁶ Critical Review at 8.

³⁷ See Robert Weissman, *Labor The Great Coal Dust Scam*, at http://www.multinationalmonitor.org/hyper/issues/1991/07/mm0791_09.html.

³⁸ Sec'y of Labor v. Keystone Coal Mining Corp., 151 F.3d 1096 (D.C. Cir. 1998), vacating over 3,500 civil citations alleging tampering with coal dust compliance sampling.

³⁹ 65 Fed. Reg. 42,068 (Jul. 7, 2000) and 68 Fed. Reg. 10,940 (Mar. 6, 2003).

Furthermore, beginning in the mid-1990s, an apparent increase was reported in what was thought to be severe and rapidly progressive coal workers' pneumoconiosis and progressive massive fibrosis, despite stability in coal mine dust levels.⁴⁰ These "sentinel health" events led to further investigation and, in part, stimulated the current proposal to lower the current coal mine dust standard from 2.0 mg/m³ to 1.0 mg/m³.

With the advent of the Obama Administration, the leaders of MSHA, who were deeply committed to reform of the existing respirable dust regulatory regime, initiated the current rulemaking as part of a signature campaign to "End Black Lung ACT NOW!"⁴¹

After the two earlier failed rulemakings of the Clinton and Bush Administrations, many hoped that the third time would be the charm — but the current proposal has proved to be a misguided and disappointing failure, as powerfully demonstrated by the aforementioned Critical Review and the other comments of both industry and labor in the MSHA eDocket.⁴²

§ 21.03. The Critical Review.

[1] — Objectives, Overview, and Summary.

Objectives of the aforementioned "Critical Review of the Scientific Basis for MSHA's Proposal for Lowering the Coal Mine Dust Standard,"⁴³ (the "Critical Review") were to evaluate the epidemiological evidence regarding risk factors associated with the "sentinel health" events noted above and the exposure-response relationships of coal mine dust and coal workers' pneumoconiosis.⁴⁴ This evaluation included consideration of other risk factors (*e.g.*, quartz, coal rank), plus bias and confounding studies (*e.g.*, low participation of coal miners in the NIOSH Coal Workers' X-ray Surveillance

⁴⁰ Antao, V.S., E. Petsonk, *et al.* (2005), "Rapidly progressive coal workers' pneumoconiosis in the United States: geographic clustering and other factors." *Occup. Environ. Med.* 62: 62: 670-674.

⁴¹ See <http://www.msha.gov/S&HINFO/BlackLung/homepage2009.asp/>.

⁴² See especially, RIN 1219-AB64-COMM-73 through 73-7; COMM 74 through 74-17, and COMM-92 through 92-7.

⁴³ See text, *supra*, § 21.01[1][d].

⁴⁴ See text, *supra*, § 21.02[3].

Program (CWSXP) and the National Study of Coal Workers' Pneumoconiosis (NSCWP)), and biased exposure estimates of coal mine dust. The results from this evaluation were then used to assess whether the current coal mine dust standard of 2.0 mg/m³ protects miners from developing disabling coal workers' pneumoconiosis, and whether the lowering of the standard is scientifically based.

Compelling evidence discussed in the Critical Review indicates that the rapidly progressive cases of pneumoconiosis recently reported are, in reality, silicosis which is based on very high quartz exposures and short latency, both factors clearly being consistent with silicosis and unlike coal workers' pneumoconiosis. The higher proportion of r-type opacities in x-rays taken of miners in the Southern Appalachian Region than those in the rest of the US is likewise consistent with a silicosis interpretation.⁴⁵ Other factors also related to increased quartz exposures include working in small mines, increased hours worked per day, and smaller coal seams.⁴⁶

Exposure-response studies are necessary to determine a safe level of exposure. US studies of exposure-response are based on the cohort from the aforementioned NSCWP. As the Critical Review pointed out, however, the NSCWP is subject to two fundamental primary biases. One is a potential selection bias because of low participation rates in all rounds except the first round.⁴⁷ The direction of this potential bias is speculative as it is not known whether unhealthy miners selectively participate or not. If unhealthy miners do not participate, then the NSCWP artificially lowers coal workers' pneumoconiosis rates.

The other potential bias is estimation of pre-1970 exposures that were very high (up to a mean of 8 mg/m³ in high exposure jobs), as reported

⁴⁵ The Southern Appalachian Region includes the coal-producing areas of Southern West Virginia, Southwestern Virginia, and Eastern Kentucky.

⁴⁶ See *infra* at § 21.03[2][c].

⁴⁷ NIOSH refers to periods of medical examinations of coal miners, usually in five-year periods, in its nationwide epidemiology studies and nationwide surveillance program as "rounds." While they are conducted over a period of years, they are used to develop cross-sectional prevalence data.

in a study by the U.S. Bureau of Mines (“BOM”) that began in 1968.⁴⁸ NIOSH used these BOM sample results and post-1970 operator sample results for indirect back extrapolations to estimate pre-1970 exposures. The procedure was to calculate mean exposures for specific jobs in both pre- and post-1970 databases. An adjustment factor for estimating pre-1970 exposures was derived from the ratio of mean exposure (expressed in mg/m³) of Bureau of Mines job categories divided by the mean exposure for the same job categories from post-1970 compliance data. The mean of all job category adjustment factors was thus calculated (2.3) and used to increase (by multiplication) each BOM mean job exposure. These estimates were then back-extrapolated to the pre-1970 work history of the miners. These extrapolations are biased, however, because they are based on an average ratio, which appears to over-estimate risks in high-exposure jobs and under-estimate risks in low-exposure jobs.⁴⁹

One last point of note is that NIOSH has pointed out the predicted background prevalence of five percent category 1 or greater among non-dust exposed workers. Therefore, Drs. Gamble and Reger and Mr. Glenn (the authors of the Critical Review) used NIOSH’s own predicted background prevalence rate in interpreting results from exposure-response studies.

