July 8, 2021

Jeannette Galanis  
Acting Assistant Secretary  
Mine Safety and Health Administration  
1100 Wilson Blvd., 21st Floor  
Arlington, VA 22209-3939

*Petition for Rulemaking to Reduce the Level of Respirable Crystalline Silica (Quartz)*

Dear Ms. Galanis:

This Petition for Rulemaking is submitted by the Appalachian Citizens’ Law Center, Inc. (ACLC) and Jeromy Coots, an experienced underground coal miner, pursuant to 5 U.S.C. § 553(e). The Petitioners request that the Mine Safety and Health Administration (MSHA) revise its regulations governing respirable crystalline silica dust to protect miners from pneumoconiosis and other occupational respiratory impairments by making the following rule changes: (1) Establish a separate dust standard for respirable crystalline silica (quartz), independent of the permissible exposure limit (PEL) for respirable coal dust; and (2) substantially reduce the PEL for respirable silica in accordance with scientific recommendations.

In September 2009, on behalf of a coal miner, Charles Scott Howard, ACLC submitted a petition for rulemaking to request a revision of the respirable coal dust standard in addition to the above two requests concerning a reduced and separately enforceable PEL for respirable crystalline silica (see attachment A). In January 2010, MSHA granted our petition and responded that the Secretary intended to publish a proposed standard to address miners’ exposure to respirable crystalline silica by April 2011 (see attachment B). The rule was never promulgated. MSHA’s commitment to that regulatory timetable is now ten years behind schedule.

Coal Workers Pneumoconiosis [CWP], or black lung disease, is an irreversible and progressive lung disease caused by the inhalation, deposition and retention of respirable coal mine dust

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1 Under the Administrative Procedure Act, "Each agency shall give an interested person the right to petition for the issuance, amendment, or repeal of a rule." 5 U.S.C. § 553(e). Also, the Mine Act itself incorporates this APA provision in speaking to petitions for rulemaking: The Secretary shall by rule in accordance with procedures set forth in this section and in accordance with section 553 of title 5, United States Code (without regard to any reference in such section to sections 556 and 557 of such title), develop, promulgate, and revise as may be appropriate, improved mandatory health or safety standards for the protection of life and prevention of injuries in coal or other mines. 30 U.S.C. § 81 (a). Thus, any interested person or organization, such as the Petitioners herein, may submit a petition for rulemaking to MSHA.
particles and the subsequent scarring and destruction of the lung tissue. Over the last decade, an epidemic of black lung disease has emerged in Central Appalachia. Incidence of disease is occurring at an unprecedented rate.\(^2\) Researchers from NIOSH have stated, “We can think of no other industry or workplace in the United States in which this would be considered acceptable.”\(^3\)

In Central Appalachia, 1 in 5 tenured miners has black lung disease and 1 in 20 have the most severe and totally disabling form of the disease - Progressive Massive Fibrosis (PMF).\(^4\)

This increase in disease severity is also reflected in the proportion of claimants with PMF that have filed for federal black lung benefits between 1970 and 2016. In 1988, the Department of Labor determined that only 18 claimants had PMF whereas in 2014 there were 350.\(^5\) Most of these miners last mined in West Virginia, Kentucky, Virginia, or Pennsylvania.\(^6\) Disturbingly, the vast majority of our clients with PMF were diagnosed after 2014. In fact, prior to 2014, we represented very few miners with PMF. Since that time, more than a hundred miners with PMF have come through our doors. In just the past few years, the miners with PMF that we represent have been increasingly younger and many of their x-ray readings have progressed to Category B or C complicated coal workers’ pneumoconiosis.