The Critical Review also demonstrated that exposure-response analyses of coal mine dust and category 2 coal workers’ pneumoconiosis show strong associations for high rank coal (coal rank 5 or anthracite and rank 4) with increased prevalence below the current standard. There were no apparent increases in category 2 coal workers’ pneumoconiosis for low rank coals 1-3 at exposures below the current 2.0 mg/m³ standard. When the upward bias in exposure estimation is accounted for, it is probable there are no significant increases in prevalence below the current standard for any rank of coal.

In the past decade, as previously noted,⁵⁰ there have been reports of a slight increase in the prevalence of coal workers’ pneumoconiosis. Moreover, the reported increase was coupled with reports of rapidly progressive coal

⁴⁸ See Critical Review at 4.

⁴⁹ *Id.*

⁵⁰ See text, *supra*, § 21.02[3].

workers' pneumoconiosis in younger miners often exposed for a relatively short time period. New exposure-response estimates for predicting the occurrence of coal workers' pneumoconiosis at various cumulative exposure levels provided estimates greater than previously shown. These three points, (1) increased prevalence, (2) rapid progression, and (3) new exposure-response estimates, were primarily the stimuli for the MSHA proposal to lower the current coal mine dust standard to 1.0 mg/m³.

To examine these points, the Critical Review summarized methods, results, and critiques of both morbidity and mortality exposure-response studies regarding coal workers' pneumoconiosis and coal mine dust. Issues relating to "sentinel events" and likely quartz exposure were also evaluated, as was consideration of rank of coal. The main objective of the Critical Review was to assess the weight of the evidence regarding the proposed change of the coal mine dust standard to 1.0 mg/m³. Overall, this review led to the following eight key conclusions regarding coal workers' pneumoconiosis and coal mine dust.

[2] — Eight Key Conclusions.⁵¹

[a] — Prevalence of Coal Workers' Pneumoconiosis.

Prevalence (percent) data from the NCWXSP are potentially biased by low participation. The direction and magnitude of the bias is not known. These data may be useful for assessing trends, but the *actual prevalence of coal workers' pneumoconiosis in the U.S. is unknown and data from this program remain questionable for use in research studies.*

[b] — Imprecise and Biased Estimates of Pre-1970 Coal Mine Dust Exposures.

Estimates of pre-1970 coal mine dust exposures are imprecise and biased. The use of an average adjustment factor applied to post-1970 compliance data to estimate pre-1970 data produced biased under-estimates of exposure and over-estimates of risk in high exposure jobs and the reverse in low exposure

⁵¹ Critical Review at 158-160.

jobs. The effect was to bias exposure-response trends upward so the curves are inaccurate and produce spuriously low threshold levels of effect.

When adjustments are made for this bias, the associations of excess prevalence at exposures below the standard appear to disappear.

The authors of the Critical Review believe that NIOSH should conduct a properly designed analysis of pre-1970 exposures using (to the extent possible) available pre-1970 samples directly. Such an analysis will aid in overcoming the problem that the indirect back extrapolations make the exposure estimates and the exposure-response trends too inaccurate and unreliable for use in setting a new standard based on these results.

[c] — Sentinel Health Events.

Sentinel health events such as cases of rapidly progressing disease are unaffected by limitations in participation rates or unreliable exposure estimates. They are events indicating a problem requiring investigation to determine causes and how such events can be prevented.

Examination of these reports indicates the rapidly progressive cases of pneumoconiosis are more likely to be silicosis being misdiagnosed as coal workers' pneumoconiosis. This conclusion is based largely on a number of factors in the Southern Appalachian Region which include: extremely high quartz exposures (two to three times the quartz standard on average); increased mining of low coal seams with high percentages of quartz admixed in the coal; a substantial number of small mines in the region which have demonstrated historically high dust exposures; and longer shifts resulting in higher cumulative exposures of coal mine dust and quartz.

Drs. Gamble, Reger, and Mr. Glenn believe that NIOSH should conduct a properly designed case-control study to produce more definitive conclusions as to the etiologic agent and exposure-response relationships.

[d] — Background Prevalence.

The prevalence of X-ray readings of category 1 or higher coal workers' pneumoconiosis among workers not exposed to dust is considered background prevalence. For there to be excess coal workers' pneumoconiosis among coal miners, the prevalence of the disease should be greater than the background

prevalence. A background prevalence rate of five percent for category 1 and greater has been suggested by authors of NIOSH studies evaluated in the Critical Review, and this is the background rate Drs. Gamble and Reger and Mr. Glenn adopted to assess excess risk. NIOSH and MSHA need to be cognizant of this fact in evaluating studies as it relates to whether percentage prevalence observed is a true finding.

[e] — Coal Rank.

The NIOSH exposure-response studies show a strong association between coal mine dust and coal workers' pneumoconiosis 2+ with higher exposures producing excess pneumoconiosis. Excess coal workers' pneumoconiosis 2+ was above background prevalence for coal miners exposed to high rank coal at concentrations below the current standard of 2 mg/m³ or 80 mg/m³-years. Exposure to low rank coal below the current standard was not associated with an increased risk of coal workers' pneumoconiosis. At exposures above the current standards there was some increased risk of coal workers' pneumoconiosis 2+ above background prevalence, but not for all coal cohorts.

Importantly, this conclusion is based on a five percent background prevalence and 80 mg/m³-year as the standard and does not take into account exposure misclassification bias. Adjustments to the biased exposure-response models are suggestive there may be no increased risk of coal workers' pneumoconiosis at exposures below the current standard.

[f] — Chronic Obstructive Pulmonary Disease.

The cross-sectional and longitudinal studies of chronic obstructive pulmonary disease (COPD) related to coal mine dust exposure show mostly weak and clinically non-significant mean reductions in forced expiratory volume in one second ("FEV₁").⁵² In the main, these studies suggest that coal mine dust exposure at the current standard is unlikely to be an important cause of COPD or clinically reduced FEV₁ in current coal miners. Increased

⁵² Forced expiratory volume in one second is the amount of air which can be forcibly exhaled from the lungs in the first second of a forced exhalation, as measured through spirometry testing.

incidence of COPD potentially attributable to coal mine dust is relatively small and only slightly above measurement error or bias. Background prevalence of COPD in the U.S. is needed for more reliable interpretation of US studies. The Critical Study concludes that coal mine dust does not appear to cause appreciable reductions in FEV₁ in coal miners at current exposures and less than 45 years' tenure underground.