As MSHA acknowledged in the 2019 Request for Information on respirable silica, silica dust is implicated in disease causality. The higher incidence rate of PMF and rapidly progressive disease in Central Appalachia corresponds to higher levels of silica dust. A study of MSHA sampling data from 1982-2017 demonstrated trends in coal mine dust and quartz dust levels over time and found the percentage of quartz in dust samples to be both historically and presently higher in Central Appalachia.\(^7\) Medical studies have found that rapid disease progression and PMF are more often associated with lung opacities that occur due to silicosis rather than coal workers’ pneumoconiosis.\(^8\) A 2016 study, the first to examine lung pathology specimens from miners with rapid disease progression, provided evidence that confirmed the role of respirable silica and silicates in rapidly progressive disease and PMF.\(^9\)

The Federal Coal Mine Health and Safety Act of 1969 stated that the purpose of implementing mandatory health standards was "to provide, to the greatest extent possible, that working conditions in each underground mine are sufficiently free of respirable coal mine dust concentrations in the mine atmosphere to permit a miner to work underground during his entire working life without incurring any disability from pneumoconiosis or other occupation-related disease." 30 U.S.C. § 841(b). To protect miners from black lung, the Act created a scheme requiring a reduction of the level of respirable dust so that miners did not develop

\(^6\) Ibid.
pneumoconiosis. The Act further directed the establishment of a schedule reducing the average concentration of respirable dust in the mine atmosphere during each shift to which each miner in the active workings is exposed "to a level of personal exposure which will prevent new incidences of respiratory disease and the further development of such disease in any person." 30 U.S.C. § 842(d). Later, the Federal Mine Safety and Health Act of 1977 required the Secretary of Labor to "set standards which most adequately assure on the basis of the best available evidence that no miner will suffer material impairment of health or functional capacity even if such miner has regular exposure to the hazards dealt with by such standard for the period of his working life." 30 U.S.C. § 811(a)(6). Despite these statutory mandates, MSHA has repeatedly ignored the best available evidence and has failed miserably to protect miners from developing black lung disease.

Over the last twenty-five years, health experts and government bodies have developed and rigorously reviewed scientific evidence and repeatedly reached conclusions that show that MSHA’s regulation of miners’ exposure to silica is egregiously inadequate. The National Institute for Occupational Safety and Health [NIOSH], a branch of the Centers for Disease Control, an agency of Health and Human Services, in a Criteria Document issued in 1995, established that this level for respirable crystalline silica should not exceed 50 µg/m³ of air, as a time-weighted average concentration for up to 10 hours per day during a 40-hour workweek.10

In January 1995, the Secretary of Labor established an Advisory Committee on the Elimination of Pneumoconiosis Among Coal Miners. This committee held hearings and received information from many sources. It also reviewed the NIOSH 1995 Criteria Document. The Secretary's Advisory Committee found that there was a significant silica exposure hazard in mining, especially for some occupations, such as roof bolting. The Advisory Committee found that many miners were at risk for silicosis and recommended MSHA to lower silica exposure to create a separate standard for silica, alone.

Moreover, the American Conference of Governmental Industrial Hygienists (ACGIH) adopted a threshold limit value for respirable crystalline silica of 25 µg/m³. These health-based values were established following a comprehensive review of the peer-reviewed literature from the scientific disciplines, including industrial hygiene, toxicology, occupational medicine and epidemiology. During the Occupational Safety and Health Administration (OSHA) rule making process for respirable crystalline silica, OSHA assessed multiple exposure limits including 100, 50, and 25 µg/m³. OSHA found that even in comparison to 50 µg/m³, a PEL of 25 µg/m³ would prevent hundreds of additional fatalities related to silicosis and that a significant risk to workers still remained at levels of 50 µg/m³.11

Most recently, the Department of Labor Office of Inspector General (DOL OIG) issued an audit in November 2020 and found that MSHA’s silica exposure limit is out of date, that sampling protocols may be too infrequent to be effective, and that MSHA’s protection of miners is inhibited because MSHA cannot issue fines for excess silica exposures alone. In their response, MSHA stated that they would publish a proposed rule to address miners’ exposure to respirable...

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crystalline silica but has not yet fulfilled that commitment.\textsuperscript{12}

As the DOL OIG audit found, not only does the exposure limit fail to protect miners but the lack of a separately enforceable standard makes what little protection it may provide nearly impossible to enforce. Previous publications from NIOSH have argued that a separate standard specific to respirable quartz may diminish coal miners’ exposure to harmful dust.\textsuperscript{13} In an examination of MSHA sampling data from 1995 to 2008, researchers at NIOSH found that 11.7\% of samples were below the respirable coal mine dust standard but exceeded 100 µg/m\(^3\) quartz and 4.4\% of samples were less than 5\% quartz but actually exceeded 100 µg/m\(^3\) quartz.\textsuperscript{14} The mines that produced these samples were not subject to any kind of compliance action yet those miners were exposed to concentrations of respirable quartz dust over 100 µg/m\(^3\).

The uncontroverted evidence establishes that there is an unacceptable risk of severe black lung posed by MSHA’s failure to adequately regulate respirable crystalline silica dust.

Under the Mine Act, it is commendable that MSHA’s enforcement efforts have led to a drastic reduction of on the job fatalities for working coal miners. Miners are much more likely to return home from their work shifts each day than they were just a few decades ago. However, during this same period, coal companies have regularly overexposed their employees to coal and silica dust and MSHA has failed to adequately protect them. The result is "clearly one of the worst industrial medicine disasters that's ever been described."\textsuperscript{15}

It’s too late for MSHA to do anything to protect the tens of thousands of coal miners already sick or dead due to black lung disease. Had MSHA taken strong action when the agency was warned that silica dust exposure limits were too high, many of these miners would have lived longer lives free from a painful existence of increasingly severe breathlessness that caused them to suffocate a little more each day until they eventually died from the disease.

However, because this epidemic was entirely preventable, MSHA can still act to protect active miners. For example, last month, our organization met with two working miners that have now developed black lung disease in their early 40’s. Both were continuous miner operators and had been required to mine a substantial amount of rock with every cut of coal. If MSHA immediately reduces the amount of silica dust that miners are being exposed to, current and future miners might avoid a future of disability and death from black lung. Mining families have suffered long enough.

MSHA needs to act now and promulgate a separately enforceable standard with a reduced PEL


\textsuperscript{14} Ibid.

\textsuperscript{15} Quote from Dr. Scott Laney, an epidemiologist at NIOSH, in an interview with Frontline in December 2018. Dr. Laney went on to explain, “We’re counting thousands of cases...Thousands and thousands and thousands of black lung cases. Thousands of cases of the most severe form of black lung. And we’re not done counting yet.” The full Frontline article can be accessed here: An Epidemic Is Killing Thousands Of Coal Miners, Regulators Could Have Stopped It. | Coal's Deadly Dust | FRONTLINE | PBS | Official Site
to respirable crystalline silica.

The Petitioners thank MSHA for its consideration of this matter.

Sincerely,

Wes Addington
Executive Director

Rebecca Shelton
Director of Policy & Organizing
September 1, 2009

Gregory R. Wagner, M.D.
Acting Assistant Secretary of Labor
Mine Safety and Health Administration
1106 Wilson Blvd., 21st Floor
Arlington, VA 22209-3939

Petition for Rulemaking to Reduce the Level of Respirable Coal Mine Dust

Dear Dr. Wagner:

This Petition for Rulemaking is submitted by the Appalachian Citizens Law Center and Charles Scott Howard, a coal miner, pursuant to 5 U.S.C. § 553(e). The Petitioners request that the Mine Safety and Health Administration (MSHA) revise its regulations governing respirable coal mine dust to protect miners from pneumoconiosis and other occupational respiratory impairments by making the following rule changes: (1) reduce the permissible exposure limit (PEL) for respirable coal mine dust to 1 mg/m³ TWA10; (2) establish a separate standard for quartz/silica, independent of the PEL for respirable dust; and (3) reduce the PEL for respirable silica/quartz dust by half.