[g] — Non-malignant Respirable Disease.

While coal miners have an overall less than expected mortality ratio for death from all causes, coal mine dust exposure is strongly associated with significant excess non-malignant respirable disease (“NMRD”) mortality among anthracite coal miners. However, this association of increased NMRD mortality is not found among miners of lower rank coals (bituminous and sub-bituminous).

This conclusion is based on only one mortality study and the authors of the Critical Review urge that NIOSH should test this observation by analyzing exposure-response trends by coal rank. There are no associations with other diseases including chronic bronchitis or emphysema, lung cancer and stomach cancer mortality.

[h] — Inadequate Evidence Supporting Revision of the Current Standard.

Based on the data examined in the Critical Review, there is inadequate evidence supporting a reduction in the current standard of 2.0 mg./m³ because of increased risk of coal workers' pneumoconiosis. Furthermore, chronic obstructive pulmonary disease morbidity or mortality from coal mine dust exposure is not scientifically compelling. The NIOSH exposure data are inaccurate and biased so the risks are over-estimated. Work is required to reduce this bias.

The Critical Review's authors believe that NIOSH should conduct, or fund, further research to provide improved data for more accurately determining safe exposure levels. This research could include, but not be limited to:

- Reanalyzing estimates of pre-1970 exposures of studies where the biased estimates were used for relationships with coal workers' pneumoconiosis;
- Conducting case-control studies of post-1970 coal workers' pneumoconiosis cases to avoid potential biases from low participation and exposure misclassification; and,
- Conducting case-control studies of rapidly progressive pneumoconiosis to determine etiology (or test the quartz hypothesis) and exposure-response, so needed prevention controls can be instituted where necessary.

[3] — The Critical Review and 1977 Mine Act

§ 101(a)(6)(A).

The Critical Review is an enormously important research work. Indeed, Drs. Gamble and Reger and Mr. Glenn have since published three peer-reviewed articles based on the Critical Review in a leading scientific journal.⁵³ Under any circumstances, the Critical Review constitutes a substantive, weighty addition to “the latest available scientific data in the field,” per 1977 Mine Act Section 101(a)(6)(A), and thus deserves to be treated as such. Such deference is particularly owed given the qualifications of the authors, including their roles as senior NIOSH officers at the inception of the federal program to reduce concentrations of respirable dust in coal mines and for their longstanding commitment to efforts to eradicate coal workers' pneumoconiosis.

⁵³ Gamble, *et al.*, “Rapidly Progressing Coal Workers Pneumoconiosis as a Confounding Risk Factor in Assessing Coal Mine Dust Safe Exposure Levels,” *J. Clin Toxicol* 2011, S:1, <http://dx.doi.org/10.4172/2161-0494.S1-003>; Gamble, *et al.*, “A Critical Review of Coal Workers Pneumoconiosis (CWP) and Coal Rank for Evaluation of Safe Exposure Levels in Coal Mining,” *J. Clin Toxicol* 2012; S:1, <http://dx.doi.org/10.4172/2161-0495.S1-009>; and Gamble *et al.*, *Critical Review of Scientific Basis for Lowering Coal Mine Dust Exposure Level. iii. Exposure-Response Studies of Radiographic CWP*, *J. Clin Toxicol* 2012, S:1, <http://dx.doi.org/10.4172/2161-0495.S1-008>.

§ 21.04. Respirable Dust Limits Around the World.

MSHA is required to take into account the fact that its proposed respirable dust standard of 1.0 mg/m³ is substantially lower than all other comparable limits for respirable dust on a world-wide basis, according to no less an authority than the 1995 NIOSH Criteria Document for Occupational Exposure to Respirable Coal Mine Dust (the “Criteria Document”).⁵⁴ While it is true NIOSH recommended a 1.0 mg/m³ in the Criteria Document, in so doing NIOSH recognized the existing OSHA limit for respirable dust was 2.0 mg/m³, and that the same standard was identified as the Threshold Limit Value (TLV) by the American Conference of Governmental Industrial Hygienists (ACGIH).⁵⁵ In addition, the Criteria Document recognized that virtually every other country in the world had substantially higher limits for respirable coal mine dust than the limits in the United States, including Australia (3.0 mg/m³), Germany (4.0 mg/m³), and the United Kingdom (3.8 mg/m³). Furthermore, the Criteria Document recognized that the United Nations’ World Health Organization (WHO) had recommended a tentative health-based exposure limit for respirable coal mine dust ranging from 0.5 to 4.0 mg/m³, and that this limit would be based upon variables including the “risk factors (*i.e.*, coal rank or carbon content, proportion of respirable quartz and other minerals, and particle size distribution of the coal dust) . . . that are determined at each mine”⁵⁶

Section 101(a)(6)(A) of the 1977 Mine Act requires MSHA to consider experience gained under health and safety laws other than the 1977 Mine Act, and this includes the laws of countries other than the US under which the aforementioned limits were established. Therefore, MSHA must, under 1977 Mine Act Section 101(a)(6)(A), address this issue head-on by explaining why, in the face of these other legally mandated standards, its proposed new 1.0 mg/m³ is justified.

⁵⁴ NIOSH (1995), Criteria for a Recommended Standard — Occupational Exposure to Coal Mine Dust, Public Health Service, CDC, DHHS (NIOSH) Publication No. 95-106.

⁵⁵ Criteria Document at 12.

⁵⁶ *Id.*

§ 21.05. MSHA’s Confusing and Inconsistent Requirements Regarding the Use of Airstream Helmets and Other Suitable Respirators as Supplemental Controls to Protect Miners from Respirable Coal Mine Dust.