Coal Workers Pneumoconiosis [CWP] is an irreversible and progressive lung disease caused by the inhalation, deposition and retention of respirable coal mine dust particles and the subsequent scarring and destruction of the lung tissue. Miners also develop chronic obstructive pulmonary disease [COPD] due to coal mine dust exposure, including chronic bronchitis and emphysema even where there is no x-ray evidence of nodule formation indicative of CWP. Both CWP and COPD due to coal mine dust exposure are commonly called black lung. Black lung causes severe shortness of breath and sensations of smothering. It can be disabling and it can cause death.

Under the Mine Act of 1977 the Secretary of Labor, through the Mine Safety and Health Administration (MSHA), must promulgate standards to assure that miners won’t suffer a material impairment of health even if exposed to a hazard their whole working life. The purpose of the law is “to provide, to the greatest extent possible, that working conditions in each underground mine are sufficiently free of respirable coal mine dust concentrations in the mine atmosphere to permit a miner to work underground during his entire working life without incurring any disability from pneumoconiosis or other occupation-related disease.” 30 U.S.C. § 841(b). In the 1969 Coal Mine Act and in the
1977 Federal Mine Safety Act Congress stated that the first priority of the coal industry must be the health and safety of the coal miner. Congress created MSHA to protect miners' health and safety. To protect miners from black lung, the Mine Act created a scheme requiring MSHA to reduce the level of respirable dust so that miners did not develop pneumoconiosis. The Mine Act requires the Secretary to "set standards which most adequately assure on the basis of the best available evidence that no miner will suffer material impairment of health or functional capacity even if such miner has regular exposure to the hazards dealt with by such standard for the period of his working life." 30 U.S.C. § 811(a)(6).

The Act directs the Secretary of Health and Human Services to establish a schedule reducing the average concentration of respirable dust in the mine atmosphere during each shift to which each miner in the active workings is exposed "to a level of personal exposure which will prevent new incidences of respiratory disease and the further development of such disease in any person." 30 U.S.C. § 842(d). The National Institute for Occupational Safety and Health [NIOSH], a branch of the Centers for Disease Control, an agency of Health and Human Services, in a Criteria Document issued in 1995, established this level should be 1.0 mg/m³ of air, as a time-weighted average concentration for up to 10 hours per day during a 40-hour workweek. Moreover, NIOSH recommended that MSHA use single, full-shift samples to determine compliance with the exposure limit and that no upward adjustment in the limit be made to account for measurement uncertainties.

Moreover, in 1998, the American Conference of Governmental Industrial Hygienists (ACGIH) adopted a threshold limit value for respirable bituminous coal dust of 0.9 mg/m³ and 0.4 mg/m³ for respirable anthracite coal as a time weighted average exposure limit for eight hours. These health-based values were established following a comprehensive review of the peer-reviewed literature from the scientific disciplines, including industrial hygiene, toxicology, occupational medicine and epidemiology. At the time of their adoption, the value represented a level of exposure that a typical worker can experience without adverse health effects. (ACGIH, TLVs (R) and BEIs (R), 1998.)

In the Mine Act, Congress set standard for respirable dust standard at 2.0 mg/m³ to assure elimination of respiratory illness wrought by working conditions in mines. 30 U.S.C. § 842(d) stated that from time to time thereafter, the Secretary of Health and Human Services must establish, in accordance with the provisions of 30 U.S.C. § 811, a schedule reducing the average concentration of respirable dust in the mine atmosphere during each shift to which each miner in the active workings is exposed below the levels established in this section to a level of personal exposure which will prevent new incidences of respiratory disease and the further development of such disease in any person. The NIOSH Criteria Document issued in 1995 stated that MSHA should reduce the level of respirable dust to 1.0 mg/m³.