Any revision to MSHA’s rules for the control of respirable coal mine dust to protect coal miners must clearly allow operators to apply the well-established industrial hygiene precept, known as the hierarchy of controls, to

- require the application of all feasible engineering or environmental controls to achieve the applicable coal mine respirable dust standard;
- if such feasible engineering or environmental controls cannot achieve the standard, then apply all feasible administrative controls, including rotation of miners from one working position to another; and, finally,
- if all feasible engineering, environmental, and administrative controls cannot achieve the standard, then suitable respirators, such as airstream helmets or other NIOSH-approved powered-air purifying respirators (PAPRs), or other suitably protective NIOSH-approved respirators may be used as a supplement to achieve the standard.⁵⁷

MSHA’s current respirable coal mine dust regulations do not recognize the hierarchy of controls. They defer entirely to the interim mandatory health standard provided for in 1977 Mine Act Section 202(h) that states, in applicable part, “Use of respirators *shall not be substituted* for environmental control measures in the active workings [of underground coal mines].” (Emphasis added.) That provision of the 1977 Mine Act is codified in the current rules at 30 C.F.R. Section 70.300. Such a provision is also included in MSHA’s proposed rule at Section 72.700(a).⁵⁸

⁵⁷ All of these steps in the hierarchy of controls need not be applied all the time. Rather they are to be applied sequentially until compliance with the applicable standard is achieved.

⁵⁸ 75 Fed. Reg. 64,498.

The new rulemaking, however, would also allow, in Section 70.208(h), during the initial 24-month effective period of the proposed rules, the “use of supplementary controls” for a period not to exceed six months, if the operator determines that “all feasible engineering or environmental controls are being used” and the operator’s request is approved by the MSHA District Manager “through the approval process associated with the mine ventilation plan.”⁵⁹ But this provision does not specify that such supplementary controls can include respirators, nor does the preamble explanation of this provision shed any light on the question of whether or not respirators are considered to be supplementary controls.⁶⁰ Furthermore, in proposed Sections 70.207(i) and 70.209 (e), during the time fixed for abatement of a citation of the applicable respirable dust standard, operators shall “[m]ake approved respiratory equipment *available* to affected miners in accordance with [proposed] Section 72.200.”⁶¹ (Emphasis added.)

Considering all these proposed provisions as a whole, it appears, therefore, that the proposed rule does not allow for suitable respirators to be used as a “supplementary control” under proposed Section 70.208(h). Further, after a citation is issued for violation of the applicable respirable dust standard, it is only then that it appears *availability (but not necessarily use) of respirators can serve as part of the means of abating the citation.*

This is a terribly disappointing and excessively restrictive feature of the proposal. MSHA’s failure to explain why the use of NIOSH-approved respirators like airstream helmets and other NIOSH-approved powered-air purifying respirators, or other suitably protective NIOSH-approved respirators cannot even be considered to be a temporary supplementary control is misguided and wrong.

Simply put, this failure is wrong because 1977 Mine Act Section 202(h) is an *interim* mandatory health standard under the law which can be revised under the rulemaking provisions of 1977 Mine Act Section 101.⁶² Allowing

⁵⁹ *Id.* at 64,490.

⁶⁰ *Id.* at 64,435.

⁶¹ *Id.* at 64,489-64,490.

⁶² *See* 1977 Mine Act § 201(a).

operators to apply the hierarchy of controls, including the use of airstream helmets, other NIOSH-approved PAPRs, or other suitably protective NIOSH-approved respirators does not operate to allow these respirators to be used as “*substitutes*” for engineering or environmental controls, but only as *supplementary* controls. *Proper application of the hierarchy of controls would demand the sequential use of all feasible controls—engineering, environmental, administrative, and suitable NIOSH-approved respirators—, as and when necessary to achieve compliance with the applicable respirable coal mine dust standard.*

Allowing mine operators to properly apply the hierarchy of controls is the best way to fully protect coal miners against respirable coal mine dust, especially in mines operating on a reduced respirable dust standard due to the quartz content of the coal mine dust. MSHA should adopt this approach in any new rule the Agency ultimately promulgates with respect to improved protection of coal miners from respirable dust.

Sweeping the problem under the rug, as this proposal does, is the worst way to deal with a severe problem, especially in mines using longwall technology and/or dealing with a reduced respirable dust standard due to the presence of quartz. The best way for MSHA to come to grips with this issue is to simply permit operators to apply the well-accepted hierarchy of controls. The time has come for MSHA to emerge from under the shadow of the outmoded interim health standard set out in Mine Act Section 202(h) and to join the rest of the international industrial hygiene community.⁶³

⁶³ What is especially troubling about MSHA’s treatment concerning this critically important issue is that MSHA accepts an enclosed cab on a bulldozer or a shuttle car as an engineering control. In this very proposed rulemaking, MSHA states that engineering controls include “environmentally controlled cabs.” 75 Fed. Reg. 64,477. Why should not an airstream helmet or other PAPR be treated similarly? In addition, in MSHA’s limit on exposure of underground metal/nonmetal miners to diesel particulate matter (DPM), at 30 C.F.R. §57.5060, subsection (d) of that mandatory standard, provides that when feasible engineering and administrative controls do not reduce a miner’s exposure to the DPM limit, or controls do not produce significant reductions in DPM exposure, then those controls must be used to reduce the miner’s exposure to as low a level as feasible and, then, must be supplemented with suitable respiratory equipment. MSHA should recognize that since the Agency has adopted the application of the hierarchy of controls for the protection of underground metal/nonmetal miners from DPM, then it would not only be consistent, but

MSHA's failure to do so will result in one more reason (and a major one) demonstrating that compliance with the proposed rules is not feasible—and it is to that topic that the Companies now turn.

§ 21.06. Feasibility of the Proposed Rules.

When MSHA promulgates standards such as those contained in this proposed rulemaking, 1977 Mine Act Section 101(a)(6)(A) requires those standards to be feasible. The importance of feasibility was emphasized in *National Mining Association v. Secretary of Labor*,⁶⁴ which held that “MSHA shall consider feasibility. The language is not discretionary.”⁶⁵ In spite of MSHA's duty to adhere to the mandate of Section 101 (a) (6) (A), the Agency has treated the issue in a very cursory fashion.⁶⁶ The entire discussion of the feasibility issue takes up less than a single page in a preamble that is more than seventy pages long within the Federal Register. Such terse, cavalier treatment of both technological *and* economic feasibility utterly fails as a reasonable discharge of MSHA's duty to consider feasibility in its efforts to advance regulatory policy.

As far as economic feasibility is concerned, the expert report of Dr. Robin Cantor, “Comments on the MSHA Preliminary Regulatory Economic Analysis for the Coal Mine Dust Rule,”⁶⁷ shows the error of MSHA's conclusion “that compliance with the provisions of the proposed rule would be economically feasible for the industry.”⁶⁸

As for the points identified by MSHA with regard to technological feasibility, responsible coal mine operators have been using all available feasible engineering controls for years to achieve compliance with the current

would also represent sound occupational health policy to allow the use of the hierarchy of controls to protect coal miners from respirable coal mine dust. The “as low as feasible” concept can also be found in the United Kingdom's “Coal Mines (Control of Inhalable Dust) Regulations, 2007,” in which the use of suitable respirators is permitted in addition to engineering or administrative controls. *See* Regulation 5.

⁶⁴ *National Mining Ass'n v. Secretary of Labor*, 153 F.3d 1264 (11th Cir. 1998).

⁶⁵ *Id.* at 1268.

⁶⁶ 75 Fed. Reg. 64,476-64,477.

⁶⁷ MSHA eDocket RIN 1219-AB64-COMM-92-1.

⁶⁸ *Id.* 64,477.

2.0 mg/m³ standard. No new, miraculous engineering technology exists or can be found in the research cupboard which will allow mine operators to generally comply with the proposed new 1.0 mg/m³ standard. Indeed, as MSHA itself has recognized, in order to reduce respirable dust levels, there are only so many engineering controls available to either reduce dust generation, or suppress, dilute, capture, or divert it.⁶⁹

In its preamble discussion of technological feasibility, the agency proffers three reasons why it believes the proposed rules are technologically feasible.

- (1) The Agency asserts that both MSHA and mine operator data show that “the majority of miners’ exposures are [already] at or below the [respirable coal mine dust] limits in the proposed rule.”⁷⁰

The industry does not agree with MSHA’s claim. Indeed, compelling evidence to the contrary was presented by Alliance Coal engineering representatives, as part of the National Mining Association’s (NMA) panel presentation at the February 15, 2011 MSHA public hearing. The vast majority of mines cannot meet the proposed 1.0 mg/m³ limit on a single shift sampling basis at any single mine over any substantial period of time. In other words, mines may be able to meet the proposed limit some of the time, but will not be able to meet the new standard all of the time, which, of course is what the MSHA proposal demands.⁷¹

- (2) MSHA also has said it has “. . . included a 24-month phase-in period to allow mine operators time [to identify, develop, and implement feasible engineering controls] to come into compliance.”⁷²

A phase-in period, with any proposed rulemaking, makes sense. However, as noted above, the Agency itself has recognized there are only so

⁶⁹ 65 Fed. Reg. 42,134 (Jul. 7, 2000).

⁷⁰ 75 Fed. Reg. 64,477.

⁷¹ See testimony of Alliance’s Mark Watson and Heath Lovell at the February 15, 2011 MSHA public hearing at 41-60. <http://www.msha.gov/REGS/Comments/2010-25249/Transcripts/20110215ArlingtonVA.pdf>.

⁷² *Id.*

many engineering controls available to either reduce dust generation (*e.g.*, machine parameters), suppress dust (*e.g.*, water sprays, wetting agents, foams, water infusion, etc.), dilute dust (*e.g.*, ventilation), capture dust (*e.g.*, dust collectors), or divert respirable dust (*e.g.*, shearer clearer, passive barriers, etc.).⁷³ Operators apply all of these engineering controls, as appropriate, at their mines. However, as long as MSHA refuses to permit the full use of the hierarchy of controls (as the industry urges MSHA to do), then the Agency's refusal to allow the use of suitable respiratory protection as a supplement to the toolbox of engineering controls will remain a huge impediment to lowering the exposures of miners to respirable coal mine dust.⁷⁴

- (3) The 24-month phase in period would also allow enough time to produce and deploy a sufficient number of continuous personal dust monitors (CPDM)s for use in measuring for compliance with the new limits on respirable coal mine dust.

As discussed earlier,⁷⁵ in connection with MSHA's failure to meet the substantive requirements of 1977 Mine Act Section 202 (a) with regard to accurate samples, simply put, the continuous personal dust monitor (while showing promise for the future) is not now ready for use as a day-to-day, shift-to-shift compliance tool. Even the manufacturer of the CPDM recognizes that many details of how the device will be used remain to be worked out.⁷⁶

In short, and in no uncertain terms, the proposed rule is structured such that, if enforced as written, it will throw the industry into such disarray that this consequence, per se, demonstrates the infeasibility of the proposal.

By way of example, at the MSHA public hearing of February 15, Alliance engineers Mark Watson and Heath Lovell (testifying for NMA) stated their calculations showed that, as opposed to less than 200 citations per year for violations of the current 2.0 mg/m³ respirable dust limit, *imposition of a 1.0 mg/m³ limit (based on a single, full-shift measurement) could result in more*

⁷³ 65 Fed. Reg. 42,134 (Jul. 7, 2000)

⁷⁴ *Supra* § 21.05.

⁷⁵ *Supra* § 21.01[b].

⁷⁶ See Kris Maher, "New Monitor Kicks Up a Dust Storm," *Wall St. J.*, May 3, 2011 at B6.

than 220,000 citations annually.⁷⁷ Because all of these are alleged violations of mandatory health standards, under Mine Act jurisprudence, each of them would be treated in all likelihood as “significant and substantial” unless the operator could show there was absolutely no health effect, a very high bar to cross.⁷⁸

Furthermore, in connection with each citation for an alleged violation of the 1.0 mg/m³ limit, it must be assumed, if the proposed rule were to be enforced as written, that revisions to the approved CPDM performance plan, proposed in new Section 70.206, would be required.⁷⁹ However, MSHA lacks the number of skilled personnel required to deal with the possibility of more than 220,000 revisions to the CPDM performance plan annually. If an operator does not have an approved plan, then it is highly likely that the mine in question will be idled pending such approval.