Scientific evidence of the insufficiency of the current 2 mg/m³ standard was presented to the Secretary in 1995 by NIOSH. The Act requires the Secretary to respond to NIOSH's recommendations with positive action to reduce the level of respirable dust.

In January, 1995, the Secretary of Labor established an Advisory Committee on the Elimination of Pneumoconiosis Among Coal Miners. This committee held hearings and received information from many sources. It also reviewed the NIOSH 1995 Criteria Document. The Secretary’s Advisory Committee recommended in 1996 that “MSHA should consider lowering the level of allowable exposure to coal mine dust.”

The Advisory Committee also found that there was a significant silica exposure hazard in mining, especially for some occupations, such as roof bolting. The Advisory Committee found that many miners were at risk for silicosis, which is a particularly dangerous lung disease. It recommended separate standards be applied to silica exposure. It recommended MSHA lower the silica exposure. MSHA should reduce the permissible exposure limit for silica.

In 1999, MSHA stated in the Federal Register: “Respirable coal mine dust is one of the most serious occupational hazards in the mining industry. Long-term exposure to excessive levels of respirable coal mine dust can cause black lung and silicosis, which are both potentially disabling and can cause death.” (Unified Agenda, April 26, 1999, Occupational Exposure To Coal Mine Dust (Lowering Exposure Limit), 64 FR 21519-01 (Apr. 26, 1994).


Further studies have identified areas where the rate of progression of pneumoconiosis is rapid. Dr. V. Antao wrote in the journal, Occupational and Environmental Medicine: "Rapidly progressive cases of CWP can be regarded as sentinel health events, indicating inadequate prevention measures in specific regions. Targeted investigations should take place to identify causal factors and to prompt appropriate strengthening of disease prevention measures." 62 Occup. Environ. Med. 670-674 (2005).

In the past three years, NIOSH reports show that miners have developed pneumoconiosis from coal mine dust at a greater rate than was previously believed true. NIOSH reported that a study in 2006 of 85 working coal miners in Letcher County, Kentucky found 12% had x-ray evidence of CWP; 1% had PMF; 7% had chronic bronchitis and 5% had emphysema. A study of 68 miners in neighboring Knott County, Kentucky found 15% had x-ray evidence of CWP; 1% had PMF; 9% had chronic bronchitis and 7% had emphysema. In September 2007, Dr. Edward L. Petsonk, who worked on the NIOSH study, reported that the rate of CWP had more than doubled among miners who worked 25 years or more underground, from about 4 percent in 1997 to 9 percent in 2006. The rate among miners with 20 to 24 years' experience jumped even more, from 2.5 percent to 6 percent. The fact of rapidly progressive CWP is occurring among miners who worked their entire careers after 1973, when the 2 mg standard was in effect, indicates that the current dust control approach is not adequate to protect miners from serious, disabling, and lethal lung disease. Clearly MSHA needs to reduce the level of exposure to respirable coal mine dust.

Further, according to a recent NIOSH study published by the American Thoracic Society’s American Journal of Respiratory and Critical Care Medicine, emphysema severity was significantly elevated in coal miners compared to non-miners. Exposures at the current U.S. standard for a full working lifetime at 2.0 mg/m³ would increase the average emphysema severity index by 99 points, providing additional evidence of the need to reduce exposures to respirable coal mine dust to 1.0 mg/m³ or less, as recommended by NIOSH.

MSHA needs to act now and promulgate a standard reducing the level of respirable coal mine dust. The uncontroverted evidence establishes that there is an unacceptable risk of black lung posed by the current respirable dust standards. The uncontroverted evidence thus establishes that there is an unacceptable risk of black lung posed by current exposure levels. Yet, despite this information demonstrating a compelling need to reduce the amounts of respirable dust to which miners may be lawfully exposed, DOL has failed to reduce the standard. MSHA needs to act immediately to promulgate a standard reducing the level of respirable coal mine dust and silica dust.