Also of critical importance is the centrality of “significant and substantial” violations to the Agency’s proposed rule on “Patterns of Violations.”⁸⁰ If over 220,000 “significant and substantial” violations annually result from this proposed rule, it will become extraordinarily difficult, if not impossible, to avoid having mines fall into the pattern of violations enforcement mechanism. Furthermore, once on the pattern of violations, mines may never emerge from the “pattern” sanctions.

And if MSHA entertains any doubts as to how onerous it will be for mine operators to attempt to comply with this proposal should it be promulgated as written, MSHA should carefully consider the statement of Dennis O’Dell, Administrator of Occupational Health and Safety for the United Mine Workers of America, presented at MSHA’s public hearing on the proposed

⁷⁷ Testimony of Alliance’s Mark Watson at MSHA’s public hearing on the proposed rule held on February 15, 2011 in Arlington, VA at 48. <http://www.msha.gov/REGS/Comments/2010-25249/Transcripts/201102025ArlingtonVA/pdf>.

⁷⁸ Cement Div., Nat’l Gypsum Co. v. Sec’y of Labor, 3 F.M.S.H.R.C. 822 (April 1981).

⁷⁹ 75. Fed. Reg. 64,487-64,488. *See especially*, proposed §§70.206 (a) and (d) stating that the purpose of the plan is “to ensure that no miner working on an MMU shall be exposed to concentrations of respirable dust in excess of the applicable standard” and that the MSHA district manager may require the plan to be revised if he determines the plan is inadequate for that purpose.

⁸⁰ 76 Fed. Reg. 5,719 (Feb. 2, 2011).

rule in Beckley, WV on December 7, 2010.⁸¹ At this hearing Mr. O’Dell said, “[o]ne significant problem we see with this proposed rule is how complicated it truly is. The explanations are confusing . . . ,”⁸² Mr. O’Dell went on to say that: “As written, parts of the proposed rule is (sic) unintelligible.”⁸³ MSHA should also note Mr. O’Dell’s statement regarding the end result of the new respirable dust limit proposed by MSHA. Mr. O’Dell said: “If I have done my math properly, . . . longwall miners and some section miners would be held to a 0.6 mg/m³ or possibly a 0.4 mg/m³ standard. This will be very difficult to meet [W]e strongly believe that current mining practices can be continued without jeopardizing miners’ health. We want to make sure the rule doesn’t make it infeasible for coal miners to work in coal mines.”⁸⁴

§ 21.07. The UMWA-BCOA Memorandum of Understanding.

As an outgrowth of the earlier mentioned “abnormal white center” controversy,⁸⁵ and an ongoing desire of the United Mineworkers’ of America (UMWA) and many in the industry to develop a real-time and accurate method of taking respirable dust samples – separate and apart from the Clinton and Bush Administration’s failed respirable dust rulemakings – over a period of several years, the UMWA and the Bituminous Coal Operators’ Association (BCOA)⁸⁶ developed a joint “Memorandum of Understanding Modernizing Coal Mine Respirable Dust Sampling” (“UMWA/BCOA MOU”). The UMWA/BCOA MOU was presented to MSHA at the end of the Bush Administration, but MSHA never provided any feedback on it. Related

⁸¹ <http://www.msha.gov/REGS/Comments/2010-25249/Transcripts/20101207/BeckleyWV.pdf>.

⁸² *Id.* Testimony of Dennis O’Dell at 56.

⁸³ *Id.* at 58.

⁸⁴ *Id.* at 56-57.

⁸⁵ *Supra* § 21.02[3].

⁸⁶ The BCOA is a leading spokesman before Congress and the Executive Branch on coal industry health and safety issues. Its safety committee is comprised of senior safety officials of major coal producers and is proactive in seeking ways to improve safety at the nation’s coal mines. BCOA maintains a formalized working relationship with the UMWA on health and safety issues.

to the UMWA/BCOA MOU was a parallel effort by the UMWA, the BCOA, and the National Mining Association to work with NIOSH in a joint effort to develop and commercialize the continuous personal dust monitor (CPDM).

Although some features of the UMWA/BCOA MOU were cherry-picked by MSHA and grafted into the current proposed rulemaking, by and large MSHA has gone its own way. Indeed, one of the enduring mysteries of the current rulemaking, especially recognizing that the industry and the UMWA opposed the two earlier, failed rulemakings of the Clinton and Bush Administrations, is why would MSHA, having in its possession a regulatory framework for reform supported by both industry and labor, ignore it and propose rules, which once again, do not have industry or labor support?

The UMWA/BCOA MOU was discussed at the marathon 13-hour MSHA public hearing in Arlington, VA on February 15, 2011; and was also placed into the MSHA administrative record on June 20, 2011 by BCOA president David M. Young and Dennis O'Dell, administrator of the UMWA department of occupational safety and health.⁸⁷

[1] — Key Elements of the UMWA/BCOA MOU.

Key elements of the UMWA/BCOA MOU include the following principles and concepts. *First*, the CPDM presents an opportunity to deliver meaningful reform in sampling and can become a powerful tool in the fight against coal workers' pneumoconiosis. *Second*, respirable dust monitoring has not kept up with changes from a traditional eight-hour per day/five day per week work schedule to non-traditional work schedules or the prevalence of huge longwall mining sections. *Third*, with regard to measurements for compliance, the built-in delay between the time a respirable dust sample is collected with the currently used gravimetric sampler and the time the results are made known to the miner tested and to the operator must be shortened. *Fourth*, reform of the respirable dust rules must incorporate the "dose concept," that is there should be requirements for measurement of actual dust exposures where miners are being exposed to high concentrations

⁸⁷ MSHA eDocket AB64-COMM-88.

of respirable dust in the mine atmosphere for the miners' full shifts over a specific period.