Under the Administrative Procedure Act, “Each agency shall give an interested person the right to petition for the issuance, amendment, or repeal of a rule.” 5 U.S.C. § 553(e). Also, the Mine Act itself incorporates this APA provision in speaking to petitions for rulemaking:

The Secretary shall by rule in accordance with procedures set forth in this section and in accordance with section 553 of title 5, United States Code (without regard to any reference in such section to sections 556 and 557 of such title), develop, promulgate, and revise as may be appropriate, improved mandatory health or safety standards for the protection of life
and prevention of injuries in coal or other mines.

30 U.S.C. § 811(a). Thus, any interested person or organization, such as the Petitioners herein, may submit a petition for rulemaking to MSHA.

The Petitioners thank MSHA for its consideration of this matter.

Sincerely,

[Signature]

Stephen A. Sanders
Attorney at Law
ATTACHMENT B

RECEIVED JAN 19 2010
U.S. Department of Labor

Mine Safety and Health Administration
1100 Wilson Boulevard
Arlington, Virginia 22209-3939

JAN 08 2010

Mr. Stephen A. Sanders, Esq.
Appalachian Citizens’ Law Center, Inc.
317 Main Street
Whitesburg, KY 41858

Dear Mr. Sanders:

Thank you for your contribution to our recent “End Black Lung—Act Now” event in Frankfort, KY. I am optimistic that this campaign and comprehensive program can make substantial progress and eventually eliminate Black Lung risk in US coal miners

I want to follow up on my previous letter of September 24, 2009. In it I indicated that the Mine Safety and Health Administration (MSHA) would provide you with a final response upon publication of the Department of Labor’s Fall 2009 Semi-Annual Regulatory Agenda. The Regulatory Agenda was published on December 7, 2009.

The petition you filed requested that MSHA make the following changes to protect miners from pneumoconiosis and other occupational respiratory impairments: (1) reduce the respirable coal mine dust standard to 1 mg/m³ TWA; (2) establish a separate standard for respirable quartz/silica, independent of the standard for respirable coal mine dust; and (3) set the standard for respirable quartz/silica at 50µg/m³.

As you know, the Secretary cannot promulgate a mandatory standard without first providing public notice and an opportunity for comment. 30 U.S.C. § 811(a). MSHA is granting your petition to the extent allowed by law in that the goal of the Secretary’s rulemaking agenda is to address miners’ exposure to respirable coal mine dust and silica and reduce miners’ risk of disease. That is, the Secretary is actively preparing proposed standards addressing the goal of the issues you have raised - lowering exposure coal mine dust to reduce disease risk. Specifically, as stated in the semi-annual regulatory agenda, the Secretary intends to publish proposed standards to address miners’ exposure to respirable coal mine dust by September 2010, and to publish a proposed standard to address miners’ exposure to respirable crystalline silica by April 2011. MSHA is committed to meeting these regulatory timetables.

I am sure that you are aware of both the great care the Secretary must take in the development of every new standard, and the many legal requirements that govern the Secretary’s rulemaking activities. The development of these new, proposed standards is one part of MSHA’s comprehensive plan to reduce Black Lung. While these standards are being developed, the plan also includes education and training for the mining community to reduce miners’ exposure to respirable coal mine dust and silica; enhanced enforcement of the existing respirable dust standards; and effective use of available dust control technology. The comprehensive plan has already been put into action.

You can now file your MSHA forms online at www.MSHA.gov. It’s easy, it’s fast, and it saves you money!
Formally, this letter provides the final response of MSHA to the Petition for Rulemaking submitted by you on behalf of the Appalachian Citizens’ Law Center and Mr. Charles Scott Howard on September 1, 2009. I do encourage you and your clients to participate actively in both the rulemaking process and in the End Black Lung campaign moving forward.

Thank you for your continued interest in improving the health and safety of our nation’s miners.

Sincerely,

Gregory R. Wagner, M.D.
Deputy Assistant Secretary for Policy
Mine Safety and Health Administration