Finally, and based on the above, the UMWA/BCOA MOU calls for the introduction of CPDMs following interim measures over a period of 24 months. The framework calls for the following:

- MSHA (not the operator) should be responsible for compliance sampling;
- Exposure limits for miners per week will not exceed a dose equivalent to that received as if miners were exposed to 10 mg/m³ for a scheduled forty-hour week, with the exposure limit reduced to a dose equivalent of 2.0 mg/m³ for eight hours if the miners work for more than forty hours during a week;
- The exposure limit cannot be increased to a level above 2.0 mg/m³;
- Measuring the dose for a week is an improvement over single shift measurement for compliance purposes; and
- Dust control plans will become "engineering control plans" and will be used to assist miners should unaccounted for increases in exposure be detected.

Notably, the UMWA/BCOA MOU is silent on changing the respirable dust standard itself from the current 2 mg/m³ to 1 mg/m³, as MSHA has proposed. That omission is critical. As previously noted, the UMWA is concerned about the application of the MSHA proposal in longwall mining sections.⁸⁸ And for no small reason as underground coal mines in which the UMWA represents miners are often longwall operations.⁸⁹

In the face of opposition to its proposed rules by industry and labor for the third time, whether MSHA will adopt the alternative framework in the

⁸⁸ *Supra* § 21.06.

⁸⁹ The coal mine producers participating in the activities of the BCOA include Alpha Natural Resources, Consol Energy, Jim Walter Resources, Patriot Coal Company, and Peabody Energy Corporation. These companies have substantial longwall operations.

UMWA/BCOA MOU in any final rulemaking or a new re-proposal remains to be seen. And even if MSHA were to do so, the devil will be in the details.

§ 21.08. The August 2012 Government Accountability Office (GAO) Report.

Since the close of the public comment period on June 20, 2011, MSHA has been reviewing the administrative record created during the comment period, with an initially announced objective of finalizing the new rules by April 2012.⁹⁰ In the fall of 2011, however, the Congress stepped in when it passed a government-wide funding bill, H.R. 2055, the Consolidated Appropriations Act of 2012.⁹¹ Section 112 of H.R. 2055 prohibited use of the funds appropriated by the bill to implement or enforce MSHA's proposed respirable coal dust rule until the Government Accountability Office (GAO)⁹² issued a report which "(i) evaluates the completeness of MSHA's data collection and sampling, to include an analysis of whether such data supports current trends of the incidence of lung disease arising from occupational exposure to respirable coal mine dust across working underground coal miners; and (ii) assesses the sufficiency of MSHA's methodology."

On August 17, 2012, pursuant to section 112, the GAO released a report it sent to the Committees on Appropriations of the House of Representatives and the Senate, entitled: "*MINE SAFETY: Reports and Key Studies Support the Scientific Conclusions Underlying the Proposed Exposure Limit for Respirable Coal Mine Dust.*"⁹³

Experts retained by the industry have preliminarily examined the GAO Report and, as of this writing, are in the process of analyzing it in depth. Their initial view is that it contains significant thematic flaws in its failure

⁹⁰ <http://www.reginfo.gov/public/do/eAgendaViewRule?publd=2011110&RIN=1210-AB64>.

⁹¹ Pub. Law 112-74.

⁹² The GAO is an independent, nonpartisan agency of the United States Congress that conducts a wide variety of investigations regarding how the federal government spends tax dollars. The head of the GAO is the Comptroller General of the United States, who is appointed to a 15-year term by the president from a slate of candidates proposed by the Congress.

⁹³ See GAO-832R Coal Mine Dust Exposure (hereinafter the "GAO Report" or the "GAO Report on Respirable Coal Mine Dust.").

to adequately carry out the mandate of section 112 of H.R. 2055, as well as substantive errors in the details of the Report itself. The thematic flaws of the GAO Report are threefold.

[1] — Three Thematic Flaws.

**[a] — The GAO Report Is Not an “Evaluation”
or “Analysis.”**

First, the GAO report is neither an “evaluation ” nor “analysis,” as was mandated to be prepared by section 112 of H.R. 2055. Rather the GAO Report is a lengthy conclusory editorial advocating for support of the MSHA proposal. The tone and substance of the GAO Report are predictable from the outset once GAO says that its “evaluation of the reports MSHA used to support its proposal and the key scientific studies on which the reports were based shows that *they support the conclusion that lowering the PEL from 2.0 mg/m.³ to 1.0 mg/m³ would reduce miners’ risk of disease.*”⁹⁴ The essence of this statement is repeated several times throughout the Report. This expressed central finding, however, misses the point entirely. Of course lowering the permissible exposure limit (or “PEL”) would reduce miners’ risk of disease. However, so would lowering the PEL to allow no exposure whatsoever. The point is whether the data proffered by MSHA shows an *increase in the incidence of a very specific disease, coal workers’ pneumoconiosis, and a nationwide increase at that*, which supports the lowering of the PEL nationwide. The facts are that MSHA’s data fails to carry the burden of making this crucial showing; and a multitude of industry comments in the MSHA administrative record powerfully rebut MSHA’s assertions.⁹⁵ What the MSHA data does show is that (1) in the Southern Appalachian Region of the United States there are a number of cases of rapidly developing lung disease in younger miners, and (2) these cases appear to be *silicosis* and not *coal workers’ pneumoconiosis*.⁹⁶ The GAO Report on Respirable Coal Mine

⁹⁴ GAO Report at 3. Emphasis added.

⁹⁵ See especially, MSHA eDocket RIN 1219-AB64-COMM-73 through 73-7; COMM-74 through 74-17, and COMM-92 through 92-7.

⁹⁶ *Supra* § 21.03[1] and [2][c].

Dust never speaks to either of these key issues. In spite of having been made aware of these issues, *the GAO Report never discusses the evidence that the “trends of the incidence of lung disease” are regional in nature — or that those trends show an increase in cases of silicosis and not coal workers’ pneumoconiosis — or that silica is a major confounder in MSHA’s coal workers’ pneumoconiosis estimates of risk.* Simply put, the conclusion on page 3 of the GAO Report is so sweeping as to be almost breathtaking. However, it not only begs the question, but it also answers a question that section 112 does not ask.

[b] — The GAO Report Ignores Other Key Features of MSHA’s Proposal.

Second, the GAO Report also says at the outset that “[a]lthough MSHA’s proposed rule includes other provisions, [the Report] focuses on MSHA’s proposal to lower the PEL for coal mine dust from 2.0 mg/m³ to 1.0 mg/m³.”⁹⁷ For the Report to ignore other key features of the MSHA proposal is, at the very least, an extraordinarily narrow reading by the GAO of the mandate given to it by H.R. 2055, if not a downright dereliction of GAO’s responsibility to faithfully carry out its work. Thus, for example, in complying with the mandate of section 112 to “assess[] the sufficiency of MSHA’s analytical methodology,” GAO should have examined and assessed the sufficiency of MSHA’s risk assessment, or the preliminary economic impact analysis in connection with the economic feasibility of the proposed rule, or the multitude of comments in the administrative record that addressed the technological feasibility of core features of the proposed rule.⁹⁸

[c] — GAO Ignores Other Findings and Methodological Reports in the MSHA Administrative Record.

Third, toward the end of the Report, the GAO says (after again supporting the MSHA proposal) that “[w]e also found no evidence of other findings

⁹⁷ GAO Report at 1.

⁹⁸ *Supra* § 21.06.

or other methodological approaches that would call into question the underlying conclusions in the key scientific studies on which MSHA based its proposal.”⁹⁹ The GAO utterly ignores the voluminous and methodological comments, in the MSHA administrative record, of

- the National Mining Association (NMA) (especially the NMA critique of the MSHA risk assessment);¹⁰⁰
- the thorough critique of the literature relied on by MSHA prepared by Drs. Gamble, Reger, and Mr. Glenn, three experts who were NIOSH senior scientists in the formative years of the federal respirable dust control program;¹⁰¹
- the expert commentary of the world-class experts at Exponent commissioned by Murray Energy Corporation;¹⁰² and
- the framework for regulatory change of the United Mineworkers’ of America and the Bituminous Operators Association (the “UMWA/BCOA MOU”).¹⁰³

All of these comments are “methodical approaches that . . . call into question the underlying conclusions in the key scientific studies on which MSHA based its proposal.” Yet the GAO has ignored them all.

§ 21.09. **A Commitment to Modernization of the MSHA Rules.**

The voluminous administrative record contained in MSHA’s eDocket RIN 1219-AB64, and noted numerous times above, is replete with commitments from the industry for reform of the current rules. Simply put, while the industry continues to strongly support a 2.0 mg/m³ standard as amply protective of its employees, the industry supports revised rules which would include important protections that are currently not in MSHA’s

⁹⁹ GAO Report at 11.

¹⁰⁰ See MSHA eDocket RIN 1219-AB64-COMM-74-12.

¹⁰¹ MSHA eDocket at AB64-COMM-73-7.

¹⁰² MSHA eDocket at AB64-COMM-92 through 92-7.

¹⁰³ *Supra* at § 21.07 and AB64-COMM-88.

proposal (and that are not addressed in the GAO Report). Included in the protections afforded in such revised rules would be provisions

- requiring participation of *all* miners in an x-ray surveillance program in order that intervention measures to protect miners can be promptly taken and to ensure consistent and reliable data collection;
- encouraging the use of proven technology such as supplied air helmets (approved by NIOSH) used in non-mining and mining applications to provide miners with a stream of clean fresh air across their breathing zones;
- allowing work practices permitting miners to be rotated across alternate work locations so as to minimize exposure to respirable coal mine dust during working shifts;
- recognizing that longer working shifts impact exposure to respirable coal mine dust and, therefore, adopting a weekly cumulative dose exposure limit rather than the current shift-by-shift approach;
- revising the current rules to address the regional nature of the problem and the specific lung disease it shows rather than a nationwide solution as now proposed; and
- insisting on development of a protocol to include all stakeholders for completion of the additional research and development necessary to ensure the efficacy and integrity of the new continuous personal dust monitors.

§ 21.10. Conclusion.

With regard to the GAO Report on Respirable Coal Mine Dust, it is terribly flawed. It should not be allowed to stand as the last word of the United States Congress on reform of MSHA's respirable coal mine dust control program. Instead, the Congress should instruct and direct MSHA to re-propose a rule that contains the principles identified above.

As for the MSHA proposal itself, MSHA should withdraw it and start afresh. The current rules are in need of revision and the industry is prepared

to work with the Agency and other stakeholders to modernize them. However, the current respirable dust limit of 2.0 mg/m^3 is still solidly based in science and, if properly implemented by MSHA and all stakeholders, it will prevent miners from developing coal miners' pneumoconiosis.

The industry is also prepared to work with MSHA and other stakeholders to test the continuous personal dust monitor to ascertain its reliability in the rugged conditions of underground coal mining. However, the industry is not persuaded that use of a single-full shift measurement for compliance purposes will either be a feasible approach or will accurately represent the atmospheric conditions to which miners are exposed. The industry also urges MSHA to join the rest of the world's occupational health community by allowing application of the hierarchy of controls such that appropriate respiratory protection can be used as a supplementary control to protect miners from respirable coal mine dust.

As of the writing of this chapter, the outcome of MSHA's proposed rules to lower the exposure of coal miners to respirable dust and "End Black Lung Now" remains uncertain. One certainty is that all parties agree that the rules urgently need reform. Perhaps the time has come for a fresh start in the context of a negotiated rulemaking or even some less formal forum. Only time will tell. The other certainty, however, is that for the foreseeable future this topic will surely be addressed going forward at a number of Energy & Mineral Law Foundation institutes. This author is grateful for the opportunity provided here to discuss the issues and present the views of the underground coal mining industry.